

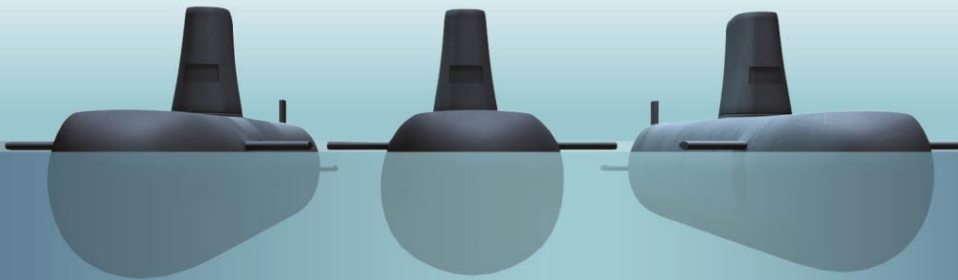


Ministry
of Defence

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Submarine Dismantling Project (SDP)

MOD's Response to Consultation
and
Strategic Environmental Assessment
Post-Adoption Statement
about the
Site for the Interim Storage of Intermediate
Level radioactive Waste



Minister's Foreword



Philip Dunne MP
Minister for Defence Procurement

How we deal with radioactive material from our decommissioned nuclear submarines is a matter of national importance. It is right that we recognise the vital role our submarines and submariners make in guaranteeing the security and sovereignty of the UK. It is also right that we recognise our responsibility and find a solution for dealing with the nuclear material from the submarines, at the end of their service life. A solution that is safe, secure and environmentally sound.

Everyone who took part in the Consultation on the Site for Interim Storage of Intermediate Level radioactive Waste understands the importance of the matter. More than 1,000 people gave up their time to attend consultation events and around 170 written responses, comprising more than 2,300 individual points were received in total. I would like to offer my sincere thanks to all those who contributed. Your thought, time and contributions were appreciated. More importantly, they made a real difference.

As this report makes clear, every comment received during consultation was logged, tracked and factored into the Submarine Dismantling Project's decision-making. Five sites were presented at consultation as being available and suitable to store the submarines' Reactor Pressure Vessels (RPVs) for an interim period, in advance of final disposal in a national UK Geological Disposal Facility (GDF). All five were considered equally, both by the public and experts in Government and industry. Assessment of the options was extensive, thorough and robust. Consequently we can have full confidence in the recommendations.

Announcing which site has been recommended for the RPV interim store, underlines real progress made in the submarine programme. It marks a milestone for the Submarine Dismantling Project (SDP) that proves we are committed to dealing with the issue of our submarines' radioactive waste. Decisions on material generated in our lifetime have not been left for future generations.

Now that vital decisions have been made on SDP, the Ministry of Defence is committed to implementing them, in the very near future. I would again like to take the opportunity to thank the public for their participation in consultation and hope you find the report informative.

Executive Summary

In November 2014, the Ministry of Defence launched a public consultation about where the storage site for the reactor pressure vessels (RPVs) from 27 defuelled submarines should be located.

The consultation ran for 14 weeks from 14 November 2014 to 20 February 2015 and gathered views on three main topic areas:

- the Strategic Environmental Assessment (Environmental Report);
- the process and criteria being used to compare the shortlisted storage sites; and
- the shortlisted sites and the differences between them.

Exhibitions and facilitated workshops were held close to each of the five shortlisted sites and there were two national events held in Birmingham and Glasgow.

Printed versions of the Consultation Document and supporting information were available to take away at the events and also to download online. Newsletters were mailed to homes and businesses in the areas local to shortlisted sites and advertisements placed in local newspapers promoting the events.

Around 170 written responses were received in total, comprising over 2,300 individual points, which reflect a wide spectrum of views from a range of stakeholders including local residents, community-based organisations, non-governmental organisations and regulatory bodies.

This report documents the consultation process, provides a summary of the points made and explains how stakeholder and public comments were taken into account in the Ministry of Defence's (MOD's) decision on the interim Intermediate Level radioactive Waste (ILW) storage site. This report also demonstrates how environmental considerations were taken into account.

The report is in three parts: Part A, a summary of the site selection process, decision-making logic and conclusions; Part B, a summary of how comments were taken into account; and Part C, the Post-Adoption Statement.

A Strategic Environmental Assessment (SEA) was carried out by the MOD and an Environmental Report and Non-Technical Summary were published on 14 November 2014. The Post-Adoption Statement describes how environmental considerations and responses to the SEA were integrated into the decision-making process.

The assessment of the shortlisted sites also included an Investment Appraisal (IA), assessing the 'whole life' cost of the project; an Operational Effectiveness (OE) assessment, evaluating how well the different site options met the MOD's requirements and an Other Contributory Factors (OCF) analysis of factors that might affect the SDP's ability to deliver the project.

The assessment is now complete and the interim storage site decision has now been announced by the Minister of State for Defence Procurement, Phillip Dunne MP.

As a result of the site assessment, Capenhurst Nuclear Services (CNS), Capenhurst was recommended as the preferred site for the location of the interim RPV store, using an existing storage facility on the site, with a site-level contingency of a new build store. The Atomic Weapons Establishment (AWE), Aldermaston site was named as a contingency site in the event that a contract cannot be agreed with CNS.

The SDP public consultation to choose the site for the storage of the RPVs ensured that the site selection process was open and robust, increased the breadth of the assessment criteria and emphasised the importance of safety and security to the public.

In SDP's next phase of work it is planned to develop the processes and procure the equipment required to be ready to remove, transport and provide interim storage for the RPVs, as well as prepare the interim store at CNS, Capenhurst, along with gaining the required regulatory approvals.

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PART A – Site Selection Logic and Conclusions

1. Announcement

The Submarine Dismantling Project (SDP) is the UK Ministry of Defence's (MOD) programme to deliver a safe, secure and environmentally responsible solution for dismantling 27 defuelled submarines. This involves recycling the bulk of the submarine and safely disposing of the remainder. The submarine's Reactor Pressure Vessel (RPV) contains Intermediate Level radioactive Waste (ILW). After the RPV has been removed in its entirety, it must be stored for an interim period until it can be processed, if required, and sent to a proposed Geological Disposal Facility (GDF) some time from 2040 onwards. The GDF programme is led by the Department of Environment and Climate Change (DECC).

Through a process of environmental, technical and financial analysis and public consultation, the MOD has been assessing a shortlist of five potential interim storage sites: Atomic Weapons Establishment (AWE) Aldermaston; and AWE Burghfield in Berkshire; Capenhurst Nuclear Services (CNS) Capenhurst in Cheshire; Nuclear Decommissioning Authority (NDA) Chapelcross in Dumfriesshire; and NDA Sellafield in Cumbria.

That process is now complete and the Minister of State for Defence Procurement, Phillip Dunne MP has announced that CNS Capenhurst has been named as the preferred site, with an existing facility on the site as the favoured option and a contingency option to build a new store. CNS Capenhurst was chosen as the preferred site because it was found to best meet the project's overall requirements. Although unlikely, should both of these CNS Capenhurst options prove unfeasible, then AWE Aldermaston has been named as the contingency site to ensure delivery of the project.

This report explains the background to the decision as well as how environmental considerations, stakeholder views and public comments were taken into account.

2. Approach to Consultation

Recognising the importance that public opinion would play in the development of any solution for dismantling submarines, ministerial commitments were made that public consultation would be undertaken before any major decisions were taken.

The consultation on the site for the interim storage of ILW was undertaken between 14 November 2014 and 20 February 2015 and was held around each of the five shortlisted sites for the storage of the RPVs arising from submarine dismantling. The consultation events included open exhibitions with display boards and project literature with project members available for questions and discussion. The public exhibitions were supplemented in each location by workshops to further engage members of the public allowing them to explore, more fully, any areas of interest or concern.

Before the start of the formal public consultation, the SDP held a six-week 'pre-engagement' period of discussion with key stakeholders to gain feedback on the approach to public consultation and site assessment. An SEA Scoping Report was also circulated to statutory and non-statutory consultees during this period for comment to help to ensure that the Environmental Report addressed the likely significant effects on the environment.

As part of the site assessment process, an SEA was undertaken to consider potential significant environmental effects of RPV storage on the shortlisted sites. The resulting Environmental Report was one of the key consultation documents.

The findings of the SEA and stakeholder comments received during public consultation were then used to inform the decision-making.

Two reports have been issued since the end of consultation: the Post-Consultation Report and this combined Response to Consultation/Post-Adoption Statement.

2.1. Strategic Environmental Assessment (SEA)

The SEA supports decision-making by helping to ensure that environmental issues are considered effectively in the preparation of plans and programmes. It ensures that the likely effects of implementing plans and programmes, and the views of the public regarding those effects, are taken into account. SEA also identifies and considers the likely significant environmental effects of alternative ways of implementing a plan or programme, in order to inform decision-making and it provides transparency. It identifies and recommends mitigation or enhancement and monitoring measures to address those effects or maximise benefits. The requirement for SEA is derived from the European Directive 2001/42/EC – ‘the SEA Directive’¹.

The objectives of the SEA are to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development. The SEA of the SDP site selection process for the interim storage of ILW had a broad scope, covering a wide range of environmental topics.

The SEA was conducted from September 2013, leading to the publication of an SEA Environmental Report for consultation in November 2014, alongside the ILW storage site options.

An SEA Post-Adoption Statement, required as part of the SEA regulations, is published in section 14 at the end of this report.

2.2. Pre-Engagement Phase

In February 2014, the MOD launched a programme of engagement activities which started with a six-week period of pre-engagement with people from local communities who may be affected and other stakeholders. This was an important pre-cursor to Public Consultation in order to gain feedback on the approach to site assessment and public consultation, including the criteria that should be used during the main assessment and which also helped to shape the formal public and stakeholder engagement. Pre-engagement included briefings for site stakeholder groups / local liaison committees and local authorities and included two national stakeholder workshops, in Bristol and Penrith.

During pre-engagement, the MOD consulted on the scope of the SEA including the geographical area of coverage, the timescales to be considered for potential impacts, the environmental data and information to be used as a basis for assessment and the methodology for assessment. The consultation bodies, authorities in Scotland, included the Environment Agency (in England); Historic England (formerly English Heritage); Natural England; Natural Resources Wales; Cadw; the Scottish Government; Scottish Environment Protection Agency, Scottish Natural Heritage, Historic Scotland and the Department of the Environment Northern Ireland.

¹ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32001L0042>

At the end of the pre-engagement period, responses on the scope of the SEA were collated and reviewed. Responses were taken into account and responded to in the Environmental Report. The project Criteria and Screening Report was updated to reflect these changes and published on the Government website².

Annexe 1 of the SEA Environmental Report includes detail of the comments received on the SEA scope. These included a number of advisory points for the assessment stage, in addition to a few proposed changes to the scope. In summary, the following changes were made to the SEA's scope as a result of consultation with the statutory bodies / authorities:

- a. for CNS Capenhurst, changes to how the SEA referred to the site name and site licensee, and also to the environmental baseline data (ie the data regarding the current state of the environment at the site, and the projected future status without ILW storage in place);
- b. for NDA Chapelcross, changes and an addition to the environmental baseline;
- c. for NDA Sellafield, changes to contextual environmental data (eg dates for which data was presented);
- d. additions to clarify the Scottish Government's Higher Activity Waste Policy and an additional potential source of impact added to the assessment scope: the potential mobilisation of contaminated material during site decommissioning and clean-up (to allow for any situation where buildings might be removed);
- e. additions to the environmental context review; and
- f. amendment to the 'landscape and townscape' assessment questions.

2.3. Public Consultation

The MOD launched the public consultation on 14 November 2014. The consultation ran for 14 weeks to 20 February 2015 and gathered views on three main topic areas:

- a. the Strategic Environmental Assessment, which was documented in the SEA Environmental Report;
- b. the process and criteria being used to compare the shortlisted storage sites; and
- c. the shortlisted sites and the differences between them.

The Consultation Document was supported by other documents giving more technical detail and factsheets covering specific topics of interest. The main headings in the Consultation Document were: background and the Submarine Dismantling Project; RPVs and containers; transportation of the RPVs and containers; interim storage; regulation and planning and permitting procedures; SEA; the AWE Sites (Aldermaston, Burghfield); the NDA Sites (Chapelcross, Sellafield); CNS Capenhurst; the dismantling sites; site comparison studies and differences between sites; and public consultation plans. All consultation documents are available via the GOV.UK website.³

The SEA Environmental Report and Non-Technical Summary were published in November 2014. The scope of the environmental topics assessed and presented was: radiological discharges / exposure; biodiversity and nature conservation; population; health and well-being; noise and vibration; geology and soils; water; air; climate change and energy use; coastal change and flood risk; transportation; waste management; land use and materials; cultural heritage; and landscape and townscape (See Section 2.2 above).

² https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/364186/20140628-SDP_criteria_and_screening_report-CSR_v2.0_FINAL.PDF

³ <https://www.gov.uk/government/consultations/submarine-dismantling-project-site-for-the-interim-storage-of-intermediate-level-radioactive-waste>

The nine questions asked of the public on the consultation feedback form were designed to encourage free comment while ensuring that all relevant aspects were considered. They were:

- a. Do you have any comments or views on the proposed RPV storage arrangements?
- b. Have you any comments on the Strategic Environmental Assessment or the other information we have presented on environmental issues?
- c. Do you have any comments or views on transport, regulation or planning issues?
- d. What do you think are the main issues that we need to consider with each site?
- e. Once a site is chosen, what do you think will be the most important issues for the potentially affected community?
- f. What are your views on our approach to deciding between the shortlisted storage sites?
- g. Do you have any comments on the stages that will follow this consultation?
- h. Do you have any comments about the conduct of this consultation or the information provided?
- i. Are there any other comments you would like to make?

2.4. Acknowledgements

The MOD is very grateful to all those stakeholders, public interest groups and members of the public who contributed to the development of the consultation and option assessment and who took the time to participate in the consultation events and submit comments, through feedback forms and attendance and involvement in workshops.

3. Post-Consultation

In July 2015 the MOD published a Post-Consultation Report⁴ on the GOV.UK website. Part A of the Post-Consultation Report described the consultation process in detail with a record of attendance at the various events. Part B summarised the responses received, which were fed into the detailed site option assessment which resulted in the identification of the MOD's preferred site. Subsequently, further analysis of site sub-options was undertaken by the MOD using site-supplied data, which included alternative approaches to storage and handling.

The preferred site and preferred option were put forward in a business case and approved by the relevant authorities in the MOD and that decision has now been announced by the Minister of State for Defence Procurement, Phillip Dunne MP. An existing storage facility at the CNS Capenhurst site has been selected as the preferred option, with an on-site contingency of a new build store. In the event that a contract cannot be placed with CNS for either option, the AWE Aldermaston site has been named as a contingency site.

The MOD will now contract with CNS, which operates under the nuclear site licence held by URENCO UK, at Capenhurst, for the store modification, any necessary approvals and store operation.

3.1. This Report

This report combines MOD's Response to Consultation and the SEA Post-Adoption Statement.

The Response to Consultation explains MOD's decision and how the comments made during the public consultation have been taken into account.

The SEA Post-Adoption Statement describes how environmental considerations, and responses to the SEA, influenced site selection, and recommends mitigation and monitoring measures.

This report is divided into three parts: Part A, a summary of the site option selection process, logic and conclusions; Part B, a summary of how comments have been taken into account; and Part C, the Post-Adoption Statement.

Annexes at the back of this report include a list of abbreviations used and a glossary of terms.

4

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/445071/20150713_PS_E2_Post-Consultation-FINAL.pdf

4. Site Selection Process

4.1. Site Options

The shortlist of potential interim storage sites comprised: AWE Aldermaston and AWE Burghfield in Berkshire, CNS Capenhurst in Cheshire, NDA Chapelcross in Dumfriesshire and NDA Sellafield in Cumbria.

The SDP initial concept design (new build store) for consultation was an assumption which, during subsequent assessment, was modified to incorporate other site-level options. The MOD provided details of the SDP requirements to the shortlisted sites, stating that in order to ensure a fair, reasonable and consistent approach to developing site-specific assessments a project store baseline and pre-concept design container were developed. At that stage of the project, it was an illustrative baseline to inform initial cost estimates, and it was made clear that it should not constrain or prevent site licensees from developing alternative or more robust site proposals. Shortlisted sites were encouraged to consider and present alternative proposals to the baseline, where these proposals represented a potential cost-saving, benefit or reduction of risk.

The Consultation Document also made clear that analysis up to that point suggested that a single purpose-built store on one site would be the most cost-effective solution and therefore that the project was proceeding on this basis. However, the MOD stated that an alternative would be considered, such as sharing a new or existing store or the use of two sites, if evidence emerged which showed this to be a better option.

Therefore, some operators presented alternative options as summarised in Table 1 below:

Site	Options
Aldermaston	AWE design based on SDP concept, and an additional option with alternative handling arrangements.
Burghfield	AWE design based on SDP concept, and an additional option with alternative handling arrangements.
Capenhurst	New build CNS design based on SDP concept, and an additional option of an existing facility already storing radioactive material.
Chapelcross	Store based on an existing NDA ILW store design.
Sellafield	Store based on an existing NDA Sellafield store design.

Table 1

4.2. Summary of the Analysis Approach / Method

This section summarises the approach and method of analysis of the criteria used in site assessment and how environmental considerations were taken into account.

The analysis of the site options, as described in the SDP's Approach to Decision-Making, was developed to compare the shortlisted sites using four groups of requirements. These were:

- a. Whether each site is able to meet the functional needs of the project was mainly assessed through an Operational Effectiveness (OE) analysis. The OE assessment evaluated how well the different site options met the MOD's requirements. A Multi-Criteria Decision Analysis (MCDA) approach was used, as for the previous round of the SDP decision-making in 2012, addressing factors under four main headings: policy; operations; health and safety; and environment. The Consultation Document noted that all the shortlisted sites are existing Nuclear Licensed Sites and generally have similar characteristics. Full details of the MCDA approach can be found in the Assessment Criteria Overview⁵.
- b. The 'whole life' cost of the project: assessed through an Investment Appraisal process. The Investment Appraisal (IA) was based on risk-adjusted expected costs, based on a Schedule Risk Analysis which was carried out to take all the information available to the project team, in terms of schedule and project risks, to give the anticipated dates by which the proposed store would be operational for each of the options, which in turn fed the IA. The Strategic Environmental Assessment's (SEA) purpose was to: identify and assess the environmental effects of the options; enable the public and statutory bodies to comment on the potential impacts and suggest improvements and monitoring measures; and ensure that the potential effects are properly considered before major decisions are made and throughout project planning.
- c. Other Contributory Factors (OCF) affecting the SDP's ability to deliver the project was the final strand of assessment. These covered public confidence, socio-economics, policy, planning and regulation, local off-site projects, on-site and radioactive waste projects and stakeholder positions, and commercial issues. OCF are those factors that cannot be measured but which nevertheless were important factors in the decision-making process. Where the OCF could be assessed, it fed into the project risk analysis and was taken into account in either the OE or the IA, this included an assessment of planning risk. Comments received during public consultation largely fed into the OCF.
- d. The SEA was based on the assumption of a newly-built store which represented the 'greatest change scenario' on any of the shortlisted sites. By assessing this 'greatest change scenario', the SEA covered the widest range of potential environmental effects that could be envisaged and ensured that the potential effects at all sites were considered on an equal and consistent basis. Using an existing facility at CNS Capenhurst means that many of the mitigation measures suggested in the SEA may not be needed (eg a Construction Environmental Management Plan), and monitoring will be carried out under existing and future site safety and environmental management systems.

The IA and OE analyses were brought together to generate the Combined Operational Effectiveness and Investment Appraisal (COEIA) plots. The SEA findings were used to inform the analysis within both the OE and OCF assessments. OCF insights were then integrated into this picture to generate an overall decision logic, leading to a recommended site.

⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/431295/20150526-assessment_criteria_overview_v3_1.pdf

4.3. Site Assessment Results

It is important to note that all five sites were deemed suitable and their submissions to the MOD demonstrated their ability to safely and securely store the RPVs.

The key findings from each of the assessment strands for each site and some comments on recurring themes from consultation follow; further detail for each site is also provided within section 10.

4.3.1. OE Assessment

- a. The OE assessment did not show any significant difference between the sites in their ability to safely and securely store the RPVs, all were able to demonstrate their ability to meet these requirements.
- b. All sites were found to be suitable, with limited differentiation between the sites within the overall OE assessment, although the CNS Capenhurst existing facility option offered slightly more benefit, notably in the area of environmental impacts. Additionally, as the store already exists, it demonstrates, rather than claims, its suitability.
- c. **AWE sites (Aldermaston and Burghfield):** the AWE sites are MOD-owned and scored highly in terms of security within the OE assessment. However, the OE assessment also concluded that the ILW store would be likely to have a detrimental impact on other MOD operations at the AWE sites.
- d. **CNS Capenhurst:** the OE assessment concluded that the environmental impact of the existing facility proposed by CNS would inevitably be lower than the impact of a new build store by removing the need for store construction. This included non-radiological impact to workers, the environment and the public. The CNS Capenhurst options also scored higher as they had a smaller impact on MOD operations.
- e. **NDA Chapelcross:** the NDA Chapelcross site scored well as it is already building a similar ILW interim store which meant that the quality of the information supplied by the site was high, with a greater level of confidence that the information was robust.
- f. **NDA Sellafeld:** the NDA Sellafeld site was unable to identify an exact location on the site for the building of the store within the required timescales. While the site was able to demonstrate its suitability, it became apparent that the complexities of managing the site's overall programme of work meant that building an SDP ILW store at NDA Sellafeld would be problematic.
- g. **(Recurring theme) Transport distance:** the CNS Capenhurst site was not the best or lowest in any strand of the OE transport assessment. The AWE sites resulted in the lowest cumulative miles and NDA Sellafeld scored lowest for the longest distance on A roads. NDA Chapelcross scored lowest for the number of miles on a motorway but would result in the least miles on an A road.
- h. Overall, the analysis, which included a sensitivity analysis as described in section 7, reflected that, aside from the CNS Capenhurst options, the remaining ISS options were all fairly common in their characteristics meaning they barely differentiated from one another in terms of meeting the needs of SDP.

4.3.2. OCF Assessment

- a. **AWE Aldermaston:** No fundamental issues, issues to be managed or beneficial OCF were identified in respect of AWE Aldermaston.
- b. **AWE Burghfield:** the concerns over a flood risk at AWE Burghfield were noted as an issue under the external hazards element of the OCF assessment although the perceived siting of the store was not in an area subject to risk of flooding. The relicensing activities required to enable ILW storage on site was also considered an issue but one that could be managed.

- c. **CNS Capenhurst:** Storage of the RPVs aligns well with CNS's mission, their focus being on decommissioning, management, recycling and disposal, this constitutes a positive OCF issue. In addition, the fact that the site's planning submission would not be for a new build was seen as advantageous under the OCF assessment.
- d. **NDA Chapelcross:** the fact that the RPVs are UK defence waste and not waste of sole Scottish origin was deemed an issue by some consultation participants although it should be noted that Defence waste is not within the scope of the Scottish Higher Activity Waste policy. The NDA Chapelcross site is currently being decommissioned and therefore storage of non-site generated waste raised concerns of opening the site up as a future location for other waste. Perceptions of the negative impact on plans to regenerate the site were considered to be a negative issue under OCF. The MOD recognised that the positions set out in submissions and media statements from the Scottish Government and local authorities with planning responsibilities potentially represent a significant challenge with substantial risk for planning and permissioning approvals. These positions create the potential to affect the timely success of a nuclear project and this was considered as an issue by the MOD within the OCF assessment and formally assessed as a delivery risk within the Investment Appraisal.
- e. **NDA Sellafield:** many participants in the SDP public consultation expressed a view that a benefits package, over and above the section 106⁶ negotiations, is expected around the NDA Sellafield site, this resulted in a negative issue to manage. There was a perception by some that NDA Sellafield is seen as a default site and the storage of any further waste would set an unwelcome precedent. This perception resulted in a negative OCF issue in the area of public confidence, equity and fairness. The complex programme of work at NDA Sellafield includes other site projects whose aim is to reduce the hazard on site, the OCF assessment considered that SDP could potentially affect the timely completion of the wider site projects.

(recurring theme) At all sites respondents expressed a lack of trust in delivery of the project due to scepticism regarding the timely delivery of a GDF and these comments were covered under the OCF assessment. Although the GDF programme is outside the scope of SDP, the MOD confirmed that the risks had been recognised and would be addressed. The workshop concluded this issue does not discriminate between the sites.

4.3.3. Investment Appraisal

It is inappropriate to share commercially sensitive information provided by the sites; as such specific cost estimates for the options at each site cannot be shared. However, it is reasonable to deduce that an existing facility has fewer risks that could affect the delivery of a store able to receive the RPVs. SDP costs are minimised with timely initial dismantling and radioactive waste clearance followed by recycling of the remaining submarine hulk. Because of this confidence in timely delivery of the storage capability, the CNS existing facility offers a cost benefit to the programme.

4.3.4. Strategic Environmental Assessment

There were no environmental reasons for ruling out any of the shortlisted site options. However, the SEA concluded that there were some issues, such as transport, that would need to be managed in preparation for, and during, operation of the store.

⁶ http://www.pas.gov.uk/3-community-infrastructure-levy-cil-/journal_content/56/332612/4090701/ARTICLE

4.4. The Basis for the Site Decision

After careful and thorough assessment of all the evidence presented from the sites, and from consideration of the valuable feedback from public consultation the SDP has determined that the CNS existing facility provides MOD with the best solution to safely and securely store the RPVs until disposal in a GDF.

The CNS existing facility provides the best solution in terms of the investment appraisal as it has the lowest risk on delivery of the capability, the existing facility is also marginally better in terms of the OE assessment as it has the lowest environmental impact and least effect on MOD operations. The OCF identified positive aspects in the area of planning and synergy with CNS's focus on end of life management, recycling and disposal.

Taking account of the need for MOD to deliver on its plans to reduce radioactive waste liabilities, and the stakeholder views expressed during consultation that MOD should deliver on these plans, a contingency plan has been developed. The detailed assessment process showed the new build store option at CNS Capenhurst was the next best option after the existing facility; as such, should for currently unforeseen reasons the existing facility become undeliverable, the contingency plan should be the new build option at CNS Capenhurst. In addition, if for unforeseen reasons both of the CNS Capenhurst options prove unfeasible, the assessment process identified that the contingency site should be AWE Aldermaston.

4.5. The Selected Option

From the above analyses CNS Capenhurst was recommended as the preferred site for the location of the interim RPV store and AWE Aldermaston was named as a contingency site. The existing facility at CNS Capenhurst is the selected option with an on-site contingency of a new build store. The existing facility is currently used for storage of similar material, requiring similar operational management, and more than meets SDP's security requirements.

PART B – Response to Comments Made

5. Consultation Feedback

5.1. Collation of Consultation Comments

Consultation comments were received via feedback forms, letters, notes taken during the workshops held at the events and from formal submissions from organisations.

The approach to the collation and analysis of comments was based on the successful model used for the previous SDP consultation as well as industry guidance. Comments and questions were captured, acknowledged, recorded in a structured database, and fed into the project team for assessment. They were tagged by origin, topic/perspective, and relevant option assessment area. Reports were produced from the local and national workshops and were published through inclusion as annexes to the Post-Consultation Report⁷.

5.2. Summary of Consultation Key Themes

The Post-Consultation Report summarises the individual points made and questions asked by individuals and organisations participating in the consultation process within questionnaire responses, longer submissions and workshop meeting notes. Below is a summary of the statistics of individual points made:

Project scope and key stages	561	23%
Assessment process and options	544	23%
Strategic Environmental Assessment	348	15%
Stakeholder engagement	311	13%
Site suitability *	231	10%
Safety and security	222	9%
Planning, policy and permitting **	172	7%
Total points made	2,389	100%

* Points relating to specific sites not covered under the other headings.

** Includes negotiated benefits.

This type of summary ensures no points are lost and all are considered within the project team's analysis. However, the way in which responses were split is inevitably subjective and the balance of points made may not be directly related to the balance of respondents' positions. For example, someone opposed to the store project may have summarised their views in one line whereas a supporter may have listed a dozen different reasons (or vice versa).

It is not practicable to give responses to every one of these individual comments so the current Response to Consultation report provides feedback on the main themes identified in the Post-Consultation Report broadly aligned to the category headings above.

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https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/374827/PSE2_Consultation_Document_20141106_as_printed.pdf

6. Project Scope and Key Stages

6.1. Scope

Summary of Comments

Questions were received seeking clarification on the need to dismantle the existing 27 submarines, and about the dismantling of future classes of submarine outside SDP's scope, often asking what would happen to the RPVs of future classes of submarine if a GDF were not available. The concern was that these RPVs would also need interim storage and that, under those circumstances, they would also be sent to the proposed SDP store.

There were suggestions that a plan for the dismantling of future classes should be produced to clarify the position. A few comments suggested that since no disposal route for ILW currently existed, despite the strategy to deliver a GDF, the construction of additional submarines was not acceptable. Others used the opportunity to voice their opposition to the use of nuclear submarines as a matter of principle.

At every site, concerns were raised that the design might allow for an extension to accommodate additional (and potentially unwelcome) waste not just from the submarine programme but also from elsewhere. In particular, RPV storage might set a precedent for the storage of other defence wastes and the site might become the default destination for the MOD's radioactive legacy wastes.

MOD's Response

Radioactive Waste Management Limited (RWM), the developer of a GDF, has estimated waste emplacement in a GDF will begin some time after 2040. The GDF programme is subject to finding and securing an appropriate solution on a suitable site so it is currently not possible to outline specific timescales. By the time the latest generation of Royal Navy submarines, the Astute class, leave active service and have completed the defuelling and decommissioning processes it is expected that a GDF will be available for the direct disposal of their RPVs and there will be no need for interim storage in an ILW store.

The planning permissions and permits for the ILW store will allow for the storage of the 27 RPVs within the scope of the SDP. Any future waste arising from either defence or civil activity will require assessment against planning and permitting consents therefore, SDP will not set a precedent for the chosen site to become the default destination for radioactive waste.

These issues are important to the MOD and to stakeholders but they apply to all shortlisted sites and there was no significant difference in the nature or extent of comments between sites or approaches. These comments did not therefore help differentiate between shortlisted sites but will need to be addressed in future communication and engagement with the local community at the selected site.

6.2. Timescales

Summary of Comments

Several responses noted the slow progress to date and urged the MOD to keep to its timetable and not to let the project slip, driving cost escalation. The adverse impact of delay or uncertainty on stakeholder and community confidence was noted, including around the dockyards where submarines are currently stored afloat.

Respondents pointed to factors that would allow a store to be built more quickly at 'their' site or, more often, to factors that would significantly delay planning or construction and therefore make the site less suitable.

There were also responses that argued for delay until a position regarding a GDF was clearer and that nothing should be done 'in haste'. Questions were asked about the dismantling rate, the timing or duration of defuelling, the rate and timing of RPV transports and store operation.

MOD's Response

The MOD acknowledges that the process of identifying the dismantling and interim storage sites and the approaches to dismantling and storage has taken some time. The dismantling of nuclear-powered submarines and the storage of the resultant ILW has never been undertaken by the UK before. It is important that we get the dismantling process and storage solution right.

As a responsible nuclear operator the MOD is committed to dealing with issues in a safe and environmentally sound manner that meets strict regulations and inspires public confidence. The MOD has therefore consulted a wide range of experts, regulatory bodies, non-governmental organisations and the general public to ensure the SDP identifies the best solution to deal with dismantling and storage. This takes time, but once the solution and processes for dealing with these issues are in place it is expected that the submarines will be dismantled at a rate of one submarine per year.

The more general points on timescales do not differentiate between sites but, as described above, the timetable for obtaining store approvals and permits and for construction work was a key driver in deciding on the site and the particular option at that site. Feedback during the consultation on timescales and potential obstacles, including feedback from local planning authorities, was taken into account in the Schedule Risk Analysis, within the IA.

6.3. Key Stages in SDP's Programme

6.3.1. Initial Dismantling

Summary of Comments

The Consultation Document outlined the submarine dismantling and recycling process and its relationship with the interim store programme. It set out the sequence of radioactive waste removal and the RPV removal and factors in gaining the approvals and permits for the interim store.

This area stimulated a range of questions, for example, on how dismantling and recycling would be carried out and the order in which the boats would be processed as well as seeking further clarification on the different steps and hold points. Some questions related to previously-made, publicly-influenced decisions eg why the RPVs are being stored whole and not being size-reduced and packaged at this stage.

MOD's Response

While not directly related to this consultation, information on initial dismantling was shared, and clarification provided, to enable discussion on the interim storage sites. This additional information can be found within SDP's previous consultation and response to consultation documents.⁸

⁸ <https://www.gov.uk/government/consultations/consultation-on-the-submarine-dismantling-project>

6.3.2. Reactor Pressure Vessels and Container

Summary of Comments

The physical and radiological characteristics of the RPVs determine the necessary transport and storage arrangements and, as a result, there were a wide range of questions on these topics. Physical characteristics of interest included whether the temperature of the RPVs is an issue, how big and heavy they are, whether they are dry, and if the core barrel will be kept inside during storage. Isotopic composition, decay rates and external dose rates, under both normal and accident conditions, were also queried.

Questions were asked about the test regimes for the transport container and how the type of container to be used to transport the RPVs would be decided upon.

MOD's Response

Questions relating to the RPV and transport container did not differentiate between the sites since all sites were able to demonstrate their ability to safely handle the RPVs. The consultation provided the opportunity for attendees to receive face to face informed answers to their questions.

6.3.3. RPV Transport Arrangements

Summary of Comments

Many of the questions and comments relating to RPV transport were site-specific and are covered later in this report. There were, however, still a significant number that addressed transport generically.

For instance, people wanted to know how many transports there would be per year, whether transport would be provided by the MOD or a specialist haulier, what kind of escort would be provided, how fast they will travel and who will be notified when the transportation takes place. Respondents wanted to know what the consequences would be if an RPV transport vehicle was involved in an incident.

A number of people were interested in how transport distances and ease of local access would be factored into the decision-making. Some would have preferred the MOD to have transported the RPVs by sea (particularly in relation to NDA Sellafield) or rail rather than road.

Several respondents urged SDP to consider all the options, including the possibility of building separate stores in the North and South to reduce transport distances.

MOD's Response

Feedback during pre-engagement and public consultation on the importance of transport issues led the MOD to strengthen its treatment of this topic within both the OE and OCF analyses. The consideration of total transport miles was, for instance, a factor in the OE analysis and the OCF analysis considered potential differences in perceptions of transport threats and hazards. Public consultation informed both strands but particularly the OCF analysis.

The RPVs in their containers are too big to transport by rail but SDP has considered sea transport. The results of pre-consultation work confirmed that road transport would still be an inevitable component of the move, that the costs of sea transport would be many times that of road transport, and that because, for instance, extra lifts would be required, the risks may well increase, rather than decrease.

In relation to building one store in the North and one in the South, although a two-store solution would reduce transport distances, building two separate stores would inevitably be more expensive and the sites at Devonport and Rosyth did not offer their sites for the SDP ILW store. No information was presented during consultation which challenged the basis of the shortlisting decisions.

While the OE scores varied, none of the above factors led to significant differentiation between the sites.

6.3.4. Interim Store Design

Summary of Comments

Questions about the proposed store programme included several about how long it will take to build the store, and decommission the submarines. Design-related topics included store dimensions and visibility within the landscape. A few respondents commented on operational practices and long-term maintainability was raised as an issue, typically in the context of uncertainty over specific GDF timescales. It was suggested that a 100-year store design life might be insufficient (see 6.3.6 below). The point was made that store lifetime was only part of the picture and that site infrastructure, including security, would also have to be maintained.

There was also a range of comments and questions concerning approaches other than the construction of a new dedicated SDP store eg the use of an existing or a new store for shared storage. Several respondents urged SDP to consider all the options.

MOD's Response

By choosing an existing store option at CNS Capenhurst some of the concerns raised regarding the store design and potential visual impact have been addressed and community concerns about store construction should also have been reduced.

Feedback on store project, operation and design issues fed into the technical assessments of the various site proposals. It also helped SDP focus on some of the key infrastructure issues at the different sites.

Comments emphasised the need for rigorous oversight by regulatory bodies, irrespective of the site chosen. All nuclear licensed sites are regulated by the Office for Nuclear Regulation (ONR) and either the Environment Agency (EA) or the Scottish Environment Protection Agency (SEPA) in Scotland. Transporting the RPVs will be regulated by the Defence Nuclear Safety Regulator (DNSR).

MOD agrees that all approaches to the operation and design of the store needed to be considered during the assessment process. The baseline proposals set out in the Consultation Document were for a new, dedicated SDP store. The possibility of different approaches involving sharing storage with other wastes, or using existing stores, was discussed but the shortlisted sites had made no definite proposals at the time of the public consultation. Since then, however, the sites and SDP have completed their technical and financial studies and some opportunities were identified. Most proved less effective and/or more expensive than the baseline and only one (the use of existing storage at Capenhurst) was carried through to the final analysis.

The baseline proposals made use of a straddle carrier for moving RPVs within the store. Feedback from sites and from some public consultation respondents suggested that alternative handling approaches might be preferable and SDP therefore encouraged sites to come up with proposals.

6.3.5. RPV Repackaging and Size Reduction

Summary of Comments

Several respondents sought or offered clarification about the reasons why repackaging might be necessary and what sort of equipment might be required. It was also noted that it was not needed for radiological reasons but felt this was not adequately explained by the MOD. The MOD was asked who would pay for on-site handling and repackaging, if it were required.

Other responses on the subject of cutting-up the RPVs again sought or offered clarification about the reasons and equipment required or discussed the relative advantages of cutting up versus direct disposal (eg size-reduction may allow parts of the RPVs to be disposed of as LLW). The MOD was encouraged to be more consistent on the subject, and there were questions about the implications of a size-reduction facility for siting decisions. For instance, did it mean that a site that was more likely to build a size-reduction facility for other reasons would be preferred in SDP's analysis? Did SDP expect a size-reduction facility to be located at a GDF, which may mean the location of a GDF would influence the choice of interim storage site?

MOD's Response

The baseline design footprint in the Consultation Document included a contingency for a repackaging facility. This would be needed in the event that the RPVs needed to be repackaged for transport from the RPV store to a size-reduction facility before being sent to a GDF.

The MOD acknowledges that it could have been clearer at times in its presentation of information on potential repackaging or size-reduction facilities.

Different site proposals dealt with potential repackaging in different ways but all satisfied the SDP's requirement, which was to demonstrate how it could be accommodated if it proved necessary. The project required that the sites confirmed that they would allow a 50% contingency floor space for repackaging purposes if required. All sites met this criterion in their submissions to the MOD. This enables MOD to contract and pay the licensee for use of this space and the repackaging operations if and when required.

No assumptions were made in SDP's analysis about the location or timescales for any dedicated SDP or national size-reduction facility and the ability to construct one at the interim storage site was not assessed, since the assumption remains that a size-reduction facility will not be located at the storage site.

The location of a proposed GDF is currently unknown and will not be known for some years. SDP made it clear therefore that it would not be possible to make any assumptions about size-reduction and GDF location(s) or transport distances from store to size-reduction and/or disposal.

Therefore, neither repackaging nor size-reduction/cut-up facilities discriminated between options.

6.3.6. GDF Timescales

Summary of Comments

Although the level of concern varied, the final disposal site for the RPVs (in a GDF) was a recurring theme in responses from people local to all the shortlisted storage sites.

Several questions simply asked where a GDF was going to be located and when it would be ready, but others referred to project assumptions about the earliest emplacement date in a proposed GDF, typically expressing scepticism that, although it already seemed a long way off, it could well be substantially later. Furthermore, since the RPVs are relatively low hazard, they would not be a priority for disposal in a GDF. One respondent suggested that local communities should think of ILW stores as indefinite, rather than interim, storage.

The implication was that the store should be designed to last at least 150 years or more and the assumption of an earliest disposal date of 2040 should be dropped. Some responses asked about the likelihood and implications of delays of this magnitude and the implications for extended interim RPV storage. Comments were received that suggested a firm MOD commitment should be given to emptying the store by a given date but others emphasised the need to avoid making commitments that could not be justified. Rather, the MOD should be open and realistic about interim storage duration in its discussions with communities and in the design of the stores.

Others sought confirmation that, if NDA Chapelcross were to be chosen, the RPVs would still go to geological disposal as opposed to storage 'near source, near surface', as per the current Scottish Higher Activity Waste policy.

Finally, possible alternatives to geological disposal routes for some or all of the RPV metal were suggested, including the existing Low Level Waste Repository (LLWR) near Drigg or a future equivalent.

MOD's Response

The MOD appreciates the concerns expressed about a GDF programme and of the need for openness with communities about likely timescales. However, the MOD must continue to adhere to Government policy on the final disposal of its ILW. Radioactive Waste Management Ltd (the developer of a GDF) has, for planning purposes, estimated construction, first emplacement and closure dates for a GDF, with first waste emplacement some time after 2040 and operations running into the next century. These are indicative dates, not targets or milestones, and when the RPVs would be disposed of within this timeframe has not yet been determined. As safety and security are paramount, the aim will be to progress geological disposal as soon as practicable, consistent with developing and maintaining public and regulatory confidence. Therefore, the MOD, along with all other organisations managing ILW, has to make provisions for the safe and secure interim storage of all ILW. Store designs and site management plans have to take account of the possibility of longer storage durations.

While these concerns are acknowledged by the MOD, they do not offer any significant differentiation between the sites, because where and when the RPVs will finally be disposed of will need to be considered, regardless of where the RPVs are stored in the interim. All the shortlisted sites, with the exception of AWE Burghfield, already store ILW which will remain on site until a GDF is available, or until alternative disposal routes are enabled.

Timescales had to be considered in detail when looking at proposed new store designs and long term maintainability and particularly when assessing proposals for using existing facilities. The earliest possible date for a GDF to be available is 2040, so technical and financial sensitivity analysis has been carried out looking well beyond that date. When assessing the options, maintainability and/or replacement strategies had to be provided for all sites to demonstrate their suitability, which all sites were able to do.

The CNS Capenhurst existing facility has a plan for 100 years and, as with any facility, will require ongoing maintenance.

The MOD will adhere to Government policy on the final disposal of its ILW, which is currently that it should all be sent to a GDF. As pointed out by respondents during the consultation though, if the RPVs are cut-up at the end of the storage period, some parts may by then be LLW. These issues did not affect the store siting decision.

7. Assessment Process and Options

Summary of Comments

There were comments on this topic supporting SDP's plans for engagement and analysis but emphasised the need for transparency in the assessment and decision-making process, including publication of the details of the assessment criteria and methods. Some asked for the involvement of stakeholders and the inclusion of alternative weightings in the Operational Effectiveness analysis.

A wide variety of more detailed questions were asked about the analytical process including who would be doing the analysis, the data to be used, and about third party and regulatory oversight. Detailed comments were made on proposals for the Investment Appraisal and Operational Effectiveness analysis.

There were also questions or suggestions relating to criteria within the OCF framework, including observations on public confidence, equity, planning frameworks, other local projects, safety performance, planning risk, and project deliverability.

MOD's Response

Comments were generally consistent across the shortlisted sites and so did not suggest any basis for differentiation.

Stakeholders have been closely involved in the design of the engagement and analysis framework, especially through participation in the SDP Advisory Group (SDPAG) and the Sub-Group it appointed to engage with this phase of the project. The pre-engagement phase gave other stakeholders and local authorities the opportunity to contribute. The MOD's oversight and scrutiny teams, external regulators and members of the SDPAG Sub-Group attended the assessment workshops. MOD oversight and scrutiny teams then reviewed the data, assessments and decision logic in great detail before endorsing them for the SDP project team to use to identify a recommended site.

SDP values all this input, which resulted in technical improvements and a better understanding of what would be considered a fair and robust assessment. Some changes have been made as a result of inputs, including new criteria and SDP published a suite of documents setting out in detail how the decision would be made, what criteria would be used, and how the public consultation would integrate with the analysis. All these documents are available on the Government's website⁹ and the assessment process was discussed in detail at public consultation events.

As a result of comments made during consultation, a workshop was organised to gather alternative sets of OE weightings from Sub-Group members, including people from industry, regulators, academia, and local authority and public interest organisations. These weightings were then used within the OE sensitivity analysis. The conclusion was that using the alternative weighting sets varied the emphasis on particular criteria but this action did not change the overall result.

The OCF framework is designed to systematically gather stakeholder and wider public perceptions across a wide range of topics, many of the responses made at consultation were relevant to this assessment strand. The positions taken by key stakeholders, eg planning authorities, are also an important factor in the OCF analysis which then feed through to other assessment strands – eg to the assessment of the risk of planning delays.

⁹ <https://www.gov.uk/government/publications/submarine-dismantling-project-interim-storage-of-intermediate-level-radioactive-waste>

7.1. Integration and Final Decision-Making

Summary of Comments

In addition to the individual assessment strands, respondents also asked about, or expressed a view on, how the strands should be brought together and integrated into a final decision logic and who should take the final decision. While acknowledging the need to maintain high safety and environmental standards, some thought it should then be primarily a technical decision whereas others thought that the objective should be to minimise cost to the taxpayer.

Other comments suggested that the choice should be made with an emphasis on one or more specific factors, including safety and security, environmental impact, impact on interim and final decommissioning 'end states', land use and community acceptance.

Other respondents were more sceptical about the assessment process and thought the selected site would be the one that 'makes the least fuss'. Several respondents apparently believed that the decision had already been taken and that the public consultation was therefore a Public Relations exercise.

Others asked about contingency plans in case the chosen site subsequently dropped out of the running or planning permission for a new interim store was refused.

MOD's Response

As for the individual assessment strands, comments on the final decision-making were generally consistent across the shortlisted sites and so did not suggest any basis for differentiation.

There was very little to choose between the sites in terms of the factors that seemed of concern to participants, all sites had comments made on safety, security, environmental issues, community impact, decommissioning and transport. This breadth of comment demonstrates an integrated approach to assessing these factors was appropriate.

The MOD support the view, presented at consultation, that a contingency option is appropriate, and have described the contingency plans within the Basis for Site Decision in section 4. The decision had not been made prior to consultation and views have genuinely been taken into consideration in the decision-making process.

7.2. RPV Transport Assessments

7.2.1. Transport Distance

Summary of Comments

Several responses suggested that total transport mileage should be an important factor in the option assessment, favouring a site that resulted in the shortest total mileage.

The Environment Agency noted *'that consideration has been given to the impact of transporting ILW from the sites where the waste will arise. Normally, the proximity principle would be relevant to choosing sites for waste storage. The Ministry of Defence has indicated that at this stage it is not possible, due to uncertainty of the location for a future Geological Disposal Facility and a potential size reduction facility (should that be required), to assess fully concerns about the locations for storing and managing this waste i.e. the proximity principle for waste management.'*

MOD's Response

Transport distances were considered under the OE assessment and the impact of the differences in transport miles was not judged significant enough to be a major differentiator, on environmental, safety or cost grounds.

The assessment and management of transport threats and hazards are clearly of major importance to communities both around the shortlisted interim storage sites and the initial dismantling sites, Devonport and Rosyth. Comments made will be taken into account in the detailed planning but there was little in terms of impacts or perceptions at the generic level that helped differentiate between the shortlisted interim storage sites.

7.2.2. Local Access Routes

Summary of Comments

About a third of the responses on the SEA related to local RPV transport routes, commenting on route selection or on the adequacy of local roads. Communities local to all sites considered local transport routes to be a very important factor and, in each case, respondents believed it would be impractical to transport the RPVs to site by road, usually because of narrow roads or bridges, but also, in NDA Sellafield's case, because of the delays it would cause on local trunk routes.

MOD's Response

The MOD understands the need to demonstrate to the public that the RPVs can be safely transported without any adverse impact on the community and there was extensive assessment of this issue in the technical assessment and OE analyses. 'Trust in SDP Delivery' and 'Perception of Transport Threats and Hazards' are important OCFs and feedback received during public consultation on these issues was therefore invaluable.

It is envisaged that there will typically be one RPV delivery per year, but up to a maximum of three deliveries in any one year.

Each site confirmed that the RPVs could be safely delivered to their site without causing significant issues to the local community. All site licensees have confirmed that there is an existing local route which can be used without modifying bridges or roads.

Some sites are further from trunk routes and, in response to comments received during consultation, the OE analysis in particular was modified so that greater weighting was placed on miles on local roads than trunk route miles. However, this factor did not prove to be a significant factor in the final decision.

The MOD agreed with respondents that ongoing communication and engagement with the local authorities and community around the chosen site will be essential throughout the store planning and construction phase and as required in advance of RPV transport.

7.3. Population Density

Summary of Comments

A number of respondents suggested the local population density should be a criterion within either the OE or OCF frameworks. The general sense was that larger communities should be avoided, but one response noted that the project may actually have a disproportionate (negative) effect on a smaller community while another suggested that any community benefits package may have a proportionately greater benefit for residents in a smaller community.

MOD's Response

Population density in the vicinity of the shortlisted sites does vary. However, there would be no discharges or measurable increases in off-site radiation levels and no plausible accident scenarios have been identified that would cause a significant off-site hazard, so local population density was not considered by MOD to be, of itself, a reason to prefer one site over another.

8. Strategic Environmental Assessment

Summary of Comments

The consultation bodies who responded seemed generally content with the Environmental Report and some provided a number of helpful comments. These included comments on the approach to the Post-Adoption Statement.

The Environment Agency (EA) concluded that *'an ILW store could be constructed and operated at any of the shortlisted sites in England without a significant adverse impact on people or the environment.'* However EA identified that *'AWE Burghfield might present the greatest challenge in terms of flood risk management'*, while noting, *'AWE are developing a robust flood alleviation scheme and additional mitigation'*.

The Scottish Environment Protection Agency (SEPA) confirmed that *'the relevant environmental issues have been considered and agree with the findings, in particular, that there are likely to be no significant environmental effects associated with the discharge or disposal of radioactive waste from the Reactor Pressure Vessel stores'*. SEPA also commented that *'although we consider that the environmental issues related to the management of controlled and hazardous waste arising from the SDP project could be significant and should have been assessed as part of the SEA, we are content that this can be covered at the project stage through the EIA process and CEMP (Construction Environment Management Plan).'*

Historic Scotland (HS) commented that *'the Non-Technical Summary presents the assessment of this project in a clear, concise and accessible manner'*, and the assessment *'identified no significant effects on the historic environment from the Chapelcross site option, and I am content to agree with these findings.'*

Scottish Natural Heritage (SNH) commented *'we are satisfied that the full range of relevant environmental issues/concerns and key trends have been identified'*.

Natural Resources Wales (NRW) requested that *'were the Capenhurst site selected for the storage of the ILW, given its proximity to the River Dee and Bala Lake Special Area of Conservation (SAC) and The Dee Estuary SAC, Special Protection Area (SPA) and Ramsar Site, we would welcome the opportunity for an increased engagement programme with the Ministry of Defence and our regulatory partners going forward to understand and determine the potential impacts (if any) on the Welsh Environment from any proposed activities in England associated with the project.'*

Comments received from the public included those who believed that the SEA was relatively robust and sound. However, not everyone agreed with the approach and/or scope. It was suggested that size-reduction and associated transport issues should have been within the scope of the SEA as opposed to within potential future EIA studies, and another comment suggested that the repackaging should also have been included in the SEA.

A range of topics or projects were suggested where cumulative impacts from other projects should be considered within the SEA, including a possible New Nuclear power station build near NDA Sellafield, a local incinerator near Capenhurst, fracking in Dumfries and Galloway, and fuel storage near AWE Aldermaston.

One response disagreed with the scope of the SEA on the basis that the SDP process should have been linked to other key MOD issues. Cumulative impacts from SDP and other future wastes should have been assessed for AWE Aldermaston.

Other comments suggested that the precautionary principle approach to risk management had not been properly addressed and that future hazards, in reality, could not be anticipated.

Routine discharges and off-site radiation levels were also of interest, although the Environment Agency stated that '*there should be no radiological discharges resulting from the normal operation of an interim ILW store.*' There was some concern that there might be an increase in radiation and one respondent asked for more clarity on what this meant for the closest neighbours and another suggested that the SEA appeared to underplay the dangers of low-level radiation.

A variety of points were raised regarding monitoring regimes including its importance for public confidence.

Some general comments were received regarding the visual impact of the store and that landscaping and onsite location would be important factors. Other comments were received on the subject of noise and vibration and the need for the project to minimise conventional environmental impact such as noise, dust, visual impact and transport nuisance during construction.

MOD's Response

The MOD agrees with the Environment Agency's view that the risks identified by the SEA of potential minor effects of implementing ILW storage at CNS Capenhurst (or indeed any of the shortlisted sites), which apply mainly to construction, are overarching risks, and that ILW storage can be implemented without any significant adverse effects on people or the environment.

In response to SEPA's further comments, the environmental issues associated with the management and control of hazardous waste will be taken forward by the site licensee and the EA as the regulator.

In response to NRW's request for an increased engagement programme, MOD welcomes NRW's request for further engagement.

On issues of SEA scope raised by the public, the scope was set to include the significant issues directly relating to ILW storage. Those wider issues raised by the public, such as size-reduction, New Nuclear civil power station build, fracking and specific projects near to the sites are independent of the delivery of the interim storage of the RPVs and the potential environmental impacts of this and were therefore not included within the scope of the SEA.

On the matter of the precautionary principle and the potential effects identified by the SEA, as stated in Section 3.2, the SEA was based on the assumption of a new build store, which represented the greatest change scenario on any of the shortlisted sites. By assessing this greatest change scenario, the SEA covered the widest range of potential environmental effects that could be envisaged and ensured that the potential effects at all sites were considered on an equal and consistent basis. Using an existing facility at CNS Capenhurst (see Section 4.5) means that many of the mitigation and monitoring measures suggested in the SEA may not be needed (eg a Construction Environmental Management Plan), and monitoring will be carried out under existing site safety and environmental management systems.

9. Stakeholder Engagement

Summary of Comments

Comments on the SDP's Public and Stakeholder Engagement were generally positive, with no obvious differences in perceptions between sites that could be a factor in SDP's analysis. Some thought it 'overkill' but most considered it appropriate. Attendance and participation at consultation events was also broadly similar across the sites and the level of understanding at the end of the public consultation amongst stakeholders and the participating public appeared generally comparable.

MOD's Response

The OCFs covering these issues did not therefore offer any differentiation.

10. Site Suitability

10.1. Space and Infrastructure

Summary of Comments

Several responses asked whether there really was sufficient space and supporting internal infrastructure or access at their local site. There were respondents who seemed to believe there was sufficient spare land and infrastructure while others, most often in the Sellafield context, believed that there was not.

MOD's Response

When MOD reviewed the proposals from shortlisted storage sites, it took account of the various points raised in consultation and concluded that space and infrastructure would not be a constraint except at NDA Sellafield, where the NDA confirmed stakeholder perceptions that accommodating an SDP store could cause major disruption to the site strategy.

10.2. Site Ownership and Role

The AWE sites, Aldermaston and Burghfield are owned by the MOD and AWE Management Limited (AWE ML) is contracted to the MOD through a Government-Owned Contractor-Operated (GOCO) arrangement. AWE ML employs the workforce and maintains the nuclear site operating licences.

URENCO UK is the Nuclear Site Licence holder at Capenhurst and CNS operates as a tenant on part of the licensed site.

The NDA Chapelcross site is owned by the NDA and Magnox Ltd is the Nuclear Site Licence holder.

The Sellafield site is owned by the NDA and Sellafield Ltd operates the site and holds the Nuclear Site Licence.

Summary of Comments

Questions were asked about how the differences between NDA sites and commercial sites would be managed within the assessment process. Others asked about contractual arrangements with the storage site, particularly with regard to the potential use of a commercially-operated site. The long timescales caused some people to question the feasibility of dealing with a commercial business and the importance of long-term funding to maintain safety.

MOD's Response

All sites, irrespective of ownership, were treated fairly and equally, using the published assessment criteria.

The MOD is confident that all of the shortlisted sites can meet the commercial/contractual requirements for the required lifetime of the store based on the site response. Such arrangements are already in place for the long-term management of material until a GDF is available, at both CNS Capenhurst and NDA Sellafield.

A contract will be required regardless of the site chosen, which means that this aspect did not differentiate between the sites.

10.3. AWE Aldermaston

Summary of Comments

The main AWE Aldermaston-specific comment themes not covered elsewhere in this report were as follows:

- a. questions about the potential implications for planning constraints on development in the surrounding area; and
- b. comments on safety management and progress on AWE's own ILW stores.

MOD's Response

Through discussions with the regulators and the site operator, the location of an RPV store within the nuclear-licensed site and the nature of the ILW represented little or no impact to the operation of the offsite emergency plan, and therefore little or no impact on planning constraints in the surrounding area.

Perceptions of Public Risk is an important OCF and comments from local stakeholders and the wider communities showed there were differences in perceptions. At the time of the consultation there was media coverage of regulatory attention to AWE Aldermaston's radioactive waste management programme and comments referred to this and to past events. After the consultation finished, SDP consulted the regulators, as planned, on the regulatory performance of the five shortlisted sites.

10.4. AWE Burghfield

Summary of Comments

The main AWE Burghfield-specific comment themes not covered elsewhere in this report were as follows:

- a. the programme implications of extending the nuclear-licensed site boundary;
- b. concern about flood risk; and
- c. the fact that AWE Burghfield does not currently store radioactive waste, and therefore the implications of its potential selection.

MOD's Response

Building an SDP store at AWE Burghfield would mean an extension of the nuclear-licensed site boundary, though not the site boundary itself. Discussions with regulators did not identify any major problems with achieving an extension to the nuclear licensed site boundary but it would inevitably add some uncertainty and was included in the Schedule Risk Analysis.

The MOD and AWE are fully aware of the flooding issue, and are mitigating flood risk at the site with a flood alleviation scheme project. In addition, the proposed location for the SDP store is outside the flood risk area.

SDP gave consideration within the OCF analysis to the implications of AWE Burghfield storing radioactive waste and the site would be subject to meeting the relevant regulatory requirements.

10.5. CNS Capenhurst

Summary of Comments

The main CNS Capenhurst-specific comment themes not covered elsewhere in this report were as follows:

- a. consistency with existing site activities and long-term future;
- b. implications of the site ownership structure;
- c. implications for / of new housing developments in the area; and

- d. the Capenhurst road layout was mentioned, including highlighting that the route shown goes through Capenhurst village where there are some 90-degree bends and the Old Pinfold (an historic structure).

Natural Resources Wales noted that out of the four proposed options for a site in England to store the ILW, the one of most interest to them was the CNS Capenhurst site which is close to the border of Wales. They noted and accepted '*based on the information provided from the MOD's initial assessments, that there are not anticipated to be any significant effects likely to result during construction, operation and decommissioning of the interim ILW storage at any of the shortlisted sites. Moreover from the information provided, there would not be any radiological discharges from the SDP interim ILW storage site that would require amendment to the existing environmental permits or authorisations on any of the proposed sites.*' They went on to seek assurances that '*a proposed ILW site at Capenhurst would be managed appropriately and that all the necessary regulatory requirements and controls were implemented*' and also requested an increased engagement programme with them if CNS Capenhurst were chosen.

MOD's Response

The OCF analysis considered the impact of storing SDP's waste on the current site programme for all shortlisted sites. It concluded that for CNS Capenhurst the impact would be broadly positive because of the synergies, both with the existing storage and the management of radioactive materials. Managing the interim storage of the RPVs would be consistent with the site's existing and declared future purpose.

The MOD and regulators envisage no major issues with the use of commercially-owned and operated sites for radioactive waste management. Existing regulatory frameworks ensure that liabilities are clearly allocated and respected. The MOD will retain responsibility for the RPVs. The site operator's responsibility is for their management in line with an agreed contract, ownership will not be transferred from the MOD.

The RPVs would represent a small percentage increase in the total activity of the current site inventory and there would be no significant off-site environmental impacts due to storage of the RPVs. Therefore, the interim storage of RPVs would have no implications for new housing developments in the area.

The feasibility of the local approach roads to the site to handle heavy haulage vehicles was assessed. Heavy haulage, multi-axle trailers have previously been used for deliveries of equipment to the Capenhurst site and the transport of RPVs was not seen as being any more problematic. While the generic concerns of transport activities across all sites will be taken into account, this aspect was not seen as a differentiating factor for the CNS Capenhurst site. However, as plans develop the transport routes will be reassessed.

10.6. NDA Chapelcross

Summary of Comments

The main NDA Chapelcross-specific comment themes not covered elsewhere in this report were as follows:

- a. there could be challenges in securing a planning consent at NDA Chapelcross;
- b. the use of NDA Chapelcross would be contrary to both the stated local vision of a decommissioning site and the stated aims of Scotland's Higher Activity Radioactive Waste Policy 2011;
- c. there were additional concerns that the RPV store might set a precedent for further waste imports. Importing waste to the site was seen as unfair and there was strong local feeling about potential negative socio-economic impacts, given perceptions of negligible local benefits such as the limited employment opportunity;

- a. Dumfries and Galloway Council pointed out some 'factual inaccuracies and omissions' in the NDA Chapelcross section of the Environmental Report in relation to some of the region's heritage assets, including the Castle Loch Special Protection Area which is within the 10km zone, the start of Hadrian's Wall which is within the 5km zone and various on-site relics from previous use as a WW2 airfield; and
- b. there was one suggestion that tritium pollution at NDA Chapelcross was getting into waterways and the surrounding ground.

SEPA was broadly satisfied with the consideration of environmental issues by the MOD with the exception being the consideration of '*environmental issues related to the management of controlled and hazardous waste arising from the SDP which has been excluded from the assessment....Although we consider that the environmental issues related to the management of controlled and hazardous waste arising from the SDP project could be significant and should have been assessed as part of the SEA, we are content that this can be covered at the project stage through the EIA process and CEMP.*'

SEPA also agreed with the conclusion that '*there are likely to be no significant environmental effects associated with discharges or disposals of radioactive waste from the RPV store.*'

MOD's Response

All of these issues were considered in detail within the OCF analysis and any risks included into the project Schedule Risk Analysis.

The MOD recognises that the positions set out in submissions and media statements from the Scottish Government, local authorities with planning responsibilities and the site stakeholder group potentially represent a challenge with substantial risk for planning and permissioning approvals.

Likewise, the MOD understands local concerns regarding the future role of the site. Given the safeguards and planning constraints that could be put in place, it believes they could be addressed in a way that would minimise the risk of negative socio-economic impact. However, it remains the case that there would only be limited direct socio-economic benefit and so the balance of local sentiment towards the project would probably remain negative.

The Scottish HAW policy does not cover defence wastes but the MOD appreciates the sensitivities involved.

10.7. NDA Sellafield

Summary of Comments

The main NDA Sellafield-specific comment themes not covered elsewhere in this report were as follows:

- a. given the limited socio-economic benefit of the project for the area, local authorities do not support the proposals;
- b. the project would potentially compromise existing higher-priority waste management initiatives and the wider site role;
- c. the Environment Agency noted that taking into account the '*cumulative development on shortlisted sites where construction of an ILW store might need to be viewed alongside significant non-SDP development ...is particularly important at AWE sites and at Sellafield....offsite development at Sellafield, including a proposed new nuclear power station at Moorside, adjacent to the existing Nuclear Licensed Site, need to be taken into account*';
- d. there was a feeling that NDA Sellafield appears to be considered as the default option for radioactive waste storage, which is unfair in the absence of compensating benefits; and
- e. the project would add to pressure on local infrastructure.

MOD's Response

All of these issues were considered in detail within the OCF analysis and any consequential risks were then built into the project Schedule Risk Analysis, which in turn fed into the Investment Appraisal.

The MOD recognises that the positions set out in submissions and media statements from local authorities with planning responsibilities and other stakeholders potentially represents a significant challenge with substantial planning risk.

On the basis of analysis carried out after public consultation, the NDA has concluded that an RPV store could compromise existing higher-priority waste management initiatives and the wider site role. The MOD believes that these issues could be managed but that doing so would potentially incur significant extra costs and delays. These have been evaluated and built into the investment appraisal.

The MOD acknowledges the views of those respondents who believed that the local community was not being treated fairly. There would only be limited direct socio-economic benefit from this project. However, it also notes responses that put forward a different perspective ie that the risks and socio-economic detriments associated with RPV storage were very low and NDA Sellafield was a suitable site.

Concerns over infrastructure were most often articulated with reference to the pressures that might arise from the development of a new nuclear power plant site next to NDA Sellafield. SDP analysis concluded that the number of transports associated with store construction and operation would be minimal compared to the power station's requirements. The timescales for the developments would not overlap, with just one to three RPV transports per year during the period of power station construction.

11. Safety and Security

11.1. Store Safety

Summary of Comments

There was a great deal of interest amongst stakeholders and wider local communities in the safety of the RPVs in storage, including any contribution to worker dose, routine discharges, or off-site radiation levels.

The implications of an incident leading to RPV damage were also the subject of questions and comment at every site. Although the questions differed in detail, there did not seem to be any significant differences in awareness or concern between local communities.

MOD's Response

Although there were minor differences in approach, all sites were able to demonstrate in their submissions to the MOD their ability to safely store the RPVs and protect both the public and the workforce. They are all Nuclear Licensed sites, regulated under NIA65¹⁰, working to the same standards, so there was no significant difference between them in the post-consultation analysis. There were some cost differences in meeting these same standards and these were accounted for in the analysis.

The Perception of Public Risk and Public Understanding were the OCFs addressing these issues and they offered no differentiation during post-consultation analysis. Perceptions of the relative hazards of the RPVs and other activities and radioactive waste inventories on site did vary.

¹⁰ <http://www.legislation.gov.uk/ukpga/1965/57>

There would be no discharges or measurable increases in off-site radiation levels and no plausible accident scenarios have been identified that would cause a significant off-site hazard. In compliance with the Nuclear Site Licence requirements all sites would be regulated by the Office for Nuclear Regulation and the appropriate Environment Agency.

There were, however, some differences in perception of site safety management more generally, which are discussed in Section 10.

11.2. Site Security

Summary of Comments

Security arrangements for the storage site were seen as important by some respondents and several asked questions about proposed security arrangements.

The MOD was asked whether the existing AWE arrangements would be sufficient but most site-specific questions related to NDA Chapelcross, largely focussing on the implications of site decommissioning. Attention was drawn to the changes to security arrangements that might follow.

Some respondents thought the RPVs would be unlikely targets for attack or espionage because of their relatively low risk, large size and robust containers. However, others were more concerned and the threat of terrorism was regularly mentioned.

MOD's Response

All of the shortlisted sites were able to demonstrate that they could meet the security requirements of the RPV store and so this factor did not offer any differentiation between the sites in the Operational Effectiveness analysis.

Public perceptions of security were also considered, as part of the OCF analysis.

Local communities around each of the shortlisted sites seemed to perceive that security levels were higher at AWE sites and NDA Sellafield compared to CNS Capenhurst and NDA Chapelcross, particularly if NDA Chapelcross were to become unmanned in the future. These perceptions were considered within the OCF analysis. It was recognised that the security issue did contribute to wider perceptions about the unsuitability of NDA Chapelcross for RPV storage.

11.3. Transport Safety and Security

Summary of Comments

Transport safety and security were consistent themes at events around each of the sites. Some suggested that transport would pose little or no risk to the community while others believed that they would be a terrorist target. Others suggested that transporting radioactive nuclear material was always inherently dangerous whereas others had more confidence in the transport arrangements and the robustness of the container.

Several questions were asked about the security arrangements, including the need for an escort and whether communities along the route would be informed.

MOD's Response

The UK nuclear submarine programme has more than 50 years' experience of transporting radioactive materials safely by road, rail and sea. There have been no incidents that have released, or come close to releasing, radioactive material into the environment.

Radioactive waste transport is subject to strict controls to protect people, property and the environment. The Defence Nuclear Safety Regulator (DNSR) regulates the transport of MOD radioactive material. Both DNSR and the Office for Nuclear Regulation (ONR), which regulates civil radioactive waste transport, apply regulations based on standards developed by the International Atomic Energy Agency.

The arrangements for safety and security would not differ because of the storage site and any overnight stops would be secure. Therefore, this factor did not offer any differentiation between the sites in the Operational Effectiveness analysis.

Public perceptions of security were again considered as part of the OCF analysis. However, perceptions of transport security did not offer any differentiation between the shortlisted sites.

12. Policy, Planning and Permitting

12.1. Planning Consents

Summary of Comments

Some general points and questions were recorded on general planning application matters, including: which was the local planning authority, what planning consents are required, what the timescales might be, whether there was any link to GDF planning consents, and what the process would be if planning applications were refused.

A number of responses asked questions, or expressed concerns, about the possibility of a subsequent extension of the store to include RPVs from later classes of submarine to accommodate a size-reduction facility or if there were long GDF delays. Some seemed to imply, or specifically stated, that there should be planning constraints preventing the selected site from being used for ILW from other sources.

There were some comments and questions on the importance of the community engagement that will form part of any future planning consents and permitting processes. Another theme was that the site licensee and MOD should engage and actively inform the wider community about the project, reaching out beyond statutory consultees.

At NDA Chapelcross, there were comments directly or indirectly related to the probability of obtaining planning consent. These are covered in Section 10.6. There was also some discussion about differences in the history of planning consents for stores at the other sites.

There were questions about procedures and encouragement for the MOD and site operator to engage fully in whatever process applied, seeking feedback and hopefully, a degree of broad community consent as well as formal permission to proceed with the project.

MOD's Response

The MOD has taken careful note of the suggestions made and issues raised. The public consultation offered the MOD the opportunity to address many of the questions and issues raised.

Although there might be differences in procedure, the nature of the community engagement required as part of the planning application process would be largely the same irrespective of the site chosen.

At the time of the public consultation, no proposals had been put forward by site licensees based on an existing store. The Consultation Document did not, therefore, describe the alternative process that would be followed. Capenhurst Nuclear Services developed an alternative to a new store based on refurbishment of an existing store and they will work with local authorities to ascertain and deliver what consents are required, although this will not be a planning submission for a new build store.

Planning requirements for the existing facility will not have any link to the planning consent for a GDF, since they are entirely separate facilities.

12.2. Regulation

Summary of Comments

Some responses to the Policy Planning and Permitting issues (including some regulators' submissions) were linked to regulatory frameworks and practice, including: the role of DNSR in respect of RPV transportation and the responsibility of Ministers for safety; whether safety and environmental regulators had been involved to date; how oversight would work in practice and whether licensing would cover the full store design life.

One response noted that the project would have to work within the current legislative framework 'despite its shortcomings'.

Some issues were raised which related to specific sites, for example, the need to extend the nuclear licensed site area if Burghfield were chosen.

A few questions were asked about the need for discharge permits, some specifically referring to implications of there being no discharges.

The English and Scottish environmental regulators and Natural Resources Wales (NRW) all commented on their respective roles in the process and noted some of the detailed licensing and permitting steps that would be involved.

MOD's Response

The main regulatory issue identified in the OCF analysis was the need for the nuclear site licensed area to be extended at AWE Burghfield. It was also noted that the Scottish Government has a role in the planning and permitting process for Chapelcross. The possibility of simpler permitting requirements due to use of an existing store at CNS Capenhurst was assessed in the Schedule Risk Analysis and noted in the OCF assessment.

MOD will continue to work with all the regulators to ensure the radioactive material is removed and stored safely, securely and in the most environmentally responsible manner achievable. There was no particular pattern to these responses and so they did not offer any differentiation between sites specifically under the OCF analysis.

12.3. Socio-Economics and Community Benefit

Summary of Comments

Socio-economics and community benefit attracted comments at all sites.

The majority of responses on adverse socio-economic impact relate to the NDA Chapelcross site and the majority of responses on the need for socio-economic benefits to offset impacts were linked to NDA Chapelcross and NDA Sellafield.

The major socio-economic themes were concerns about the low economic benefits of the project in terms of jobs and the threat to future investment from the addition of a (or another) radioactive waste store. Several responses simply noted the very low number of new jobs and there were questions about whether there would be any benefit at all for local residents, at all sites. One comment stated that any planning permissions should include socio-economic issues and another that if the transport containers were built locally to the chosen site it would be a big benefit for the local community. The potential impact on property values was a further general concern, specifically at CNS Capenhurst and AWE Aldermaston and Burghfield.

Some responses held the view that if the local community was getting nothing out of hosting the store, it would not be worth having it. One asked if there would be a planning performance agreement – ie support for the council that hosts the site.

MOD's Response

SDP's analysis suggested that any direct socio-economic benefit would be relatively low and would not differ substantially between sites. However the differences in perception about what, if anything, would be required for the local stakeholders and community to support the project did vary. The majority of concerns about adverse socio-economic impact were linked to NDA Chapelcross and the majority of responses on the need for substantially more offsetting socio-economic benefits were linked to NDA Chapelcross and NDA Sellafield.

The Consultation Document made it clear that the direct benefit to the community, eg through additional employment during store construction or operational jobs, would be quite limited. The project would cover the cost of any necessary infrastructure changes and meet its obligations under planning regulations. However, there was no additional community benefit package on offer.

These site-specific factors were judged influential within the OCF analysis in shaping stakeholder positions and consequentially affecting any planning approval for a new store.

PART C – SEA Post-Adoption Statement

14. Post-Adoption Statement

14.1. Overview and Requirements of an SEA Post-Adoption Statement

This report fulfils the role of an SEA Post-Adoption Statement, with most of the requirements met in the previous sections.

As described in Section 2 of this report, SEA is a process for integrating environmental considerations into the preparation and adoption of certain plans and programmes which are likely to have significant effects on the environment, ensuring that the effects of implementing plans and programmes, and the views of the public regarding those effects, are taken into account during their preparation and before their adoption. The requirement for SEA is derived from the SEA Directive (2001/42/EC), which in turn is transposed into UK law via The Environmental Assessment of Plans and Programmes Regulations 2004, the “SEA Regulations”.

The SEA of the SDP site selection process for the interim storage of ILW was conducted between September 2013 and (effectively¹¹) February 2015, which marked the end of consultation on the site alternatives.

This report incorporates the requirements of an SEA Post-Adoption Statement as per the SEA Regulations.

The requirements of an SEA Post-Adoption Statement are set out in Table 2 below.

Requirement (Regulation 16, paragraph 4 of the “SEA Regulations”)	Where met in this report
(a) how environmental considerations have been integrated into the plan or programme;	Section 4.2
(b) how the environmental report has been taken into account;	As above, plus Section 2.3 ‘Public Consultation’ sub-section
(c) how opinions expressed in response to—	
(i) the invitation (of the consultation bodies and the public consultees to express their opinion on the relevant documents); (and)	Sections 2.2 and 7
(ii) (inspection by the public),	Sections 5, 6, 7 and 8
have been taken into account;	
(d) how the results of any consultations entered into under regulation 14(4) have been taken into account;	N/A – there was no consultation required between different EU Member States
(e) the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with; and	Sections 4.4 and .5
(f) the measures that are to be taken to monitor the significant environmental effects of the	Section 14.2

¹¹ Though effectively complete in terms of informing decisions at this stage, the SEA timeline includes this post-adoption statement, and also includes environmental monitoring as an on-going requirement after adoption of the plan.

Requirement (Regulation 16, paragraph 4 of the “SEA Regulations”)	Where met in this report
implementation of the plan or programme.	

Table 2

14.2. SEA Monitoring

The SEA Environmental Report suggested further environmental mitigation and/or monitoring which may be required at CNS Capenhurst, the recommended site, as a result of the assessment outcomes. As stated in Section 3.2, the SEA was based on the assumption of a ‘new build’ store, which represented the greatest change scenario on any of the shortlisted sites. By assessing this greatest change scenario, the SEA covered the widest range of potential environmental effects that could be envisaged and ensured that the potential effects at all sites were considered on an equal and consistent basis. Using an existing facility at CNS Capenhurst (see Section 3.5) means that the mitigation and monitoring measures suggested in the SEA may not be needed – eg a Construction Environmental Management Plan – and monitoring will be carried out under existing and future site safety and environmental management systems.

Table 3 below provides the final recommendation for on-going mitigation or future monitoring, relative to the suggestions provided in the SEA Environmental Report for the recommended site of CNS Capenhurst.

In the unlikely event that the contingency site at AWE Aldermaston is required, the relevant mitigation and monitoring recommendations for that site are provided in the 2014 SEA Environmental Report.

Assessment Category	Summary Assessment for CNS Capenhurst	Original Mitigation or Monitoring Suggested – 2014 SEA Env. Report, which relates to a new build at CNS Capenhurst	Final Recommendation which relates to use of an existing facility at CNS Capenhurst
A. Radiological Discharges / Exposures	No significant effects.	None required.	None required.
B. Biodiversity and Nature Conservation	Potential risks of minor significant adverse effects at construction and decommissioning.	Use of CNS's existing Environmental Management System (EMS) to consider any relevant habitat / species monitoring.	None required.
D. Health and Wellbeing	No significant effects.	None required.	None required.
E. Noise and Vibration	Potential risks of minor significant adverse effects at	Use of existing EMS to ensure mitigation is	None required. Amended recommendation – no

Assessment Category	Summary Assessment for CNS Capenhurst	Original Mitigation or Monitoring Suggested – 2014 SEA Env. Report, which relates to a new build at CNS Capenhurst	Final Recommendation which relates to use of an existing facility at CNS Capenhurst
	construction and decommissioning.	implemented, and consider any relevant noise monitoring (including links with EIA).	mitigation or monitoring required, as no new construction or decommissioning would be required for an existing store. (SEA had assumed a new store – a ‘greatest change scenario’.)
F. Geology and Soils	Potential risks of minor significant adverse effects at construction and decommissioning.	EMSs will be effective at monitoring wider site progress in dealing with historic contamination issues.	None required.
G. Water	No significant effects.	Use of existing EMS to ensure mitigation is implemented, and consider any relevant water quality / usage monitoring.	As original recommendation
H. Air	No significant effects.	A site-wide transport plan would be beneficial for managing emissions associated with potential cumulative transport requirements across construction projects, combined with staff transport.	As original recommendation.
I. Climate Change and Energy Use	Potential risks of minor significant adverse effects at all stages – carbon emissions either direct or indirect (eg	None required.	None required.

Assessment Category	Summary Assessment for CNS Capenhurst	Original Mitigation or Monitoring Suggested – 2014 SEA Env. Report, which relates to a new build at CNS Capenhurst	Final Recommendation which relates to use of an existing facility at CNS Capenhurst
	embodied carbon).		
J. Coastal Change and Flood Risk	No significant effects.	None required.	None required.
K. Transportation	Potential risks of minor significant adverse effects at construction and decommissioning.	See above for air quality.	As original recommendation
L. Waste Management	Potential risks of minor significant adverse effects at construction and decommissioning.	None required.	None required.
M. Land Use and Materials	No significant effects.	None required.	None required.
N. Cultural Heritage	Potential risks of minor significant adverse effects at all stages – eg effects on the setting of the local Conservation Area.	None required.	None required.
O. Landscape and Townscape	Potential risks of minor significant adverse effects at construction and decommissioning.	None required.	None required.

Table 3

15. Conclusions

The 'pre-engagement' phase of the SDP consultation process helped to shape the formal public and stakeholder engagement, and ensured that the SEA Environmental Report was sufficiently robust. This resulted in some changes to the SEA scope.

Site assessments concluded that all five of the shortlisted sites were suitable and able to safely and securely store the RPVs. The feedback received during public consultation did not alter this conclusion. However, public consultation responses and submissions provided information that fed into the assessment process and which influenced the final site decision.

Having taken account of the comments received during consultation, the MOD has chosen an existing facility at the CNS Capenhurst site as its preferred solution, with a CNS Capenhurst on-site contingency of a new build store. In the event that a commercial agreement cannot be reached with CNS, the AWE Aldermaston site has been chosen as the recommended contingency site.

With regard to the SEA, MOD's position is that the findings set out in the Environmental Report remain valid in light of the consultation. Storage of the 27 reactor pressure vessels at any of the shortlisted sites is unlikely to have any significant environmental effects.

The MOD will continue to work with the chosen site and ongoing community and stakeholder engagement will be managed through the site operator.

Preparations will be complete for the first stage of initial dismantling in late 2016. SDP will also begin contract negotiations with CNS.

Annex 1 – References and Further Information

Further information on the project can be found at the SDP consultation website at:

<https://www.gov.uk/government/consultations/submarine-dismantling-project-site-for-the-interim-storage-of-intermediate-level-radioactive-waste>

This includes:

- a. SDP Consultation Document, July 2015
- b. SDP Post-Consultation Report

Annex 2 - Abbreviations

Abbreviation	Meaning
ALARP	As Low As Reasonably Practicable
AWE	Atomic Weapons Establishment
COEIA	Combined Operational Effectiveness Investment Appraisal
CNS	Capenhurst Nuclear Services
DECC	Department of Energy and Climate Change
EA	Environment Agency
EIADR	Environmental Impact Assessment for Decommissioning Regulations
EMS	Environmental Management System
GDF	Geological Disposal Facility
HAW	Higher Activity Waste
IA	Investment Appraisal
ILW	Intermediate Level radioactive Waste
LLW	Low Level radioactive Waste
MCDA	Multi-Criteria Decision-Making Analysis
MOD	Ministry of Defence
NDA	Nuclear Decommissioning Authority
OASP	Operational Analysis Support Paper
OCF	Other Contributory Factors
OE	Operational Effectiveness
ONR	Office for Nuclear Regulation
RPV	Reactor Pressure Vessel
SDP	Submarine Dismantling Project
SDPAG	Submarine Dismantling Project Advisory Group
SEA	Strategic Environmental Assessment
SEPA	Scottish Environment Protection Agency
VLLW	Very Low Level radioactive Waste
WLC	Whole Life Cost

Annex 3 – Glossary

As Low As Reasonably Achievable (ALARA)	ALARA is the environmental equivalent of ALARP. It is achieved through application of ‘Best Available Technology/Best Practical Means’ to minimise discharges. Further information is available from the Environment Agency (EA) and Scottish Environment Protection Agency (SEPA) websites
As Low As Reasonably Practicable (ALARP)	The ALARP principle is that the residual risk to people shall be as low as reasonably practicable. For a risk to be ALARP it must be possible to demonstrate that the cost involved in reducing the risk further would be grossly disproportionate to the benefit gained. Further information is available from the Health and Safety Executive (HSE) website.
Combined Operational Effectiveness Investment Appraisal (COEIA)	A COEIA is a method of formal comparison of acquisition options, on a cost versus effectiveness basis.
Defuelling	The removal of spent (used) nuclear fuel from the submarine’s reactor after it has left service. Submarines will have been defuelled before they become part of the SDP and dismantled.
EIADR	The Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations, 1999. This is a legal instrument that requires the environmental impact of decommissioning nuclear power stations and other nuclear reactors (including those in nuclear submarines) to be considered in detail before consent for the decommissioning work to go ahead can be given.
Geological Disposal Facility (GDF)	The UK government’s proposed long-term, below-ground facility for disposing of the UK’s Higher-Activity Nuclear Waste (HLW and ILW).
Higher Activity Waste (HAW)	The Scottish Government’s HAW policy describes HAW as primarily solid waste, such as graphite and metal, but also includes waste such as sludges which may be solidified as part of a treatment and/or packaging process. Within the policy HAW is defined as: <ul style="list-style-type: none"> • what is defined in current UK categorisations as Intermediate Level radioactive Waste (ILW); and • certain wastes categorised as Low Level radioactive Waste (LLW), which by their nature are not currently suitable for disposal in existing LLW facilities as, for example, they may be longer-lived waste.
Investment Appraisal	An investment appraisal assesses the whole life cost of a project when assessing different project or programme options.
Intermediate Level radioactive Waste (ILW)	Defined as radioactive waste with a radiological activity above 4 Giga Becquerels (GBq) per tonne of alpha, or 12 GBq/tonne of beta-gamma decay, but which does not generate enough heat to require it to be cooled during storage. By contrast, nuclear fuels are generally more active, and have to be kept cool. The majority of ILW from submarines is metal from within the RPV.
Interim ILW Storage	ILW is stored for an ‘interim’ period until a disposal route is available. Interim stores are designed for 100 years to provide safe and secure protection for waste packages. There are currently more than twenty such sites in the UK.
Licence / Licensed Site	A Nuclear Licence allows specific nuclear activities to take place at a

	specific site. Such Licensed sites are subject to the Nuclear Installations Act (1965), with licences being granted by the Office for Nuclear Regulation (ONR).
Low Level Waste (LLW)	Defined as radioactive waste that has below four GBq per tonne of alpha activity and below 12 GBq per tonne of beta-gamma activity. It covers a variety of materials which arise principally as lightly contaminated miscellaneous scrap and redundant equipment. LLW is managed in accordance with the UK's LLW Strategy and with disposal to licensed facilities such as the LLW Repository in Cumbria.
Multi-Criteria Decision Analysis (MCDA)	MCDA methodologies, sometimes quantified, sometimes not, are widely used to underpin radioactive waste management decisions. In order to identify a preferred option from a range of alternatives, the benefits and detriments for each approach are evaluated against appropriate performance measure or attributes. Scores against individual attributes may be 'weighted' to reflect the attributes' relative importance or to take account of the fact that some criteria and attributes may differentiate more readily between options than others.
Nuclear Decommissioning Authority (NDA)	The NDA is a non-departmental public body created through the Energy Act 2004. Its purpose is to deliver the decommissioning and clean-up of the UK's civil nuclear legacy in a safe and cost-effective manner.
Other Contributory Factors (OCF)	In MOD terminology, the OCF analysis is the structured assessment of factors outside the scope of the MCDA and Investment Appraisal which cannot readily be quantified.
Operational Effectiveness (OE)	In MOD terminology, the OE analysis is the structured assessment of how well the different options meet the MOD's operational requirements.
Office for Nuclear Regulation (ONR)	The ONR is responsible for all nuclear sector regulation across the UK. ONR was formed on 1 April 2011 as an agency of the Health and Safety Executive (HSE).
Reactor Compartment (RC)	This is the central 'slice' of the submarine which contains the nuclear reactor, housed within the RPV, and the primary circuit, which transfers heat to the boiler.
Reactor Pressure Vessel (RPV)	The self-contained metal chamber inside the RC which contains the nuclear fuel.
Strategic Environmental Assessment (SEA)	A type of assessment undertaken on certain public plans and programmes, to assess the potential environmental effects that they may have, and to identify ways to avoid or minimise damaging impacts and enhance positive ones. SEA gives the public the opportunity to see what those impacts might mean for them and comment on them before decisions are made, so that they can help shape the approach taken.
SEPA	Scotland's principal environmental regulator.
Size-Reduction	The term used by the nuclear industry to refer to the process of cutting-up radioactive waste into smaller pieces so that it can be packaged into containers. Size-reduction is an established process in the civil nuclear industry.
Ship Recycling	This is the process whereby the hull of the submarine (which forms the bulk of the vessel) is dismantled. It is very similar to the way in which surface ships are disposed of.
Very Low Level radioactive	Limited amounts of solid radioactive waste can be disposed of

Waste (VLLW)	conveniently and without causing environmental harm provided that it is mixed with large quantities of non-radioactive waste which are themselves being disposed of. This is defined as VLLW.
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