



**Interim Storage of Laid Up Submarines  
(ISOLUS)**

**Consultation on ISOLUS Outline Proposals  
(CIOP)**

**Ministry of Defence Response to  
Lancaster University's Final Report**

**February 2005**

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## 1 Foreword

Minister for Defence Procurement

In publishing the Department's response to Lancaster University's final report on the Consultation on ISOLUS Outline Proposals, I would like to acknowledge the level of debate that the consultation exercise has prompted and to reiterate the importance that the Department places on the contribution of the public and other stakeholders.

We undertook to listen to what was said and our response reflects this. In particular, we recognise that future ISOLUS considerations should continue to emphasise the interim nature of the arrangements we are seeking. And, as such, they must closely align with the Committee on Radioactive Waste Management (CoRWM) deliberations on options for a long-term radioactive waste management solution for the UK, which are expected to be available to Government in 2006.

With this in mind, no further work will be carried out under the ISOLUS project on the potential interim storage sites already named or to identify other potential interim storage sites, until CoRWM has made its recommendations to Government. In the meantime, work under ISOLUS will concentrate on technical and other studies, to inform future decision making.

The responses contained in this document reflect the thoughts of Other Government Departments and Devolved Administrations, have been discussed with the consortia that have submitted outline proposals in response to the ISOLUS Pre Qualification Questionnaire, and will inform current and future considerations of the way forward.

Lord Bach

## 2 **Acknowledgements**

2.1 The Ministry of Defence (MoD) wishes to thank Dr Jane Hunt and her team at the Centre for the Study of Environmental Change (CSEC) at Lancaster University, Government Departments, the Devolved Administrations, regulatory authorities, all other stakeholders, and members of the general public involved in the discussions, meetings and workshops that made up the Consultation on ISOLUS Outline Proposals (CIOP), for their time and commitment.

### 3 **Introduction**

3.1 This document sets out the MoD's response to Lancaster University's final report on CIOP, published in May 2004. The Lancaster University report, provided to the Warship Support Agency (WSA) as part of its ISOLUS project, contained 50 recommendations as to how the programme for managing the disposal of the UK's redundant nuclear submarines should be carried forward.

3.2 Before proceeding to the responses it would be of benefit to explain the position of the ISOLUS programme as it relates to the Government's radioactive waste management policy. This should be helpful both in setting the project in context and in enabling the recommendations and the responses to them to be suitably categorised for ease of comprehension.

#### 3.3 Policy Development and Implementation

3.3.1 Within the framework of Government radioactive waste management policy development and implementation, ISOLUS is about how we process and store certain materials from defuelled nuclear submarines that have left naval service. The ISOLUS programme is concerned with these matters until the options for the long term management of these materials is decided by Government and the Devolved Administrations. It is therefore about interim, as distinct from final, management of radioactive wastes.

3.3.2 The UK has a national facility for low-level radioactive waste (LLW) available at Drigg in Cumbria. Options for the long-term management of the UK's higher activity radioactive wastes – taken to include both high and intermediate level waste (HLW and ILW) – are currently being considered by the Committee on Radioactive Waste Management (CoRWM) under the Government's "Managing Radioactive Waste Safely" (MRWS) programme.

3.3.3 CoRWM is due to deliver its recommendations to its sponsoring Ministers (in both UK Government and the Devolved Administrations) on how best to manage the UK's higher activity wastes by the summer of 2006. CoRWM's programme of review and assessment, in common with the ISOLUS programme, will be based on engagement with both the public and stakeholder groups, so as to arrive at a policy which inspires public confidence and is practicable.

3.3.4 Government will decide policy for the long-term management of the UK's higher activity radioactive wastes in light of CoRWM's recommendations. Thereafter it is intended that the process for deciding the siting of the required long-term management facilities will also be subject to public debate on how the decision should be implemented, including any site selection criteria.

3.3.5 It should be recognised that provision of such long-term management facilities is likely to take many years, possibly decades, and may require legislation. In the meantime, interim land storage facilities will be needed. Uniquely amongst items requiring decommissioning, defuelled submarines are mobile. The ISOLUS requirement does not therefore sit easily within the current planning system, where interim stores are normally granted planning permission only for wastes generated on-site. ISOLUS requirements will therefore need to be considered as government policy develops.

#### 4 **Consultation on ISOLUS Outline Proposals**

4.1 Against the background described in the introduction, the 50 recommendations contained within Lancaster University's CIOP final report have been grouped and considered within the following six categories:

4.2 **Category 1** – Recommendations involving specific mention of potential linkage with the CoRWM programme (5 recommendations – 1, 3, 4, 26, 38).

- We acknowledge that there needs to be suitable integration with the CoRWM process and programme, which will in particular delay decisions on the preferred sites for ISOLUS. This requires close liaison between the MoD and several other Government Departments, including DEFRA (Department for the Environment, Food and Rural Affairs) and the Devolved Administrations as sponsors of the CoRWM process, and the DTI (Department for Trade and Industry) as the sponsor Department for the civil nuclear industry.
- At the same time we should reiterate that ISOLUS is about interim management of intermediate level waste (no high level waste remains in defuelled submarines) and CoRWM is about the long term options for all intermediate and high level wastes. It is in this context that we make the important distinction between the siting of an ISOLUS interim storage facility (or facilities) and CoRWM's recommendation on the option, or combination of options, for the long-term management of radioactive waste. We cannot predict the outcome of the CoRWM review, and any decision in respect of this outcome is likely to be several years away. Thereafter it could be decades before the long-term radioactive waste management facility, or facilities, that result from it are available to receive waste. Meanwhile in the light of existing Government commitments to address the submarine issue and the growing number of redundant hulls, it is important to make progress with ISOLUS.

- The recommendations in this Category generally support the above approach. In noting the CIOP position on the acceptability of Industry's current proposals (Recommendation 38), however, the MOD considers that the proposals, taken in the round, include many aspects of merit that should be pursued. The MOD therefore intends to reinvigorate its governance and consultative regime for ISOLUS. As part of developing this engagement a comprehensive programme of technical and other studies will be undertaken in order to underpin the eventual ISOLUS developed solution (see Category 5 Recommendation 49).

4.3 **Category 2** – Recommendations relevant to the way in which the public and stakeholder groups are involved in any debate (9 recommendations – 9, 10, 11, 13, 17, 24, 25, 28, 29).

- This set of recommendations point to a number of general principles concerning engagement with stakeholder groups and the public. The MOD intends fully to pursue a policy of openness, transparency and scrutiny that will apply to all aspects of the ISOLUS project, including work undertaken by contractors on the MOD's behalf. Particular care will be taken to ensure that ongoing technical studies, together with emerging output from liaison with the CoRWM process, are clearly communicated and explained.
- Future resourcing of local communities will be considered once CoRWM's recommendations on whether local communities should volunteer, be compensated, or have a right of veto, are known. Noting Recommendation 28, which calls for detailed monitoring regimes to be agreed with local communities, we would point out that existing legislative, regulatory and statutory requirements ensure that communities are already consulted on such regimes, and provided with the resulting data.

4.4 **Category 3** – Recommendations with implications for the way in which facility siting is considered and decided (13 recommendations – 5, 7, 12, 18, 19, 20, 21, 39, 40, 42, 43, 45, 46).

- The siting of an interim storage facility (or facilities) for ISOLUS must take account of the CoRWM recommendations. The siting process will embrace comprehensive consideration of a wide range of issues, including social, environmental and technical factors. ISOLUS proposals will therefore be developed such that they can potentially accommodate any of the site options identified, in order that they are consistent with CoRWM as it moves from its generic policy stage into the debate on the implementation of the long term management option identified.
- The recommendations in this Category can readily be considered in this context and as such are acceptable in principle. It is accepted that there are advantages to utilising sites where there is existing nuclear activity (Recommendation 42), but that this may need to be balanced against the wish to utilise a single site (Recommendation 36), and minimise transport requirements (Recommendation 21).
- Overall, these considerations mean that the present Industry proposals should be viewed from the perspective that development of proposals for handling, processing and any packaging of ISOLUS material are not tailored to a specific site. The prospective Industry contractors will therefore be invited to consider their proposals in this light. In addition, they will be asked to review current best practice in terms of the way other countries are handling the disposal of their redundant nuclear submarines.

4.5 **Category 4** – Recommendations seeking commitments which might serve to set precedents for other initiatives (4 recommendations – 6, 15, 16, 30).

- The recommendations under this heading need to be considered carefully in the context of wider Government decision-making, including the Managing Radioactive Waste Safely (MRWS) process. They raise issues such as local community consent and the provision of compensation and community benefit for participation in national initiatives, and appropriate criteria for site selection. Before any response can be made to such recommendations, their implications will need to be considered across Government.
- Recommendation 30 is not accepted. This suggests that production of new nuclear submarines should cease until a final disposal route for radioactive waste is available. The December 2003 Defence White Paper, as supplemented by a further chapter on Future Capabilities in July 2004, confirmed the continuing need for nuclear-powered submarines, including the new Astute Class. Decisions on future submarine procurement also lie outside the remit of the ISOLUS project.

4.6 **Category 5** – Recommendations specific to ISOLUS, eg, handling reactor compartments (15 recommendations – 2, 14, 23, 31, 33, 34, 35, 36, 37, 41, 44, 47, 48, 49, 50).

- These recommendations apply exclusively to the ISOLUS project, where the wider implications principally involve prospective Industry contractors. The technical issues covered by these recommendations will be included within the programme of studies that the MOD will instigate in the manner outlined under Category 1 above. The studies will not only inform development of the ISOLUS solution, but they will also ensure that coherence with other programmes across Government, including CoRWM, is maintained.

4.7 **Category 6** – Recommendations concerning more general issues relating to the management of radioactive waste (4 recommendations – 8, 22, 27, 32).

- These four recommendations deal with more general principles for the management of radioactive waste. None of them concerns a matter of policy or process that is not covered by existing regulatory or statutory provision or is not subject to current Government consideration. The recommendations are therefore acknowledged as identifying aspects of ISOLUS that will be addressed within that broad context.

## 5 CONCLUSIONS

5.1 The MOD welcomes the breadth and depth of issues raised during this phase of consultation, seeing this as an important foundation for the further work that must proceed to deliver a widely acceptable solution. The process of consultation has itself been a valuable experience from which future phases of consultation will learn.

5.2 In addressing the recommendations expressed in the CIOP report, it has been necessary to review some aspects of the Department's approach to ISOLUS, which now need to be developed in concert with related initiatives across Government.

5.3 The MOD response to the CIOP recommendations will have the following impact on the Project ISOLUS programme -

- No significant decisions on ISOLUS options will be taken until CoRWM have reported to Government in 2006.
- A programme of technical and other studies will be undertaken to inform future decision-making.
- There will be no further consideration of appropriate sites until the above two activities are complete.
- The next public consultation will not take place until bidders proposals have been updated in the light of the studies mentioned above.

# **Annex A**

## **Detailed CIOP Recommendation Response**

No.	Text	Response
1	<p>The MoD should demonstrably liaise closely with the Scottish Executive, other government departments, including DTI (Department for Trade and Industry) and DEFRA (Department for the Environment, Food and Rural Affairs), and with CoRWM (Committee on Radioactive Waste Management) and the LMU (Liabilities Management Unit)/NDA (Nuclear Decommissioning Authority), especially with regard to potential sites and to ensuring that ISOLUS decisions remain consistent with developing national strategy. The proposed timing of ISOLUS decisions and implementation should be reviewed against the timetables for the NDA and CoRWM, and decisions points identified to ensure that ISOLUS does not pre-empt or contradict other government strategy, but is integrated with developing strategy, and is able to demonstrate this.</p>	<p>Future consideration of potential interim storage sites by the MOD will be closely aligned with CoRWM deliberations on options for a long-term radioactive waste management solution for the UK, which is expected to be available to Government in 2006. Therefore, no further work will be carried out by the MOD on the potential interim storage sites already named, or to identify other potential sites, until CoRWM has made its recommendations to Government</p> <p>The ISOLUS Project routinely liaises with Other Government Departments (OGDs) and the Devolved Administrations, including DTI, DEFRA, and the Scottish Executive (SE). The project is also attending joint meetings with CoRWM and the DTI/NDA.</p> <p>The relationship with the NDA will be developed as they further staff up in 2005 (See CIOP Recommendation Response 46)</p>
2	<p>Any site identified for interim storage should be provided with guarantees limiting the lifetime of the store. In line with Recommendation 4 and recognising that the future cannot be fully anticipated, these guarantees should be accompanied by a commitment that any extension to the lifetime of the store will require local consent.</p>	<p>MOD recognises the need for coherence with the CoRWM programme and for this reason no decisions will be made on sites or the lifetime of any ISOLUS interim storage facilities until CoRWM has made its recommendations to Government.</p>
3	<p>The MoD should consider, and if possible undertake, postponing a short-listing decision and a final decision until after a national long term radioactive waste management strategy has been agreed, in order to ensure compatibility between the interim storage of the submarine wastes and the long term national radioactive waste management strategy, and so that communities can properly assess the implications of the storage of the submarine wastes in relation to the national strategy.</p>	<p>No decisions will be made on interim storage for submarine wastes until CoRWM has made its recommendations to Government. In the meantime, work under Project ISOLUS will concentrate on technical studies aimed at identifying and assessing the various options for dismantling submarine hulls and handling irradiated and other materials.</p>

No.	Text	Response
4	Wider government recognition and attention should be paid to those issues which are being identified in relation to ISOLUS (as well as elsewhere) which are relevant to the successful implementation of a national radioactive waste management strategy, as well as to the successful implementation of ISOLUS, and the necessary measures should be put in place to enable widespread public acceptability. These measures include the decisions on and provision of compensation and community benefit, resourcing for local community participation, and full provision of data and assessments.	<p>MOD is committed to securing the widest public acceptance of any interim storage site(s). However, it is recognised that the issues of compensation, community benefits and the provision of appropriate data, will need careful consideration.</p> <p>The experiences of the ISOLUS Project have influenced developing policy for Managing Radioactive Waste Safely and CoRWM, and we have made it clear that CoRWM will influence the future development of Project ISOLUS.</p>
5	Full social and environmental assessments of proposals are conducted, including of impacts on quality of life and local values, and the results made public. Social and environmental criteria are given high weightings in assessments. Further public consultation on these weightings would contribute to ensuring that they reflect widespread social judgements. Social and environmental assessments should enable comparison of alternative sites. (see also Recommendations 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 19, 25, 26, 39, 45 and 49).	The MoD's proposed evaluation criteria and weightings, to be applied to industries future proposals will be made available as part of the future consultation process (see also Recommendation Response 27).
6	Community benefit, above and beyond planning gain and employment benefit, should be provided wherever the waste is managed and stored. The availability, extent, and form of community benefit should be made clear when proposals are made. Local communities should decide on the most appropriate form of community benefit.	As noted in CoRWM's consultation document of the 1 <sup>st</sup> November 2004 at paragraph 12(iii), and in accordance with the Government's statement on MRWS, their recommendations may include comment on whether local communities should be offered incentives. MOD recognises that the provision of compensation and community benefits will need careful consideration across Government and will consider this issue in the light of CoRWM's recommendations.
7	At any proposed site, independent studies are commissioned into current and historic rates of ill-effects associated with radiation; studies should include workers and the public. The results of these studies should be made accessible to the public (in line with Recommendation 4).	Significant data exist for many sites. The MoD will commission a review of available data to identify any further studies required to support ISOLUS proposals and inform future consultations.

No.	Text	Response
8	Any contamination of the environment arising from the management and storage of the wastes should be minimised and increases in existing levels of contamination should be avoided. Environmental monitoring and assessment data should be publicly accessible.	<p>As required by current regulations, contamination will be minimised, and the principles of OSPAR (OSlo-PARis Convention on the Protection of the Marine Environment of the North-East Atlantic) will be taken into account by the environmental regulators when considering future discharge authorisation applications.</p> <p>Environmental monitoring and assessment data is and will continue to be made publicly available as part of this process.</p> <p>The potential impact of discharges on food safety will be assessed and presented through the consultation process.</p>
9	Contractors and MoD personnel undergo appropriate training in presenting to, discussing with, and listening to the lay public and others.	Appropriate training will be undertaken by nominated MoD staff in advance of the next consultation. This issue will also be addressed with contractors and any future consultation advisory group.
10	Attempts to 'sell' proposals to local communities cease, as these are counterproductive. Instead, a clear, documented, and agreed assessment of local costs, benefits, and compensation measures, is presented, which acknowledges local concerns about detriment, and forms part of local decision making on the issue (see also Recommendation 13).	It is recognised that elements within local communities have misinterpreted the MOD's attempt to inform the public and listen to their views as 'selling the proposals'. Every effort will be made to avoid this misunderstanding in future consultations, where clear articulation of the costs and benefits will be provided.
11	The MoD and contractors should be aware that speculative assertions and intentions should not be presented as certainties, and assumptions should be made explicit. Greater attention should be paid, particularly by MoD and the contractors, to the differences in meanings and definitions of words across different social groups to aid clarity and understanding.	It is MoD policy to communicate clearly and avoid technical jargon where possible.

No.	Text	Response
12	The justification for the choice of short-listed and final proposals (including site selection) itself needs to be inclusive and acceptable, as well as clearly stated.	Selection criteria underpinning the justification will be developed taking into account best practice, CoRWM, ISOLUS and any other relevant consultations, to aid inclusivity and acceptability. The criteria and justification will be made visible, and will be clearly stated.
13	Local communities are invited to discuss what may offer them reassurance and where possible action identified as reassuring should be undertaken.	This issue will be addressed in advance of future consultation, with the aim of providing such information as part of the consultation process.
14	Opportunities to comment on Project ISOLUS continue to be provided. Decisions demonstrably address issues identified as important, and reflect public values.	As well as through future ISOLUS Consultations, opportunities to comment will be provided through an ISOLUS Website. Any contractor for ISOLUS will also be required to develop and implement systems for public involvement.
15	Radiological risks and doses should be assessed in relation to existing exposures at any locations, and this assessment presented publicly. Communities must express acceptance of any additional risk.	Radiological risks and doses will be assessed as part of the regulatory and planning process. Data will be presented publicly, and for sites with current nuclear uses will be presented in the context of existing exposures. The consultation process will be utilised to explain the risk posed by the proposed facilities/operations. Communities will be able to utilise the consultation and planning processes to register any concerns.
16	Local community consent should be obtained prior to a decision on siting any option.	All developments will be subject to the normal planning processes. The MoD will take into account any recommendations concerning local community involvement and consent made as a result of the CoRWM consultation process, and will not make any siting decisions until CoRWM has reported.

No.	Text	Response
17	Resourcing is made available for local communities to properly study and assess proposals and to express their consent or otherwise.	It is the intention that future consultations will be provided with the data for local communities to study and assess proposals.
18	The MoD should consider issues of fairness in relation to options and sites, and should make explicit how these considerations are being manifested in decisions.	In advance of further consultation, MOD will consider whether issues associated with 'fairness' can be measured in a meaningful way and reflected in the assessment process.
19	The value that place has for people is recognised, and sites are sought where radioactive waste management and storage is less intrusive and conflict with these values minimised. Where compromises are being made, the judgements should be explicit and acceptable.	No decisions will be made on interim storage for submarine wastes until CoRWM has made its recommendations to Government. However, MOD recognises the public's preference, from earlier consultations, for using existing nuclear sites.
20	The worst case accident scenarios, their potential impacts, and the management and remediation measures that are available, that are associated with various options are identified and made public as part of the assessment of options and sites.	These issues will be addressed and the data made available through the future consultation process.
21	Transport of radioactive waste should be minimised, whether it is within or outwith the submarine. All transport should be justified in terms of being part of the best option.	Transport requirements will be included as part of the consideration of options, and any radioactive transport requirements will be subjected to normal regulatory approvals. Whilst seeking to minimise transport requirements, it should be recognised that the best option for minimising transport may be incompatible with regards to siting of processing and/or interim storage facilities.
22	The potential impacts of terrorist activity should be included in identification and assessment of worst case accident scenarios and other safety studies.	Terrorist acts are considered in security assessments, undertaken in accordance with Cabinet Office Requirements.

No.	Text	Response
23	Metals having more than their natural levels of radioactivity should not enter the scrap metal market.	As has been made clear previously (see FEC Response 22), no materials will be released into the re-cycling market unless they comply with the standards set by the relevant environmental regulator (Environment Agency (EA) in England and Wales and the Scottish Environmental Protection Agency (SEPA) in Scotland).
24	Ways to increase confidence, particularly in contractors, should be sought. These are likely to involve increasing openness and transparency, scrutiny, provision for whistle-blowing, and public investigations into any allegations of incompetence.	<p>As contractors develop their proposals, communication strategies will be developed with the aim of increasing levels of transparency.</p> <p>The Employment Rights Act 1996, as amended by the Public Interest Disclosure Act 1998, provides protection for 'whistleblowers' who make a disclosure in the public interest. A full list of the organisations ('prescribed persons') to whom disclosure can be made can be found in the Schedule to Statutory Instrument 2003 No 1993 (for England, Wales and Scotland) and in the Schedule to Statutory Rule 1999 No 401 (for Northern Ireland). In the case of disclosures relating to dangers to health and safety, the Health &amp; Safety Executive or the relevant local authority is the 'prescribed person'. The 'prescribed person' in the case of damage to the environment is the Environment Agency (England and Wales), the Scottish Environment Protection Agency (Scotland) and the Department of the Environment (Northern Ireland). Any investigations would be a matter for the appropriate 'prescribed person'.</p> <p>The MoD will rely on existing whistle-blowing, legal and regulatory procedures and practices to investigate any allegations directed at contractors.</p>
25	Proposals should include details of the scrutiny regime, and this should be stringent, and include public oversight and full openness and transparency.	Future proposals will include details of the regulatory scrutiny regime.

No.	Text	Response
26	An independent panel is established forthwith to preview and review, and in some cases conduct, assessments of options, sites and proposals, including technical, environmental, health, social, ethical and economic aspects. Such a panel should include at least one expert nominated by Environmental Non Governmental Organisations (ENGO), and should approach its task critically and constructively.	Scrutiny of proposals will be through a MOD ISOLUS steering group. This group will consider how it could be advised by independent experts.
27	Information provided includes assessments of ethical, social and local issues, as well as technical and economic aspects. Such assessments could potentially be conducted in the form of extended Best Practicable Environmental Option (BPEO) and/or Environmental Impact Assessment (EIA) studies (see also Recommendation 5).	The scope of environmental studies will include assessments of ethical, social, local, technical and economic aspects, as appropriate.
28	Detailed [ <i>environmental</i> ] monitoring regimes should be agreed with local consultative committees as part of an acceptable proposal.	Environmental monitoring regimes will be subject to consultation and agreed with the Environment Agencies (EA and/or SEPA), as part of the process of discharge authorisation.
29	Given the understanding of radioactive waste management as complex and problematic, and the differences between perspectives as to the nature of these problems, difficulties and problems should be openly addressed and discussed, and collective solutions sought.	Solutions will be sought and justified utilising appropriate methodologies. Options will be discussed through the consultation process, with difficulties and problems being openly addressed and discussed.
30	No new nuclear submarines should be ordered or commissioned until a final disposal route for radioactive wastes exists. The current nuclear submarine programme should be reviewed.	MOD acknowledge that there is a view that no more new nuclear powered submarines should be built until there is a long-term disposal solution. However, the December 2003 Defence White Paper, as supplemented by a further chapter on Future Capabilities in July 2004, confirmed the continuing need for nuclear-powered submarines, including the new Astute Class. This recommendation is therefore not accepted.

No.	Text	Response
31	Any new nuclear submarines should have waste management built in, using the best available technology to minimise doses, discharges and risks when decommissioning takes place.	As a responsible owner and operator of nuclear submarines, the MOD is committed to reducing risks. An example of this is the MOD's investment in technology to avoid submarine mid-life refuelling and thus reduce both dose burdens and the nuclear waste legacy.
32	Best possible means and the best available technology should be used to minimise doses, discharges and risks.	<p>As was made clear in FEC response 17, "As part of its evaluations, the MOD will be looking for the best solution to fit the requirement. All factors will be taken into account, with safety key amongst them. Whilst costs to the taxpayer will also need to be a consideration, the safety aspects of the requirement will not be sacrificed in order to make the solution more affordable."</p> <p>Best Available Technologies (BAT) will be applied in accordance with EA and SEPA requirements.</p> <p>Best Practicable Means (BPM) will be applied to process design as required to support discharge Authorisations under RSA 93.</p>
33	Any assessment of the options and proposals includes consideration of continued interim storage afloat. Adopting an alternative option to afloat storage requires the clear and acceptable demonstration that the alternative option and its siting is preferable, taking environmental, social and ethical considerations into account, and in relation to the development of the national radioactive waste management strategy.	<p>Recommendation 23 to the Front End Consultation (FEC) in April 2002, stated that afloat storage should be discontinued. The MoD accepted this recommendation, taking into consideration uncertainties over when a national nuclear waste management facility will be available, the limited availability of space for the storing of submarines afloat, and public preferences.</p> <p>Government Decommissioning Policy, 'The Decommissioning of the UK Nuclear Industry's Facilities' Statement (which updates and replaces paras 120-131 of CM2919), states "Decommissioning operations should be carried out as soon as reasonably practicable....". Given that it is practicable to dismantle the non-nuclear portions of the submarine, the MoD is therefore committed to implementing the ISOLUS Project, and as a minimum, storing cut-out Reactor Compartments on land (See also CIOP Recommendations 3, 18 &amp; 27).</p>

No.	Text	Response
34	RCs (Reactor Compartments) are stored intact for an extended period. Cutting up of RCs is only countenanced as an option if it can be clearly demonstrated and agreed that there will be no additional exposure to workers or discharges to the environment or other risks above those involved in intact storage of the RCs, or if there are overwhelming and publicly accepted reasons for early cut up.	<p>The relative merits of the various options will be considered as part of a programme of technical studies, which will include a review of current best practice being pursued by other nations.</p> <p>In order to place the waste into a passively safe form for disposal and, in accordance with Government Policy, to progressively reduce the hazard, work would have to be undertaken that entails additional exposure and discharges. This would, of course, be subject to the appropriate regulatory approvals.</p>
35	Until cutting up can be achieved in compliance with Recommendation 34, RCs are stored intact on land.	See CIOP Recommendation Response 34
36	The option of taking submarines to one site, cutting out the RCs there, and storing the RCs intact at that site, is pursued.	This option will continue to be considered, but the clash with Recommendation 44 should be recognised.
37	Any decision to cut up the RC need to demonstrate that the technology is tested and proven, and either applicable to all the submarines, or variations demonstrably taken into account.	Technologies will be fully assessed before they are applied to RC decommissioning. Any variations in process required by differences in RC design will be justified, and demonstrated to be acceptable through the regulatory process.
38	As none of the current proposals are acceptable, other ways forward will have to be found. The MoD should seek to specify the best option and site against agreed selection criteria, and pursue development of this (see also Recommendation 49)	No decisions will be made on interim storage for submarine wastes until CoRWM has made its recommendations to Government. In the meantime, work under Project ISOLUS will concentrate on technical studies aimed at identifying and assessing the various options for dismantling submarine hulls and handling irradiated and other materials.

No.	Text	Response
39	Sites are assessed in relation to their meaning and value for the local community and the local area. Local values should be part of the assessment of the viability of a site.	<p>The scope of environmental studies will include assessments of ethical, social, local, technical and economic aspects, as appropriate.</p> <p>The Project's final stage of public consultation, prior to the statutory consultations required to support planning applications and consent to construct, will present these assessments at the available level of detail.</p>
40	Wherever possible, sites are identified clearly, and all sites are announced at the start of consultation.	There will be no further consideration of appropriate sites until CoRWM has responded to government in 2006. In the meantime, a programme of technical and other studies will be undertaken to inform future decision-making. The next public consultation will not take place until bidders proposals have been updated in the light of these studies.
41	Any proposal for interim storage at a decommissioning nuclear site should be accompanied by guarantees that the waste will be removed when the site is cleared.	This issue will be addressed in the light of CoRWM's recommendations to government.
42	Sites should be sought where there is existing nuclear activity (or other contamination), and where existing nuclear activity can be reduced so that the total risk burden is lessened.	<p>As was made clear in our response to FEC Recommendation 32, no site has yet been chosen, but it is recognised that it may be more practical to use an existing licensed site that has been used for nuclear activity". If such a site is not selected, clear justifications will have to be made, an option study and EIA will need to be carried out and an application made for the issue of a 'nuclear site licence'. Even if an existing nuclear licensed site is selected, an option study and EIA would still be required." This response is still appropriate.</p> <p>(See CIOP Recommendation Response 34 for comment on risk and radiation exposure)</p>

No.	Text	Response
43	The possibility of using more than one site for cut out and/or waste storage continues to be considered.	As noted in our overall response to the consultation recommendations, the ISOLUS programme will recognise CoRWM's consideration of ILW management options. As noted in CoRWM's consultation document of the 1 <sup>st</sup> November 2004, interim and long-term storage of ILW on multiple sites remains an option. The possibility of cut-up and/or storage of ISOLUS ILW on multiple sites will therefore remain an option.
44	Cut out and storage of the RCs from the submarines currently at Rosyth and Devonport, and storage at those sites, continues to be considered, but would require a clear and accepted justification demonstrating why it is preferable to be acceptable. A further site should be sought for the storage of RCs from submarines decommissioned in the future.	No decisions will be made on sites until CoRWM has made it's recommendations to Government.
45	The MoD should derive, establish and publish site selection criteria, incorporating consultation responses and technical and other studies, and using a consultative process which confirms that these criteria are broadly in line with what is considered publicly acceptable. These criteria should then be used to identify and select sites, and the process and rationale of that identification and selection be made public and accessible.	The MoD's proposed evaluation criteria and weightings, to be applied to industries future proposals will be made available as part of the future consultation process  Siting criteria will be informed by the CoRWM process.

No.	Text	Response
46	The MoD should conduct a full and open identification and review of potential sites for RC storage (any of which will require access by water), including MoD sites, civil nuclear sites, dockyards contaminated by radioactive or other toxic wastes (such sites are likely to be more acceptable if clean-up is included in the proposal), and other brown field sites (particularly those with contaminated land away from centres of population.	<p>No decisions will be made on sites until CoRWM has reported to government in 2006. However, it will be necessary to make judgements on what represent potentially acceptable sites based upon criteria such as accessibility, availability and current use. The MOD understands that such judgements will have to be justified.</p> <p>The MoD will continue to review the potential impact on the project of the Nuclear Decommissioning Authority (NDA), and does not at this stage exclude the possibility of additional sites being considered.</p>
47	The consultative elements of Project ISOLUS should be continued. Further consultation should address criticisms of the CIOP. In any further stages of consultation, more attention and more resourcing is provided for printed and exhibition materials to make these more accessible. The means of publicising any further consultation are reviewed and extended.	The consultation process will continue and be developed further, as the Project progresses.
48	Greater attention is drawn to and paid to the FEC and CIOP Recommendations in further stages of the ISOLUS Project, and explicit reference is made to these in justifying the forward programme and decisions made.	The MoD will maintain an audit trail detailing how its responses to the FEC and CIOP are being actioned, and how they may have influenced decisions.

No.	Text	Response
49	The MoD should now collate existing studies, and, utilising independent expert advice, identify any further studies needed. An assessment is then undertaken to confirm or otherwise that storage of the intact RC is the best option on safety grounds as well as public acceptability grounds, again with independent input and review. The option is then specified, and tenders invited against this specification. Further consultation on proposals should have this information available to it. (See also Recommendations 5, 7, 8, 11, 12, 15, 18,19, 20, 21, 22, 34, 35, 36, 37, 38, 39, 42, 43, 44, 45, 46, and 48)	<p>The MoD will identify and commission further technical studies to inform decisions on the technical way forward for the project. This process will then inform the specifications for further work.</p> <p>Scrutiny of proposals will be through a MOD ISOLUS steering group. This group will consider how it could be advised by independent experts.</p>
50	The implementation of Project ISOLUS should take place through the civil planning process.	The MoD will follow the relevant planning processes.

## **Annex B**

### **Glossary**

ALARP	As Low As Reasonably Practicable
BAT	Best Available Technologies
BPEO	Best Practical Environmental Option
BPM	Best Practicable Means
CIOP	Consultation on ISOLUS Outline Proposals
CoRWM	Committee on Radioactive Waste Management
CSEC	Centre for the Study of Environmental Change
DEFRA	Department for the Environment, Food and Rural Affairs
DTI	Department for Trade and Industry
EA	Environment Agency
EIA	Environmental Impact Assessment
ENGO	Environmental Non-Government Organisation
FEC	Front End Consultation
HLW	High Level Radioactive Waste
ILW	Intermediate Level Radioactive Waste
ISOLUS	Interim Storage of Laid Up Submarines
ITN	Invitation to Negotiate
LLW	Low Level Radioactive Waste
LMU	Liabilities Management Unit (precursor to NDA)
MoD	Ministry of Defence
MRWS	Managing Radioactive Waste Safely
NDA	Nuclear Decommissioning Authority
OGD	Other Government Department
OSPAR	OSlo-PARis (Convention on the Protection of the Marine Environment of the North-East Atlantic)
RC	Reactor Compartment
REPPiR	Radiation (Emergency Preparedness & Public Information) Regulations
SE	Scottish Executive
SEPA	Scottish Environment Protection Agency
WSA	Warships Support Agency