

SUBMARINE DISMANTLING CONSULTATION

INTERIM FEEDBACK REPORT TO 29th February 2012

INTRODUCTION:

This final update to the interim feedback report is intended to provide the reader with a summary of the consultation at 29th February 2012 including some key statistics on events held, the level of response and the raw text from feedback forms received (where permission has been given for publication). Feedback received in other ways, such as from workshops and in letters and emails will be reported in the subsequent Post-Consultation Report.

STATISTICS:

Public Consultation Events:

Public Exhibition and Workshops Plymouth Guildhall, Plymouth (12-16 Nov 11)

Total attendees – 406

Total number of workshop participants – 87

Public Exhibition and Workshops Carnegie Conference Centre, Dunfermline, Fife (19-23 Nov 11)

Total attendees – 139

Total number of workshop participants – 36

Public Exhibition Saltash Town Hall, Saltash (2 Dec 11)

Total attendees – 119

Total number of workshop participants – 87

Public Exhibition and Workshops St Mellion Hotel, St Mellion (3-5 Dec 11)

Total attendees – 110

Total number of workshop participants – 25

Public Exhibition and Workshops Torpoint Town Hall, Torpoint (6-7 Dec 11)

Total attendees – 130

Total number of workshop participants – 44

Public Exhibition and Workshops Surgeons' Hall, Edinburgh (9-12,14 Dec 11)

Total attendees – 62

Total number of workshop participants - 12

Public Exhibition and Workshops Rosyth Civil Service Club total (13 Dec 11)

Total attendees – 95

Total number of workshop participants – 54

Public National Workshop

Birmingham (31 Jan 12)

Total number of workshop participants – 37

Public Exhibition and Workshops

Linlithgow (3-5 Feb 12)

Total attendees – 124

Total number of workshop participants – 46

Public National Workshop

Glasgow (6 Feb 12)

Total number of workshop participants – 34

Other events supported by the project team:

Submarine Dismantling Lecture and Display

Nuclear Institute Regional Branch, Bristol (16 Nov 11)

Total attendees – 60

Submarine Dismantling Project Display

Nuclear Decommissioning Authority (NDA) National Stakeholder Event, Manchester (23- 24 Nov 11)

Total attendees – 80

Submarine Dismantling Lecture and Display

Nuclear Institute Regional Branch, Warrington (6 Dec 11)

Total attendees - 80

Consultation Document distribution:

Total Consultation Documents distributed: 3340 (approx)

Written responses received:

Total letters / emails of response: 249 Responses & 41 Queries

Total feedback forms received: 147

Total feedback forms with permission for publication: 124

COMMENTS BY CONSULTATION QUESTION FROM FEEDBACK FORMS WHERE PERMISSION WAS GIVEN FOR PUBLICATION:

The responses that follow, below, are transposed, verbatim, from feedback forms received where permission has been given for publication. The name of the respondent is also shown in brackets where they have given their permission for this. Where respondents have not given permission for their name to be published, a unique identifier for the feedback form is shown in brackets so that the different answers from a particular feedback form can be linked together.

1. What are your views on the overall objectives for the dismantling submarines that have left service?

November Responses:

- I agree this must not be left for future generations. *(Feedback Form ID: 71)*
- My generation built/refitted/refuelled our submarine fleet, we should dispose of any unwanted products. *(Feedback Form ID: 216)*
- No way should this be happening. *(Feedback Form ID: 217)*
- They should not be cut up and certainly not in an area close to a large city. *(Feedback Form ID: 218)*
- I consider the overall objectives for submarine dismantling are appropriate. *(Feedback Form ID: 219)*
- The submarines should be tampered with as little as possible - that's Option 1, not 2 or 3. *(Feedback Form ID: 220)*
- The case for the project is well made as is the dismissal of the 'Do Minimum/Do nothing' options (cost + future generation legacy) - latter comprehensively and fairly made. *(A. Jones)*
- It is the right thing to do, the objectives are correct and the project must be clear and well explained to the public *(A. Wedge)*
- Most certainly in favour of the overall aims of the dismantling, but concerned that some unused subs have been stored for so long. *(Feedback Form ID: 225)*
- The proposals are sensible. *(R. Harper)*
- They should be dismantled & stored at the same site chosen. *(Feedback Form ID: 290)*
- The overall objectives are understandable, but the 2020 lack of space for submarine storage argument is flawed – in that we have large dockyards and diminishing fleets of ships. Also with no hint of a move towards a final solution for ILW in terms of a deep geological repository – certainly not by 2040 as suggested; Why is there an industry led rush towards cutting-up the RC's only to store the ILW in different shaped containers other than the maximized profit motive? *(I. Avent)*
- I will keep my views to this page - Inverkeithing is the home of the Scotsman Samuel Greig (1736 -1788), who was the father of the Russian Navy. Could not a submarine be used as a tourist attraction at the sea park in Inverkeithing a long with a Russian submarine, cool as a tourist attraction? It could promote good relations between both peoples as well as a way of bringing more revenue to the fife area Edinburgh area. *(T. McKinney)*
- Dismantle and store Sellafield. *(Feedback Form ID: 350)*
- Needs to be done they can't stay forever. *(Feedback Form ID: 351)*
- I agree that the interim current policy needs to change and adoption of dismantling is agreed. *(A. Osborne)*
- Has to be done. *(Feedback Form ID: 353)*
- The objectives are well thought out and appropriate. *(Feedback Form ID: 354)*

December Responses:

- I am in favour of the objectives and agree with the proposals. (*Feedback Form ID: 375*)
- Fair scoping of objectives but I suggest the Growing of UK expertise in the Decommissioning Nuclear Power Plant should be highlighted with its spin off of more Nuclear Trained Personnel available to the Civil Nuclear Industry which will need to expand and refresh its competence base if UK is to expand its Nuclear Power Generation capability to ensure continued fuel security and combat AGW (Anthropomorphic Global Warming.) (*Feedback Form ID: 376*)
- I would be delighted if the submarines are made safe in an area far from population centres and with a final solution that does not leave sorting it out to later generations as your proposal seems to. A final solution! (*Feedback Form ID: 377*)
- It needs to be done ASAP – we cannot keep storing these indefinitely at further cost to the taxpayer. (*Feedback Form ID: 399*)
- There is a clear need to resolve the matter of disposal whilst it can be done safely. (*N. Fyfe*)
- Alluding to but not including Successor subs is disingenuous, current policy on Trident replacement means this is an on going, not one of issue. (*Feedback Form ID: 477*)
- Not here in a residential area. (*Feedback Form ID: 478*)
- Devonport is too highly populated for this. I do not agree. (*Feedback Form ID: 479*)
- Good forward planning and every detail looked at in great depth. (*A. Walker*)
- The overall objectives are clear and well thought out. (*I. Hunter*)
- Agree with MOD strategy. (*I. Currie*)
- All good but decisions should have been made many years ago considering HMS/M Dreadnought entered service in the early 60s. Too many MOD persons leaving it for someone else has cost millions. (*S. McQueen*)
- Why has it not been done earlier. (*Feedback Form ID: 505*)
- It makes sense. The hazardous waste is contained in one area, boat hulls are recycled. (*M. Rich*)
- They have to be dismantled sooner or later; best to get the work in progress as soon as possible. It would be criminally irresponsible to leave it for the next generation to deal with. (*R. Furse*)
- We built them, they have fulfilled their objectives. It is now our responsibility to dispose of them in the safest possible way. (*A. Williams*)
- Very positive, we need to dismantle our Nuclear Submarines in the best interest to the Crown and recycling over 90% is a positive step forward. (*Feedback Form ID: 509*)
- Don't want subs stored here or dismantled here at Devonport and IR material certainly not stored here. (*Feedback Form ID: 530*)
- The submarines should be dismantled in Devonport to keep employment in this part of England. (*Feedback Form ID: 535*)
- 30 years since Dreadnought laid up, 12 years of three consulting's and we are running out of space and expertise. Get on with the SDP, now. (*Feedback Form ID: 536*)

- Agree safety and environment are paramount. (*Feedback Form ID: 538*)
- The objectives appear to be very comprehensive. (*P. Lister*)
- I think they are reasonable and responsible. (*Feedback Form ID: 542*)
- Very sensible solution. (*Feedback Form ID: 543*)
- This should be carried out ASAP after decommissioning. (*Feedback Form ID: 544*)
- Something has to be done with them. (*J. Cook*)
- It needs to be done. (*Feedback Form ID: 548*)

January Responses:

- The submarines should be left afloat until such time as a permanent solution exists for the disposal of the ILW. (*M. Harris*)
- As there is sufficient space to store the submarines whole there is no need to rush into decisions about dismantling them. (*C. Hunter*)
- I don't want this done in my city. Plymouth siren can't be heard in high winds & all over the city. (*K. Johnson*)
- Broadly content with the Project objectives. However the Astute class (and beyond) are excluded from the SDP. Is this wise? At the very least the "Future Milestones" (Figure 5) should include a year/date by which decisions need to be taken as to whether the SDP needs to be extended. There are no key dates between 2012 and 2020 – without targets slippage will occur. How crucial is the "Begin Dismantling" date with respect to the 2020 "Berthing Capacity"? (*B Pym*)
- If the MOD(N) budget costs and the lack of berthing facilities at Devonport were not the main drivers for this project the safest option would be the current method of dealing with defueled nuclear submarines. i.e the removal of all the nuclear fission material from the submarine, make safe and lay up under the existing statutory legislation requirements. The submarine hulls apart from a minor problem with the ballast tanks, will remain seaworthy for the next few hundred years. The Reactor Pressure Vessel, (RPV), steam generators, associated pipework and fittings are therefore encased in a steel tomb and in their safest form, presenting little risk to the public at large. However with the current constraints on the MOD defence budget and the exponential increasing cost of berthing, monitoring and maintenance of the submarines for the foreseeable future, the MOD believes a process requires to be found which will reduce or eliminate this expenditure. The idea of dismantling the Reactor Compartment (RC), transferring the generated Intermediate Level Waste (ILW) to an existing recognised waste depository appears to be an effective method of reducing the MOD costs on storage, monitoring and maintenance. It also transfers any future responsibility for the safety of the stored waste away from MOD. Unfortunately, as with the dismantling of nuclear power generating plants such as Dounreay the generated ILW is required to be stored on site until a decision is made on the reduction of licenced nuclear depository sites and the completion of the Geological Disposal Facility (GDF) presently programmed for 2040. Under these circumstances the project scenario on the transfer of the ILW to an other site may be flawed. Also some dubiety exist on the nuclear licence held by Rosyth, which was originally for the operation, repair and refuelling of nuclear submarines and not as storage site for nuclear reactive waste or its

transportation. (*Feedback Form ID: 683*)

- I think the submarines have been in storage for far too long and should be dismantled as soon as possible. (*Feedback Form ID: 684*)
- Necessary and inevitable. (*Feedback Form ID: 686*)
- Our generation has built & used the subs, so it seems right to dispose of them safely as well. (*Feedback Form ID: 687*)
- All recycling is good – We must do this - end of story. (*Feedback Form ID: 688*)
- It is work that cannot be left and my only concern is how long would the materials for disposal be kept in the intermediate storage facility at Rosyth if used. (*Feedback Form ID: 689*)
- Dismantling makes the problem worse creating more nuclear material. (*C. Martin*)
- The submarines should be dismantled by this generation and not left for our children and grandchildren to clear up our mess. (*Feedback Form ID: 691*)
- Necessary evil. (*G Cooke*)
- The objectives should focus on a long term permanent solution for ILW not a short term solution which will probably become long term. The location of the GDF should be decided immediately and built sooner. Nuclear Submarines should only be dismantled when there is a permanent disposal facility for ILW. Therefore the overall objectives are not fit for purpose. (*L. Miller*)
- In principle the objectives seem reasonable. (*C Ward*)
- I have an honours degree and have trained for a week at Devonport in the Laboratory there. The Submarines should be dismantled away from the densely populated area of Plymouth. It will could potentially save the money for people on their health bills and make sure the next generation of Plymouth Residents are healthy and can function normally. (*Feedback Form ID: 695*)
- The submarines should be left afloat until such time as a permanent solution exists for the disposal of the Intermediate Level Waste. (*R Plageron*)
- I think the objectives should concentrate on a long term permanent solution for ILW and not a short term solution which may become long term. The location of the GDF should be decided now and built sooner. Nuclear submarines should only be dismantled when there is a permanent disposal facility for ILW. Hence I do not believe the objectives are fit for purpose. (*Feedback Form ID: 698*)
- We believe the submarines should be dismantled asap when they are no longer in service. (*Feedback Form ID: 704*)

February Responses:

- I understand spaces exist to store subs after 2020. Therefore it would be preferable to do this until a storage site for ILW can be found, away from a large centre of population. The problems posed illustrate the necessity of ending the UK's nuclear sub programme and not replacing Trident! (*G Davies*)
- As a former marine engineering technician who served on one of the boats under consideration here I am pleased to see this important project taking shape. It is clear that the boats cannot be indefinitely stored and that MOD has to take a responsible approach to dealing with the legacy in a timely and cost effective manner. I think the objectives stated in 4.3.3 are generally well stated but I am disappointed that no-one has recognised that the production of compliant

radioactive waste packages that will be suitable for disposal is a key objective - this is after all the primary objective of any decommissioning project. I am pleased to see discussion of the waste hierarchy but would point out that this should apply equally to radioactive waste management as it does to conventional waste management, particularly in the case of radioactive metals where good options may exist for re-categorisation (and possibly even recycling of a proportion of the material) following decay storage. *(V.Crane)*

- It seems quite right that the option of floating storage is not sustainable. Dismantling is the best solution. *(R. Ellington)*
- I think that it is correct that these issues should be addressed now rather than passed on to future generations unresolved. *(C. Trier)*
- It is essential in my view that they are dismantled and not left to deteriorate or just exist for years in saline water. *(Feedback Form ID: 724)*
- This dismantling should not take place in Plymouth. It will affect the whole community & the residential and working community. *(C. McCarthy)*
- There is sufficient space to store the submarines. No need to rush it. *(Feedback Form ID: 685)*
- Objectives are fine - let's get on with it. *(P Davis)*
- I agree it is now time to move the dismantling forward. *(Feedback Form ID: 735)*
- I am glad that environmental safety and public confidence are two core aims, but clear that the options offered do not meet this aims. Nor are they exhaustive. I question how only 0.2% of submarines is Intermediate Level Waste given the size of the reactor core and surrounding body. Further, Chapter 4 understates the risk and extent of low level waste which should amount to the majority of each vessel. It is inconceivable that nurses overalls and gloves when working in X-Ray departments constitute low level nuclear waste and require specific handling and disposal, yet the bodywork of nuclear vessels is said to be radiation free and ready to be recycled into household goods. I do not believe this to be a safe set of aims, nor that the plans offer public confidence. *(T. Staunton)*
- The objectives are fine and logical. *(Feedback Form ID: 742)*
- With the present nuclear storage having an accidental release each year in the past few years and two in one year, together with plans for a huge incinerator in the same area, operating 24hrs a day, in the same area, I feel that Plymouth has a sufficient load of environmentally unfriendly options which are detrimental to the health of a deprived and densely populated location [present life expectancy of residents in Weston Mill is 17yrs less than of those living in Plymstock. I consider it to be irresponsible to place this plan in a populated area such as this. *(L Medlyn)*
- I support the objectives: The submarine should be taken out of the water and dismantled. *(Feedback Form ID: 744)*
- Dangerous & risky to all included. *(Sandey)*
- About time, as obsolete as we have new propulsion units of hydrogen! Etc., etc., now on stream! *(R. Rees)*
- I do not agree that handling of radioactive materials should ever happen in populated areas. *(Feedback Form ID: 747)*
- Glad that flexibility is maintained for managing other submarine classes. Happy that you are taking a proactive approach, and not sitting on this problem for future generations to manage. *(V Nesbitt)*

- It is essential that dismantling nuclear submarines should be carried out in a very isolated area and as far away from population as possible, certainly not in Devonport. (*Feedback Form ID: 751*)
- It has to be done. We should not have built these toxic machines. (*Feedback Form ID: 755*)
- I am not happy at all with the overall objectives. It is not at all healthy for a population of a ¼ million. (*R Spettigue*)
- I am not happy about dismantling any nuclear materials within the confines a large city. (*L. Crawford*)
- Process must be as non-invasive as possible and I feel that continued refits at Devonport should be stopped. Option 1. (*E. Knight*)
- Extremely worrying. I do not see that these uphold MOD's reputation as a responsible nuclear operator!' (*Feedback Form ID: 759*)
- If the dismantling of nuclear submarines is to take place it must be done miles away from a densely populated city of 250,000 people like Plymouth where the dockyard is at its heart. (*C Giarchi*)
- *Not leaving waste for future generations to deal with.* Although not listed as an objective, para 4.1.1 Chapter 4 states that the MoD "...believe[s] that developing a solution now, rather than leaving future generations to do so, is the responsible course of action."

Whilst this superficially sounds like a laudable objective NFLA believes it is necessary to recognise that there may, in fact, be no such thing as a "solution" to many nuclear waste problems and that, for example, burying nuclear waste in a deep geological repository could simply be removing choices from future generations rather than removing the problem for them. It would be better to bequeath future generations a well managed surface or near surface store than a leaking geological repository which they can do nothing about.

One of the objectives listed is that the 27 nuclear submarines should be dismantled by 2050. It is not clear why this date has been chosen.

a) Scottish Policy - Although the Scottish Government's nuclear waste management policy does not apply to waste from dismantled submarines, it might have been sensible for the consultation document to address the fact that this policy is to manage nuclear waste in near surface facilities.

NFLA note that the MoD Nuclear Liabilities Management Strategy states that: "...the Strategy requires some MOD nuclear liabilities to be disposed of to a geological facility, or managed in line with Scottish Government policy on higher activity waste where applicable". Clarification is required.

b) Waste Hierarchy - On the Waste Management Hierarchy, as NFLA told the Scottish Government in March 2010, the organisation has difficulty with its application to nuclear waste management. An important principle of radiological protection is the ALARA (as low as reasonably achievable) principle. This means that all reasonable steps should be taken to protect people from radiation, even when emissions are below the legal limits. Factors such as cost can be taken into account.

The use of the waste hierarchy tends to be used to promote 'recycling' - i.e. converting used materials into new products. Unfortunately, in the context of radioactive waste – contaminated and activated metals – it is rarely possible to recycle all of the material. Radioactive contamination needs to be removed from

the waste before the remaining material can be used in new products. This raises the likelihood of a conflict between the potential environmental benefits to be gained from metal recycling and some important principles of radiological protection. Firstly it breaches the principle to 'concentrate and contain' radioactivity rather than 'dilute and disperse' it throughout the environment. Secondly it breaches the ALARA principle. Any waste or contaminated metal recycling plant will require an authorisation to release radioactivity into the atmosphere, rivers or the marine environment. The contaminated metal recycling plant operated by Studsvik at Lillyhall in Cumbria, for example, releases radioactive caesium-137 and americium-241 into the environment.

Rosyth dockyard has permission from SEPA to transport contaminated metal waste to a processing facility in Sweden, near Nyköping, also operated by Studsvik. A recent inspection report carried out by the Swedish Radiation Protection Authority was highly critical of monitoring carried out by Studsvik. It said the company lacked a co-ordinated approach to measuring aerial emissions, and it had no idea about discharges to water.

The MoD needs to clarify what it means when it says that "*up to 90% of the materials from the dismantled submarine will be recyclable ...*" Does this include contaminated metals which will need to be decontaminated before recycling for example. Logically the answer to this question would be more likely to be "yes" with the Reactor Pressure Vessel (RPV) Removal option, than with the Reactor Compartment (RC) Separation option. (*Nuclear Free Local Authorities*)

Whilst I agree that (4.3.4), we may not wish to leave for future generations," a legacy that would otherwise be a burden to future generations..", to act now before we are 100% sure about what we are doing and how we might do it completely safely, might just leave a much more terrible legacy. Also, I understand that the proven safe (4.1.4)" Submarine dismantling" in countries such as Russia and the USA involve whole RC separation and storage; this does not seem to be the preferred option here? (10.10)

Devonport Dockyard is in the centre of a population of 270,000 vulnerable human beings. The argument that it is, 'OK' to dismantle submarines here because it is 'OK' to refuel submarines here, appears a good one but rests on the premise that it is 'OK'. And it is not 'OK'. As I understand, refuelling took place here without full (or any?) public consultation and in general, still takes place without informed public awareness, or agreement it is not 'OK' and should not take place in such a highly populated area. Some say, it's 'OK' because 'accidents' don't happen? But they do.

Western Evening Herald (WEH), 28.11.2002, " litres of untreated radioactive material escaped from HMS Vanguard nuclear submarine two weeks ago."

Western Evening Herald (WEH), 16.06.2004, " A train carrying radioactive fuel has derailed at Devonport Dockyard". This fuel was classified apparently as "highly radioactive.

These 'incidents' are not alone; it seems there have been others more recently. These just illustrate that accidents can and do happen.

In 2004 another WEH report read, 'Plans to cut up decommissioned nuclear submarines in Plymouth and around the UK have been overwhelmingly rejected by a major MOD-sponsored public consultation...". This consultation was called ISOLUS and was established in order to "define,

develop and procure a safe and publicly acceptable method for interim storage of radioactive material arising from decontaminated nuclear submarines" (Ref ISOLUS project summary 2003).

I understand, as reported above, that the conclusion of ISOLUS was that it was not safe to go ahead; so why is it safe now? Why have the findings and conclusion of ISOLUS not been included in this consultation in some form? Why are we asking the same questions as were asked and answered in 2003? Is it because 'someone' did not like the conclusions which were reached? Most people believe we should learn from mistakes made in the past: BSE infected beef was not 'safe to eat', Landfill was not without environmental pollution, smoking and radiation were not good for our health, Waste put into the sea did not sink and safely disappear for ever as was once expected, etc. etc. etc.

The very fact that 'Experts' disagree, the fact that "There is no disposal route currently for ILW" (3.2.4.) and the discussion is about an "interim storage solution" (3.3.3.) and the fact that a General Disposal Facility (GDF) is proposed but not yet decided, should be a warning. If the (6.8.3.) "storage of RCs", .. and (6.8.4.) "RPVs" . "at a site remote from the initial dismantling site has not been assessed as an integrated option) due to cost, this should be another warning.

The whole process including refuelling, HLW fuel removal and storage, dismantling and ILW waste removal and storage must all take place away from areas of dense population. That is if the whole process is to be done as safely as possible at the present time. There still are, and perhaps will remain for some time, many, many 'unknowns'

SEA p 12 states, "Delaying the point of final dismantling also gives more time for size reduction technologies and techniques to be developed.". It is admitted that a GDF is unlikely until 2040 and the crucial and pertinent details of GDF are as yet unknown. Do we really believe it is 'safe' to start something, something potentially so dangerous, when we do not have the knowledge, technologies or facilities to finish it? (*Feedback Form ID: 763*)

- They need to be dismantled away from a large population and from an area where south west prevailing winds - confirming information style over substance. (*Feedback Form ID: 764*)
- We agree that the submarines should be dismantled in a safe, secure and sustainable manner to allow storage and eventual disposal of the radioactive waste arising. However, we do not accept that "cost effectiveness" should be a major factor; the cost must not override the need for safety, security and sustainability. Nor are we convinced that the lack of a designated disposal route, and the current failure to have provided for the foreseeable need for disposal, should determine that the dismantling must take place now and must be done in Devonport and/or Rosyth. If submarine storage facilities will not be adequate by 2020, the Government should have made provision earlier. It is unreasonable to say now that the Government has no option but to use existing sites; the need has been known for at least 30 years. To argue against the "Do Minimum" option on the grounds that the Government has not left itself adequate berthing space is also unreasonable and should not "decide" the issue. There are not just two

options: Do Minimum or dismantle now. Space should be found for berthing while the Government provides dismantling & storage facilities on a slightly longer timetable. (*P Towey*)

- We agree with the view that long-term storage of decommissioned, defueled submarines is not a viable option and agree that dismantling and recycling of valuable materials must be done sensitively. We agree with the overall project objectives for the 17 submarines that have left the service and the 10 yet to leave the service, including the Vanguard class. We agree that dismantling of the 'Astute' class currently being brought into service and the next planned class, known as 'Successor', should be subject to further discussion and are not within the scope of this SDP consultation. (*B O'Neill*)
- In general, the overall objectives are appropriate. We note that the Nuclear Liabilities Management Strategy includes sustainability as one of its objectives but not the minimisation of environmental impact. The project development includes environmental, but not sustainability. In practice, the project appears to be considering both sustainability and environmental impact in its strategy development. In terms of the objectives satisfying SMART (Simple, Measurable, Achievable, Realistic, Timebound), it is unclear how the achievement (or not) of two of the objectives would be measured:
 1. Upholding MOD's reputation as a responsible nuclear operator
 2. Minimising impact upon military capability (*Nuclear Institute*)
- The MOD clearly does not take its duty to manage the legacy of out-of-service-submarines seriously(4.1.1). If it did take this duty seriously, the MOD would ensure at this point in time that the SDP specifically integrated the projected dismantling needs of the Astute class, as well as specifically taking into account the likely dismantling needs of 'Successor' class submarines(4.3.1). It is incumbent on the SDP to ensure that these specific requirements are integrated at this time. We do not want to be in the position in time to come, of needing to extensively reconfigure facilities and processes, at an additional cost to the taxpayer similar to the current project, simply because we are unwilling to plan ahead at this time. The decision to store all submarines leaving service in future in Devonport is seriously open to challenge, given:
 - The obvious foolishness of storing nuclear and other hazardous material so close to a population of a quarter of a million people
 - The likely economic, political and social pressure on sites such as Devonport to become available for large scale commercial development of renewable energy projects
 - You need to give serious consideration to storing out of service submarines in other more suitable locationsYou need to seriously consider the option of maintaining submarines intact afloat (or on dry land) until such time as the requirements for long term storage are clear. It is unclear why you suggest that intact storage would take place 'indefinitely into the future' whilst cutting up or out approaches would be more time limited to 'at least 2040' The SEA Non-Technical Study states that: "Seventeen nuclear-powered Royal Navy submarines are stored safely afloat at Devonport and Rosyth dockyard..." (*S.Tame*)
- Having attended the public consultation event in Torpoint my major concerns were that so far no interim storage site has been identified and also no long term

site-likely Sellafield for deep storage has been commenced. being a local resident I would not like waste to be stored within the dockyard. (*P Shingler*)

- The objectives should include Astute & Successor classes. (*Feedback Form ID: 776*)
- No comments. (*S Douglas*)
- The project objectives mask 3 decisions which have already been made, all of which of which should be revisited. The first, marked by the transition from ISOLUS to SDP, is to dismantle submarines rather than store them on land under cover whilst their radioactivity decays to safer levels. This decision should itself be subject to public consultation. The second is that dismantling should take place at either or both of Plymouth and Rosyth, without consideration of other sites. The third, implicit, decision is that the site(s) chosen will be used for dismantling of submarines yet unbuilt, because the existence of appropriate facilities at Plymouth and/or Rosyth will in Government eyes provide an overwhelming financial and political argument for continuing use. Thus the decision is for perhaps 100 years of storage of radioactive material in a built up area, until the last of the submarines proposed for the Trident replacement programme is disposed of. The correct objectives are (i) to store the submarines in a remote place, obviating the need for the specious Plymouth/Rosyth decision, and (ii) to abandon our nuclear weapons, present and future thus freeing the facilities at Coulport and Loch Long for storage and ultimate break-up of the existing submarines and any future Fleet submarines. (*T Milburn*)
- The overall objectives appear reasonable. It would however be possible to specify additional objectives which could help ensure that the MOD monitors and assesses progress against an appropriate set of objectives. Two additional objectives could be that the SDP:
 - must be achievable and deliverable; and
 - must be capable of inspiring public confidence.

It is arguable that the first suggested additional objective is implicit in the existing objective that the SDP is required to dismantle 27 nuclear submarine by 2050, but there may be advantage in an objective which explicitly requires MOD to monitor and assess progress against achievability and deliverability. We note that there are precedents for this sort of objective: for example, it was recently proposed by Government as an appropriate 'condition' for identifying preferred options for managing the UK's civil plutonium stockpile.

With regard to the second suggested additional objective, this was the formulation set in CoRWM's original terms of reference for consideration of long-term management options for higher activity wastes. We note that MOD has already categorised some of the project's requirements and criteria in terms of 'public confidence', but would suggest that there is merit in elevating this to an explicit project objective to ensure an appropriate focus during monitoring and assessment of progress. (*NuLeAF comments*)

- Section 4.3.1 states that "the proposed solution is required where possible, to retain the flexibility to extend facilities in the future should a decision be taken to accommodate further classes of submarine". While such flexibility would be valuable, it should not be given priority over finding the best solution for the dismantling of the current classes.

The objectives given in section 4.3.3 are sound. However the need to store Intermediate Level Waste (ILW) until a disposal route is available and to dispose of all other radioactive, hazardous and non-hazardous waste in accordance with legislation should have higher priority than the objective of dismantling the submarines by 2050. Additionally, the requirement to store ILW should be amended to "Storing ILW safely until a disposal route is available", as it is important to emphasise the safety aspect of the storage facilities. *(Feedback Form ID: 783)*

- We urge the MOD to learn the lessons and end procurement of a new generation of submarines. *(D Hoadley)*
- The long term storage of submarines in ports that require constant human maintenance and intervention is clearly an unfeasible solution. It is agreed that dismantling and then, where possible, recycling the materials and disposing of the hazardous and non-recyclable components in a responsible manner appears to be the most efficient and effective means of dealing with the submarines. The key issue within the consultation is around the storage/disposal of the intermediate level waste (dismantling itself could be seen as a large recycling project!) - but the overall value of the consultation is undermined by the scope of the consultation being limited to discuss types of storage/disposal sites rather than location, as a result of which it is difficult to give a full response to the consultation.

We agree with the need to dismantle these nuclear submarines but we feel the project is avoiding the subject of final disposal route for all the submarine waste. The storing of ILW until a GDF facility is available needs due consideration. As there is currently no such facility in the planning process it is possible that the storage of ILW may be for a pro-longed period of time (much longer than the estimated earliest availability date of 2040). Therefore the process of storing ILW and the proposed interim storage facility must be given due consideration.

The amount of waste that will be generated will be much more than that of one Trafalgar Class Submarine as illustrated in this section. Further information and consideration is needed over disposal of all wastes and the amount generated in order to fully respond to this question. *(D. Gallen)*

- The MOD's overall objectives are too little too late. Too little in that preventing the perpetuation of the problem of SDP waste can only be achieved by winding down the out-dated and high-risk nuclear submarine programme Too late in that dismantling issues should have been tackled when the first nuclear submarine was laid-up. In moving forward, insight gained during the ISOLUS and SDP process must inform every SDP decision. *(D McDonald)*
- I agree with the overall objectives. *(Feedback Form ID: 791)*
- It would appear to be rather obvious that these vessels cannot be left to decay on an open-ended basis, hence afloat storage is not a long term option - but it is somewhat disingenuous for the Minister to claim that we cannot leave this for future generations, since this is exactly what we have been doing since the first nuclear submarine was laid down in the 50s. *(M Galley)*
- The maximum possible amount of material must be recycled with the minimum possible level of pollution. Where is the evidence to support your claim that your proposals will secure employment for the dockyard? It is a blatant lie (false advertising). In your plans the work entails removing a section from the hull of a

submarine only, the remaining hull is to be transported out of Plymouth! If your proposal was to truly secure work for the dockyard the entire hull would be worked on within Plymouth. It is not acceptable for our city to deal solely with the radioactive part of the submarine and not be granted the employment opportunities / benefits from scrapping the entire hull. A vile and hollow excuse to propose this work; it will not bring any increased employment or benefit those already employed by securing their placements. *(M O'Hara)*

- The objectives of the project are reasonable and we accept that a boundary for the project must be drawn somewhere. However, the scope of the project does not include defueling of the six out of service submarines stored at Devonport which still contain reactor fuel, or defueling of submarines which will subsequently leave service. As this is the most controversial and risky stage of the overall dismantling process, some may criticise the decision to exclude submarine defueling from the scope of the project as an attempt to avoid discussion of the issue. We recommend that the Ministry of Defence demonstrates greater transparency about arrangements for submarine defueling and the associated risks (see answer to question 15 below). *(Nuclear Information Service)*
- It is essential in my view that they are dismantled and not left to deteriorate or just exist for years in saline water. *(R Creagh)*
- Ensure maximum levels of materials recycling & minimum levels of pollution. Please ensure materials containing manufactured nano-particles will NOT be incinerated at North Yard EfW facility. Emissions from EfW plant, however low, will be imposed on population of Plymouth, they will have no choice as to whether they wish to take the risk of exposure – please bear this in mind. *(S O'Hara)*
- There is a requirement for the complete disassembly of the redundant submarines. The Reactor cores require storage prior to being placed in the eventual underground permanent repository. The Interim storage is a the problem. *(West Kilbride Community Council)*
- The Council welcomes the MOD's decision to develop a solution now rather than to leave the matter for future generations. There is also merit in removing fuels and ILW from vessels currently stored afloat for storage on land. *(The Highland Council)*
- It should not be done in the centre of a major city. *(Feedback Form ID: 798)*
- The project objectives for the Submarine Dismantling Project (SDP) are set out in section 4.3 of the consultation document. This sets the SDP within the wider Ministry of Defence (MOD) Nuclear Liabilities Management Strategy. The Scottish Councils Committee on Radioactive Substances (SCCORS) is of the view that the categorisation of benefits and impacts for the purpose of developing the requirements and criteria of the SDP, set out in section 4.3.6 of the consultation document, provide a reasonable way of considering the various aspects of the SDP at a higher-level. We note that the considerations listed in section 4.3.6 are at a sufficiently high level that they could be applied to consideration of how redundant nuclear submarines are to be handled even if the MOD's more project-specific requirements of the SDP, such as those in section 4.3.3 of the consultation document, were not the proposed way forward. SCCORS notes that the some of the explicit requirements of the SDP project, set out in section 4.3.3, map well onto the categories listed in section 4.3.6 This is particularly evident for the requirements to carry out the project 'in a safe, secure

and sustainable manner' (Environment and safety category and Socio-economic category), 'upholding MOD's reputation as a responsible nuclear operator' (Public confidence category), and, taken together, 'storing ILW until a disposal route is available' and 'disposing of all other radioactive and, hazardous and non-hazardous waste in accordance with legislation' (Legislation and Policy category). The remaining requirements in section 4.3.3 appear to relate principally to MOD 'operations' on which SCCORS has no view other than where they impact on its interests.

SCCORS notes that four of the explicit requirements set out in section 4.3.3 relate to operational requirements while the only, rather tenuous, link to socio-economic requirements in section 4.3.3 is the reference to the requirement to dismantle the nuclear submarines in a 'sustainable manner'.

SCCORS notes that in section 4.2.2 of the consultation document MOD is committed to apply the principles of the Waste Management Hierarchy which places some importance on recycling and reuse of waste in preference to its disposal and that this makes considerable sense where it does not conflict with other requirements for radiological protection.

SCCORS notes that the consultation relates primarily to existing laid-up submarines and to the current fleet of nuclear submarines but that in section 4.3.1 of the consultation document it is noted that "nevertheless, the proposed solution is required where possible to retain the flexibility to extend facilities in the future should a decision be taken to accommodate further classes". The weight given to this extendibility is unclear. However, SCCORS does note the certainty provided in section 6.4.5 that "No further dismantling would take place at Rosyth once the seven submarines currently stored there have been dismantled".

SCCORS notes MOD's view set out in section 4.1.1 of the consultation document that MOD believe that developing a solution now, rather than leaving future generations to do so, is the responsible course of action. SCCORS notes however that there is a balance between avoiding leaving a legacy for future generations to deal with and committing future generations to take actions which they may not wish to take. In this respect it is noted in figure 5 of the consultation document that the Geological Disposal Facility (GDF) is anticipated to be available at the earliest in 2040 and in section 5.3.1 that storage facilities will be designed to hold waste for up to 100 years, to protect against any changes to the GDF timescales. It can be concluded that future generations will necessarily be involved in managing the current legacy of nuclear waste. MOD may wish to consider the issues which were taken into account in setting Scottish Government Policy which related to the balance between leaving burdens for future generations and leaving future generations the freedom to make choices. In this respect it is also noted that section 6.3.2 indicates that MOD are exploring the possibility that the GDF might be able to accept Reactor Pressure Vessel's (RPV) without them being cut-up, hence providing some preference for options which defer size reduction. SCCORS is of the view that options which might avoid size reduction of RPV, with its consequent mobilisation of some of the radionuclides still present in the RPV, are intrinsically preferable to others. Such deferral may also leave options open for other disposal practices. As noted in our response to Q2 the absence of information on certain aspects of radioactive waste management between the options of Reactor Compartment (RC) and

RPV removal make it difficult for SCCORS to form a view on the difference between the two options. These points having been noted, SCCORS is of the opinion that there is clearly a balance to be struck between many factors in deciding how to deal with redundant submarines. SCCORS believe that it is wise for MOD to plan to manage residual radioactive material contained in redundant submarines in a planned way rather than to rely on ongoing storage of floating submarines which were not designed to be kept in this way for an extended period. (SCCORS)

- Rather than dismantle while the material is still radioactive, dry-dock storage for a minimum of 60 years would be preferable. The radioactive material is not of strategic importance or of interest to terrorism so high security would not be necessary. (G Wheeler)
- Dismantling submarines with nuclear reactors should not take place at all in a centre of population. (Feedback Form ID: 800)
- Considering the project will have to be extended to deal with future decomm activities it is unlikely to be very acceptable in a location close to populated areas. The decision not to send them to a safer more remote (ie in the true sense) site was dropped. The decision not to send them intact to a safer desert site in America is questionable. (R Holmes)
- I think all sub with this type of hazard need to be taken out of service and no more built. (Feedback Form ID: 803)
- Plymouth City Council agrees that long term storage of decommissioned, defueled submarines is not a viable option. The Council supports the objectives adopted by the Ministry of Defence (MOD) for dismantling submarines once they have left service. We would however seek to understand how the MOD will measure success against these objectives and how it will continue to publicly monitor progress against these measures over the full life of the project. The council would also like to see firm and measurable objectives for the higher level benefits and impacts of the project. For example the council would wish to see the achievement of a minimum positive socio economic benefit attributable to the local community, where initial dismantling takes place, as clear and measurable objective.

We note the scope of the project does not extend to the disposal of the new Astute Class and future submarine designs. The council supports the MOD proposal to retain flexibility to extend dismantling facilities in the future to accommodate future classes. However the Council considers that this should be a clear objective of the project, ensuring that these future developments are considered in the context of this consultation and the detailed planning considerations that will follow.

The Council welcomes the MOD's recognition that public confidence is important and that the MOD has already categorised some of the project's requirements and criteria in terms of 'public confidence', but we suggest that public confidence should be a project objective, thus ensuring that it is given an appropriate focus during monitoring and assessment of progress. For example, we draw your attention to the Committee on Radioactive Waste Management (CoRWM's) original terms of reference for consideration of long-term management options

for higher activity wastes which included a similar objective. (*Plymouth City Council*)

- The primary objective should be safety not profit or convenience. There is no justification for the risk and pollution involved in cutting up reactors in an urban setting. (*Feedback Form ID: 806*)
- We urge the MOD to end procurement of a new generation of submarines. We note that submarines that left service decades ago remain a problem, and at the same time the MoD plans to bring new submarines into service which will need to be decommissioned at some point even further into the future. We feel that this is a generational injustice and that when in a hole the first thing to do is to stop digging. (*K Tabernacle*)
- There is no doubt that this issue will not go away, but whether we make decisions now or later nuclear dismantling will have a major impact on the environment where it is conducted for the foreseeable, if not indefinite future. Those submarines or nuclear fuel based weapons currently in use and even those not yet commissioned will one day reach the end of their working lives and dismantling will occur where the facilities have been installed. This is a long term commitment beyond the term of any parliament. (*Feedback Form ID: 808*)
- We agree with the objective set out in the SEA to establish a project to manage the decommissioning and dismantling of these submarines and those that will be retired from service over the next few decades. The MoD project aims to establish an environmentally robust and safe means of managing radioactive and conventional wastes whilst maximising the recycling of much valuable material. This objective is consistent with the principles of the waste management hierarchy and in particular re-use of as much of the resulting materials from the dismantling process as is practicably possible. (*The Environment Agency*)
- The Committee agrees with the objectives for dismantling submarines. However, the Committee considers that it would be helpful in achieving the agreement of essential stakeholders in the areas where the waste will be removed from the boats and where the ILW is to be stored if
 - Must be capable of inspiring public confidenceis added as an objective. This was a key element of CoRWM's original terms of reference and a major influence on how it carried out its work and achieved universal acknowledgement of its methods, even by NGOs who did not agree with its first recommendation. The Committee considers that achieving this level of acceptance of the MOD method will be required to achieve planning permission to use an NDA store or to construct an SDP store, which, in the Committee's view, is the more likely outcome. (*Defence Nuclear Safety Committee (DNSC)¹ Comment*)
- Overall we are satisfied with the broad objectives however; dismantling submarines "in a safe, secure and sustainable manner" can mean all things to all people, so it is unfortunate that the Submarine Dismantling Project (SDP) Consultation Document does not include a set of environmental principles, with an objective to meet these environmental principles. (*Fife Council*)

¹ The DNSC is an advisory Non-Departmental Public Body established to provide the Secretary of State for Defence with an independent source of expertise and advice concerning the safety of MOD nuclear programmes, facilities and operations.

2. What are your views on the options for how the radioactive materials could be removed from the submarine? Do you think any significant options have been left out?

November Responses:

- RPV removal is the best option that fits with current skills available within the dock yards. *(Feedback Form ID: 71)*
- All safety procedures are in place. Cut out s/route remove waste / replace s/route tow away for scrap. *(Feedback Form ID: 216)*
- Not in Plymouth. *(Feedback Form ID: 217)*
- They should be removed to be stored safely without cutting them up. *(Feedback Form ID: 218)*
- I believe all viable options for the removal of radioactive material have been addressed. However, adequate demonstration that the waste management option provides the BPEO/BAT will be necessary. *(Feedback Form ID: 219)*
- Option 4 on page 35. *(Feedback Form ID: 220)*
- Appreciate you are NOT consulting on certain detailed aspects of RPV removal however, RPV removal afloat might (if not already dismissed) be a possibility? Given that each hull, prior to disposal voyage will require a safety/towing/whatever docking it is possible that the latter could be occasioned on the (RPV-less Hull) disposal contractor's nickle/contract; i.e. the disposal contractor to prep hull for disposal voyage at yard where RPV removed. It seems to me that whilst (current) materiel condition survey reports may suggest that an uneventful docking would obtain, the true hull state would not be known until the dock was drained. On balance of likely risk it seems to me that (from MOD risk-owning point of view) that unexpected 'arisings' would be more likely to emerge during docking than were the casing/PH to be opened up with the hull still afloat? *(A. Jones)*
- I think the full RC removal option is the best. It provides time to properly deconstruct the full section over time whilst quickly being able to recycle the large shells separately. *(A. Wedge)*
- The technology for dealing with the radioactive waste is well established so don't have any objections. *(Feedback Form ID: 225)*
- The proposals are sensible. *(R. Harper)*
- It should only be removed by nuclear experts (presently at Devonport). *(Feedback Form ID: 290)*
- The x3 options appear to be the only x3 sensible options, but as in Q1 – The profit motivated industry preference for 'cutting-up' must not be allowed to dominate the decision making process. 'Cutting-out' is the most sensible option until a final solution for the ILW storage is built. *(I. Avent)*
- Transmutation of spent fuel could be an option. *(T. McKinney)*
- Easily. *(Feedback Form ID: 350)*
- No. *(Feedback Form ID: 351)*
- I would prefer the RPV removal in whole option is taken forward. *(A. Osborne)*
- Not an expert RPV seems sensible. *(Feedback Form ID: 353)*

- The major options have been identified and they are all feasible. The option of RPV dismantling in situ might have been mentioned but I assume it has many real practical problems including operator dose. (Apologies if I have missed any comment on this.) (*Feedback Form ID: 354*)

December Responses:

- I favour the RPV Removal & Storage Option. (*Feedback Form ID: 375*)
- The Packaged Waste option seems the most sensible as it deals with the size reduction issue early, thus placing the development of the technology and competence base early in the programme. Also if any significant process issues are encountered then the process can revert to RPV Removal and even RC Separation. The risk of significant cost and Schedule escalation in this part of the programme must be realistically quantified and allowed for in the 50% cost projection. The last thing this programme needs is the NAO critiquing its "Failures" every year as this will sit in the Major Projects Review for many many years. (*Feedback Form ID: 376*)
- I feel it would be safer to remove the whole reactor department. (*Feedback Form ID: 377*)
- RC separation would seem to be more expensive as more tonnage would need to be stored. Whole RPV removal seems the best option. (*Feedback Form ID: 399*)
- The removal of the whole RC is the simplest option and provides a secondary barrier to any radioactive contamination or radiation. (*N. Fyfe*)
- RPV removal seems to be the minimum processing that will allow remote storage. (*Feedback Form ID: 477*)
- Not here in a residential area. (*Feedback Form ID: 478*)
- Covered well and options explored, taken into account of all issues. (*A. Walker*)
- I prefer the RPV whole removal and storage method. The less intervention in the integrity of the unit, ie sized into smaller packages, seems safer and has cost benefits. (*I. Hunter*)
- Agree with MOD strategy. All options appear to have been considered. (*I. Currie*)
- All options are very good. At last. Nothing has been left out. (*S. McQueen*)
- Knowing what we now know I doubt if the initial idea to put nuclear reactors on boats would ever have been developed taking into account the whole Life Cost ie 'unquantifiable billions'. I failed locally to get an accurate figure from MOD/BABOCK since the docking of Dreadnought at Rosyth due to disgraceful auditing system (of approx 7 years) and was advised to extrapolate from figures available! Is no-one in charge of spending? (*G. Anderson*)
- All sensible options have been considered. In my opinion RPV removal is a clear winner. (*Feedback Form ID: 505*)
- RPV removal would appear to be the best option, in terms of safety; transportation and cost. (*M. Rich*)
- We thought RPV removal was the best option on the whole. (*R. Furse*)
- From your written presentation I believe removal and cutting up the RPV is the best option. I feel you have presented all available options. (*A. Williams*)
- I think packaged waste is the way forward, although I accept your arguments for RPV Removal. My only concern is that we are delaying the final decision and are

therefore leaving the responsibility to our children to sort out our waste.
(*Feedback Form ID: 509*)

- I would favour RPV removal as best option. (*Feedback Form ID: 535*)
- RPV removal is best option. (*Feedback Form ID: 536*)
- Only logical way to leave RPV intact. (*Feedback Form ID: 538*)
- The options are well described but local implementation at Devonport could require more investigation. (*P. Lister*)
- I agree with the option of removing the RPV for interim storage prior to re-sizing and disposal. And I like the possibility of nuclear decay during storage, prior to resizing (if this is needed in the future). (*Feedback Form ID: 542*)
- A very thorough formulae has been put forward which people should embrace and accept and not look for flaws or try to create problems, nothing has been overlooked in the document, that I see. (*Feedback Form ID: 543*)
- It appears that removing the reactor compartment intact may be the best option! (*Feedback Form ID: 544*)
- RPV seems the best option. (*J. Cook*)

January Responses:

- I think that removing the entire reactor compartment and storing these is the best and safest option. This is done in the US. (*M Harris*)
- Cutting out the entire reactor compartment is the best option, so profit for the company who will either remove the pressure vessel or cut up the entire reactor compartment into small pieces should not dominate this debate. (*C. Hunter*)
- Option 2, as long as the waste RPV is not stored in Plymouth. Rosyth is much better, less population. (*K Johnson*)
- RPV removal and storage would seem to be the best option. RC separation would cause considerable storage difficulties. The packaged waste option may be unnecessary if the GDF can accept RPVs. (*B Pym*)
- As stated above the removal of the ILW from the submarine is dependant upon storage at a secure site until the GDF is available around 2040, therefore I believe as little as possible should be done to disturb the RC, which should be separated from the submarine hull, sealed and stored at a secure ILW facility. This will follow the tried and tested model of the American and other navies. It is appreciated that there may not be any available sites capable of storing the number and size of the packed RC units and a purpose built facility may be required to be constructed preferably not at the submarine dismantling sites. I believe all options have been addressed by the project team. (*Feedback Form ID: 683*)
- The RPV removal option appears to offer the best solution to remove the submarines from a floating storage location and to process the ILW in a controlled environment. (*Feedback Form ID: 684*)
- No Idea. (*Feedback Form ID: 686*)
- Option 2 as recommended, seems to be the best options. (*Feedback Form ID: 687*)
- All reasonable options appear to have been considered. (*Feedback Form ID: 688*)

- My view is that the less cutting up of the materials makes sense. But I am still concerned re the time scale for storage of these packages at Rosyth. Would prefer these to be transported some where else. (*Feedback Form ID: 689*)
- There have been few options considered. (*C. Martin*)
- The options appear to have been adequately appraised. (*Feedback Form ID: 691*)
- Removing RPV seems to be the best option for reasons stated. (*G Cooke*)
- Unlimited amounts of Public money have been spent on having a nuclear submarine programme, but now you want to save public money by finding the cheapest way of dismantling these submarines and disposing of the radioactive materials. This is unacceptable. Local population concerns, health, safety, the effect on the image of Plymouth are the issues should be prioritised. (*L. Miller*)
- A non-urban site for removal is vastly preferable. (*C. Ward*)
- This is a question you should be paying a scientist to find the answer to. (*Feedback Form ID: 695*)
- I think that removing the entire reactor compartment and storing these is the best and safest option. This is done in the US. (*R Plagerson*)
- A lot of public money has been spent on the nuclear submarine programme yet you are trying now to save money by finding the cheapest way to dismantle the nuclear submarines and dispose of their radioactive materials. This is really unacceptable. The issues that should be prioritised are:- health, safety and the effect on the image of Plymouth i.e. local population concerns. (*Feedback Form ID: 698*)
- We believe packed waste is the best option. (*Feedback Form ID: 704*)

February Responses:

- RC removal would be ideal, as it allows for radioactive decay and the container is so secure. Next best is RPV removal. No to size reduction of RPV, before there has been time for radioactive decay. I am worried that, somehow, RPV size reduction will be allowed, perhaps for financial reasons. I don't know if any significant options have been omitted. (*G Davies*)
- 6.1.1 lists the three key decisions that you believe need to be reached in determining the appropriate solution for submarine dismantling. I believe there is a fourth key decision that you have not identified, namely that the form of the stored waste must also be determined (not just the storage location). I therefore consider that there is a 4th hybrid option involving removal of the RPV, appropriate size reduction and unconditioned decay storage. I have not been able to review any radiological data but there may be benefit in considering an option that could result in some of the waste being reclassified or recycled, following a period of decay storage (application of the waste hierarchy as discussed in Q1). I consider it highly unlikely that the geological disposal facility will be available in 2040 (your study correctly identifies that even if it is you may not have immediate access to it) and consider the decision to apply a storage design life of 100 years as pragmatic and sensible. This period may therefore be sufficient to achieve some benefit from decay storage. In order to present a rounded consideration to this I would also suggest that your assertion that 'size reduction is an established process in the civil nuclear industry' (5.2.1) is

misleading and inaccurate. Having worked in decommissioning and radioactive waste management for over 15 years I know that, as an industry, we have not yet had to attempt the size reduction of highly activated massive steel components as a matter of routine - whilst this may not be an insurmountable technical challenge it is far from an established practice. The high dose rates involved will require a heavily shielded remotely operated cutting cell and associated materials handling equipment - these technical requirements should not be underestimated. Consideration of the generation of highly radioactive secondary waste (swarf, particulate etc) will also need to be considered, dependent on the cutting technique selected. The requirements for packaging and management of secondary wastes will require additional, separate consideration. I would also highlight the fact that the currently available range of waste containers for higher activity waste were not designed for this type of waste. The Nirex 3 cubic metre box (as selected in your packaged waste container selection report), for example, is unshielded, requires internal stiffening of the base if loaded with very heavy waste components, and has a far from ideal lid opening for placement of large, heavy components. To date there is relatively limited experience of both the manufacture and use of this container type. The currently available range of higher activity radioactive waste containers identified in the Nirex waste packaging specifications does not actually include a design that is well suited to this type of waste (highly irradiated large steel components). Note that I use the term 'Nirex' advisedly as although the organisation is now titled NDA RWMD the specifications themselves remain Nirex titled documents. The options for deferred dismantling or possibly the hybrid option suggested above would provide adequate time for consideration or identification of a more suitable container. In my personal opinion the option of removal of the RPV and decay storage as a monolith presents the overall best option, both in terms of practicalities and ALARP considerations. It also provides the optimal solution for effective radioactive waste management as reduced dose rates associated with deferral will be highly beneficial to the design of the size reduction facility and may present opportunities for recategorisation of some of the waste. (*V Cane*)

- Of the various solutions, removing and size-reducing the reactor pressure vessel would seem to be the best option. It may be possible that the geological disposal facility could accept large items but that is not guaranteed at this stage and in any case transporting a whole reactor pressure vessel weighing 50 to 80 tonnes could pose difficulties. (*R. Ellington*)
- I think that a significant option has been discounted prematurely. That is to continue to store whole nuclear submarines in a dry and accessible manner remote from centres of population. I accept that there are no easy solutions but consider the one I have outlined should have been included. My own preference would be that the whole submarines would be placed on a remote uninhabited island within UK waters and welded on top of each other to create a massive sculpture to highlight the folly of constructing such a technology without any thought at the time of how to deal with them at the end of service nor how to deal with the arising radioactive waste. I think that the scope of the whole consultation should have been broader and should have included de-fuelling. If anything goes wrong with the defueling then it seems prudent to anticipate the possibility of greater radioactive contamination of a submarine than currently projected. In

which case the whole process might be slowed down. I consider that there is a necessity for a second duelling capacity somewhere in the southern UK not only to cope with this eventuality but also because if the nuclear fleet is stationed at Devonport you might not wish for defueling operations to be carried out so close.

(C. Trier)

- A fair description of options given -perhaps some further detail as to distance to be transported to nearest MoD NDA facilities would have helped. Feel best option is to remove RPV and not immediately cut up but transport and store whole in a suitable facility - MoD NDA for ILW until future long term provision of disposal facility (2040?) *(Feedback Form ID: 724)*
- Madness! Yes people & environment. *(C. McCarthy)*
- Why do you need to cut up submarine now. *(Feedback Form ID: 685)*
- The three options (RC / RPV / packaged ILW) are appropriate. It is not necessary to only focus on Devonport and / or Rosyth. *(P Davis)*
- The options explored are logical and wide-ranging. RPV removal seems the best option to reduce the volume necessary for interim storage and avoid spending money on transport or cutting up of RPV until it is really necessary. *(Feedback Form ID: 735)*
- Radioactive material should be interfered with as little as possible. the Options do not allow for my preference: that all nuclear vessels and waste are removed from Plymouth to one of the many already deeply contaminated areas of the world, away from centres of high human population, to be stored until scientists make a breakthrough in the safe disposal of nuclear waste. In the meantime, no more nuclear waste should be created - that is, stop making nuclear reactors, either for vessels or domestic energy production, and stop creating nuclear weapons. *(T. Staunton)*
- No. *(Feedback Form ID: 742)*
- I favour RPV removal and storage at Devonport. Hopefully during interim storage the necessity for size reduction might have been overcome. *(Feedback Form ID: 744)*
- Yes options left out, Don't cut up and dispose indiscriminately. *(Sandey)*
- Don't cut up the reactor core up, seal in a secure base off shore islands of Scotland, where no risk to populations. *(R. Rees)*
- We should investigate paying the USA or Russia to handle it for us, in their remote desert areas. *(Feedback Form ID: 747)*
- Could RPV be Subject to metal melting for size reduction, and homogenising activity? Some sort of infill (eg foam) to encase most active areas prior to removal to minimise contam. *(V. Nesbitt)*
- Removing and packaging the whole reactor is much better for both workers & environment. Radiation can cause cancer & birth defects. It is not acceptable that this should be in Devonport. *(Feedback Form ID: 751)*
- The reactor compartment should be distributed as little as possible & left intact. *(Feedback Form ID: 755)*
- Keep the Subs intact to ensure the 'core' is sealed. Subs to be stored away from significant populations. *(R Spettigue)*
- The information in this document is designed to 'blind with science' that is not friendly in terms of the consultation with the general public. *(L. Crawford)*
- Option 1. *(E. Knight)*

- Incomplete research on GDF. Irresponsible, extremely wasteful of resources. A remote area, essential there must be serious consideration in preventing further nuclear waste materials and components. *(Feedback Form ID: 759)*
- Before considering this question you need to decide on a geographical location well away from a large centre of population. *(C Giarchi)*
- a) Timing Current plans are for a nuclear waste dump to be ready to accept 'legacy' nuclear waste in 2040. Emplacement of legacy high level waste and spent fuel would begin in 2075 and emplacement of spent fuel from new reactors would begin in 2130. The Minister of State for Energy has asked the Radioactive Waste Management Division of the Nuclear Decommissioning Authority to speed up this timetable, but it is not yet clear whether emplacement of waste before 2040 is going to be feasible, although some of the other dates can probably be brought forward according to the NDA. The 2010 Radioactive Waste Inventory has estimated the quantity of waste produced up to 2100 assuming a continuing nuclear-powered submarine programme. So there is no reason to rush into the disposal of waste from decommissioned submarines if it is assumed that this waste will continue to arise until at least 2100. Waiting for, say, another hundred years before deciding whether or not to cut up the reactor compartments would give time for further radioactive decay to take place.
- b) Looking at the options based on environmental principles Based on the environmental principles discussed above any plan which involves diluting and dispersing radioactive waste should be rejected in favour of a policy of concentration and containment. Although the SEA claims that both worker doses and planned discharges are predicted to remain within currently permitted limits for the RPV Removal option, it fails to make a comparison with the RC removal option or argue that it meets the ALARA principle. The fact that discharges of radioactivity into the environment are expected to remain within currently permitted limits is beside the point. Applying the environmental principles outlined in the Government's Statutory Guidance to the Environment Agency would suggest that the Best Available Technique (and applying the precautionary principle) would be the technique which involves least discharges into the environment. This argues for the Reactor Compartment Separation Option. *(Nuclear Free Local Authorities)*
- None of those so far suggested. Believe we need better knowledge before attempting RC separation, RPV removal or waste separation and packaging (better to do less, than more of wrong things!) RC best of suggested options. *(Feedback Form ID: 763)*
- From my understanding the company [name removed]* have a very poor track record and have no allegiance to Plymouth, South West or UK. *(Feedback Form ID: 764)*
- On the whole we support the proposal to remove the Reactor Pressure Vessel (RPV) in due course and to store it whole until a disposal route is available; the less human intervention with the reactor the better until absolutely necessary. We are not however convinced by the arguments that the only suitable sites are Devonport and Rosyth. The most appropriate solution would be if the manufacturer of the submarine were to extract and store the RPV. At this stage we have no way of telling where the eventual disposal facility will be; only that it is likely to be in some remote part of the UK with suitable geology, accessible by

sea and rail. If a new port was to be built near eg Barrow in Furness, it would be near the existing storage site for High Level Waste (HLW) at Sellafield, near the Low Level Waste (LLW) disposal facility at Drigg and close to the most likely deep geological disposal site for Intermediate Level Waste (ILW). In addition the far more dangerous defueling of the nuclear submarines could take place in an isolated rural area and not in the centre of one of the largest cities in England. Given the amount of money the dismantling, storage & disposal is likely to cost, it is unlikely that the building of a new port would be too expensive. The lack of an existing nuclear operations licence is not insuperable. The Government needs to speed up negotiations with the NDA about a suitable joint site for ILW storage & disposal or decide to go it alone. Leaving it for another few years while the NDA consults on their options is just procrastination. The likely result is that because the Government has left it too late, we will be left with the "cheapest option": the need to dismantle the submarines and store the RPVs indefinitely in the centre of Plymouth. (*P Towey*)

- We believe that all viable options have been explored. We would support the view that it is less practical for the reactor compartment to be removed and stored, that the removal of the RPV remains as the only viable alternative which would support flexibility as to the method of size reduction or direct disposal to the GDF. Delayed size reduction would allow for further natural decay before possible exposure to those who will undertake this duty and minimise the risk of exposure. If the option for direct disposal of the RPV to the GDF becomes viable then this would further reduce the potential worker dose. (*B O'Neill*)
- We do believe that two potential options have not been adequately considered, or at least their consideration and discarding is not covered in the consultation document and supporting references:
 1. To dismantle and size reduce the R/A components within the RC in-situ.
 2. To cut out the RC and size reduce (and potentially package) the R/A components within the RC in a tailor-made facility local to the RC cut out process (to minimise RC transport issues). The arrangements for handling the RPV and other waste in a dock should be engineered to ensure that these operations present no more risk (industrial as well as radiological) than that associated with the alternative option to carry out operations in a shore based facility. (*Nuclear Institute*)
- On the one hand we have submarines afloat which will eventually need to be dismantled, radioactive materials stored and the rest of the material recycled. There is a notion that space is running out. On the other hand we don't currently have a long term storage facility for the radioactive materials. If and when we do create one, we don't know where it will be, what size the waste will need to be reduced to, or what level of shielding the waste will need to have. So, it makes sense to do as little as possible and make use of current assets in place until we know what is needed.
 - Any additional dismantling work to the submarines brings additional cost and risk and should be avoided if possibleSo it makes sense to either:
 - Store the entire submarines afloat or on dry land, in a secure location away from large population centres, or, if this is unfeasible:

Remove the Reactor Compartment intact, which is specifically designed to contain the radioactive material within it, store it in a secure location away from large population centres, and recycle the rest of the submarine (least work, lowest risk, proven radioactive containment)

-Work obviously needs to be done to establish the feasibility of towing the remaining front and rear submarine sections. *(S. Tame)*

- If the reactors are to be cut up before storage in the interim ILW storage facility then I would have to be convinced that all measures are in place in case of a potential accident. *(P Shingler)*
- The best technical option should be chosen, based on professional opinion. *(Feedback Form ID: 776)*
- The best technical option should be chosen, based on professional opinion. *(S Douglas)*
- As above the option of leaving the materials in place should not be eliminated. It is clearly preferable except in terms of space usage, which is clearly the MOD's primary criterion. Of the options presented it may be that removal of the RPVs separately is better as their lesser weight would make them safer to handle. The effect of the additional shielding which the RC casing would provide could be achieved by purpose built shielding. *(T Milburn)*
- We do not consider that any significant options have been left out. We note that the main differences between the three options (RC separation, RPV removal and packaged waste) are the order and timing in which size reduction and storage activities are carried out, but that a further possibility is being explored with the NDA that would involve direct disposal of RPVs to a GDF (and would not therefore require size reduction). If this further possibility is established as a credible option, it will be important that the further process of assessment and decision making is made clear to stakeholders and that appropriate opportunity for engagement and comment is provided (see also the response to Q9). *(NuLeAF comments)*
- We are satisfied that all the practicable options for the dismantling of the submarines have been considered in the report. However in order to be able to come to a satisfactory decision on the balance of the advantages and disadvantages of the various options put forward more information is required on the radiological aspects of the operations involved in the dismantling process. In particular information on exposures (doses) to workers, potential for contamination and on the steps taken to optimise exposures to both workers and members of the public should be included. More information on some of the non-radiological aspects, such as an estimate of the cost incurred by implementing the different options should also be provided. *(Feedback Form ID: 783)*
- RC removal avoids the production of more waste. *(D Hoadley)*
- The three options outlined appear credible. However due consideration of the views of host communities needs to be taken into consideration. As West Cumbria is the only area that has expressed an interest in hosting a GDF there would need to be discussions with the community on preference for dismantling and indeed if the local community wants to accept nuclear submarine waste as the inventory for a repository has not been discussed. Copeland Borough Councils initial preferred option is for the waste to be extracted and packaged ready for final storage, this would preferably be carried out at the interim site with

the economic benefits being felt by the ILW host community. This option we feel would be the most beneficial in the long term and delivers what the report states "we do not leave the problem of disposal for future generations". The options only deal with the short term impacts of the dismantling and not the impact of long term storage. *(D. Gallen)*

- Given the disposition of laid-up submarines, the options are reasonable. What has been left out is the option to reassess the SDP plans for the 10 submarines expected to be defueled and dismantled after 2030. In any event, at least one submarine reactor compartment should be preserved complete - to act as a monument to folly. *(D McDonald)*
- No significant options have been left out. I believe the most appropriate ILW management option is RPV removal. I do not believe further size reduction at this time is commensurate with the development of the Geological Disposal Facility. *(Feedback Form ID: 791)*
- Given the fact that the government must have access to all the available expertise on handling nuclear waste, I am not sure what practical advice the public at large can be expected add to the input received to date. On this basis, I'm afraid that the whole consultation would appear to be somewhat more of a political rather than technical exercise. (On making this comment to one of the representatives present, the response was just a smile rather than a denial - which rather answered the question). *(M Galley)*
- My true preference is for none of the options you describe to be implemented. The city of Plymouth has been impaired and its growth hindered by the presence of the MoD and the dockyard for centuries. A clear contempt on your part has been shown ever since the restoration of the monarchy as some form of perverse punishment for this city's stand against the tyrant king. Of course if you do continue with your plans I would prefer Option 2 (RPV Removal & Storage) as this appears to have the least impact on the environment of the options you provide. But having said that if you had offered the dockyard full scrapping work then Option 1 (Removal of Reactor Compartment Section) would be the obvious choice as there would be no need to 'dredge' for transportation purposes (another vile and hollow excuse that is characteristic of your organisation). *(M O'Hara)*
- It is not yet clear whether storage of intact reactor pressure vessels without size reduction will be possible within the planned national radioactive waste repository. If it transpires that the repository is able to accept intact reactor pressure vessels then this option should be given further consideration and further public consultation should take place. Although it is unlikely that interim dry storage of an intact submarine would be an effective option for managing waste from redundant submarines, this route could have been considered as a possible option and reasons should have been given for discounting it. *(Nuclear Information Service)*
- Given that the assumption is that the deep geological store would not be ready to receive waste for 60 years it seems foolish to cut up and distribute the waste now. Wouldn't it be better to keep it together rather than dispersing it through processing necessarily early. Having said this the option of removing the reactor vessel intact and storing those together seems the most sensible if it allows them to be moved from centres of population. Simply cutting out the whole section of

the sub intact seems preferable, but if this means it has to stay within a city then perhaps better to remove the RPV and take that intact elsewhere for storage. (R Creagh)

- My preference is Option 2 – RPV Removal & Storage. Minimum impact. (S O'Hara)
- No. (West Kilbride Community Council)
- The Council welcomes the commitment to apply the waste hierarchy to the treatment of waste. There are no fixed views on the options although consideration as to how the waste hierarchy will be applied to the options is limited. (The Highland Council)
- See above. (Feedback Form ID: 798)
- SCCORS notes that the options considered focus on removal of Intermediate Level Radioactive Waste (ILW) from the submarines. In this context three options are considered, differing mainly in how the principal component of ILW, the RPV is treated - whether it remains in a reactor compartment, itself removed intact, whether it is removed and stored intact pending planned size reduction, or whether it is removed and size reduced and packaged for storage. It is however noted that section 6.3.1 indicates that ILW will exist in other components of the submarine "in pipework connected to the RPV for example". This difference between options in relation to the treatment of such pipework or other material is not brought out as significant in the schematic presentations of the 3 options shown on page 33 of the consultation document. The description of the waste arisings given in section 4.2.1 and figure 3 (along with earlier description of the RPV on page 15) of the consultation document could lead a reader to conclude that ILW existed only in the RPV contrary to the point noted in the above paragraph. As noted in the response to question 1 above the MOD has a commitment to apply the waste hierarchy to the treatment of waste and some discussion of whether there will be residual radioactivity in material destined for reuse or recycling and the radiological impact of this would be appropriate. (SCCORS)
- I favour RC separation with size-reduction carried out as late as possible and as far as possible from original site -- but in 6.83 this is held to be unlikely on grounds of cost. RC separation means less exposure to ILW and, once stored, less easy access for interference or removal by anyone else. Also, if a method could be developed that would neutralise nuclear waste, before size-reduction and geological disposal stages, these two procedures would no longer be needed. (Feedback Form ID: 799)
- Instead of removing the radioactive material and then transporting the remainder to a conventional ship-breaker, a ship-breaker should acquire a licence and carry out all the work, avoiding the double-processing and any difficulty of transporting a half-demolished hulk. (G Wheeler)
- The process should not be undertaken in any form at Devonport. (Feedback Form ID: 800)
- Option 1 leaving the RPV within the whole RC seems the safest radiologically. Safer for workers and the public living close to the activities Options 2 and 3 will create more discharges to the environment and increase the likelihood of increased waste transports. (R Holmes)

- No mention of secondary waste disposal. Most of this will be low level combustible (containment tents and cloths) this is not covered and with the construction of the incinerator in St. Budeaux will not be burnt here! Please confirm. *(Feedback Form ID: 802)*
- I think the radioactive materials should be disturbed as little as is possible. *(Feedback Form ID: 803)*
- We do not consider that any significant options have been left out. We note that the main differences between the three options: -
 - Reactor Compartment (RC) Separation;
 - Reactor Pressure Vessel (RPV) Removal and
 - Packaged Waste

are the order, place and timing in which size reduction and storage activities are carried out. The Council considers the least practical option is to remove and store the RC. Of the three options, our preferred option is RPV removal with the Interim Intermediate Level Waste (ILW), storage being undertaken at an existing MOD site or at an ILW storage facility provided by the National Decommissioning Authority. (NDA).

However the Council recognises that even this option will involve the cost and increased worker dose that is associated with the required size reduction process.

The Council believes that it will be technically possible to construct the Geological Disposal Facility (GDF) to store the whole RPV. The Council suggests that this is the best disposal option because: -

- (i) This option allows for further natural decay which reduces worker exposure and provides flexibility as to the method of disposal as the GDF proposals develop.
- (ii) Size reduction would not be necessary which further reduces potential worker dose.
- (iii) The size reduction facility will not be necessary, consequently reducing environmental damage and project cost.
- (iv) This option makes best use of existing facilities and the techniques and highly skilled workforce already used in defueling and refitting the operational submarines.

The Council recommends the MOD should reach early agreement with the NDA on the design of the GDF to enable this method of disposal and that this disposal method should be considered along with the other options identified in the consultation. *(Plymouth City Council)*

- The reactor compartment is purpose made for safe containment. It should be kept whole. *(Feedback Form ID: 806)*
- Reactor Compartment removal is preferable in that it avoids the production of more waste. However, we are concerned that if the MoD wished to retain control of the decommissioning process for reasons of secrecy then safety may be treated as a secondary consideration. We think that the best solution should be found in terms of protecting the environment and health regardless of military imperatives. We suggest that a decision to disarm would remove unnecessary obstacles to proper management and rational decision making as the health and safety of the public and protection of the environment for future generations is

irreconcilable with military doctrine. We feel that a fundamental shift in attitudes is required to resolve conflicting aims if the Submarine Dismantling Project is not to be compromised by this contradiction. (*K Tabernacle*)

- We have made advances in nuclear science since the inception of the nuclear age but the general public are mindful of the enormous risks should an accident occur. Every generation since the nuclear age has witnessed national disasters following nuclear accidents via global media. With the greatest of care for life, not budget would be my sole response. (*Feedback Form ID: 808*)
- All of three options will result in the generation of primary radioactive wastes and some secondary radioactive wastes.

International practice to date in the USA, Russia and France has involved the removal of intact submarine Reactor Compartments (RCs) (Option 1) and storage ashore, or in the case of the USA, disposal of intact RCs by land burial which does not appear to be a realistic option in the United Kingdom.

Should the MoD select option 1 - removal of intact reactor compartments - we believe that this approach will only defer final management, ultimately by dismantling, of the major radioactive components. Removal of intact reactor compartments will require storage near to the point of generation. We agree this option would result in the highest environmental impact of the three proposed options, primarily arising from the need to construct a large storage facility at the site(s) of Reactor Pressure Vessel (RPV) removal. We also believe there could be a need to undertake large scale, regular dredging in a sensitive marine environment to allow heavy lift ships to transport the fore and aft sections of submarines for final dismantling at a United Kingdom ship recycling facility. We view the potential for dredging as the most significant impact of the SDP on the environment.

Options 2 and 3 are similar in approach – removal of the Reactor Pressure Vessel (RPV) and either deferred size reduction or immediate size reduction. The environmental impact of both options are similar. Immediate size reduction would enable packaging and storage of Intermediate Level Waste (ILW) pending availability of the proposed GDF. Both options require the construction of storage facilities, either at the site of origin or at a remote facility. We note that RPV removal and size reduction would need smaller ILW stores than for intact RPV storage with deferred size reduction. Both options avoid the need for regular dredging of a sensitive marine habitat.

Option 2 - RPV removal and deferred size reduction – does, however, offer an option for the MoD to pursue the case with the Nuclear Decommissioning Authority (NDA) for disposal of an intact, packaged RPV at the GDF, thus negating the need for cutting up the RPV. The environmental benefits, should this option become available, would mean a reduction in secondary radioactive wastes created during the SDP. We are supportive of the MoD engaging with the NDA to determine if disposal of intact RPVs at the GDF is possible.

We do not believe that the consultation has ruled out/excluded any significant options.

The environmental report identifies other relevant issues which may impact on or be impacted by the SDP proposal. We welcome the inclusion of flood and coastal change risk as issues to be considered by the project and the efforts made to include a comprehensive evidential baseline.

We draw the MoD's attention to relevant sections of the Coast Protection Act 1949, Land Drainage Act 1991 and Water Resources Act 1991 relating to the management of flood and coastal change risk. We suggest that the section on Shoreline Management Plans (SMPs) in the SEA is updated to reflect that second generation SMPs are almost complete in England and Wales. These provide an updated view of coastal flood and erosion risk and the management policy options adopted for managing those risks. The MoD should note that the Department for Environment, Food and Rural Affairs (Defra) published two reports in 2005 and 2006 on the risks posed to the UK from tsunamis. These indicate that the area at greatest risk is the South West. The reports are: *The Threat posed by Tsunami to the UK* (2005) and *Tsunamis – Assessing the Hazard for the UK and Irish coasts* (2006).

The section on PPS25 - Development and Flood Risk needs to be updated. A supplement to PPS25 on Development and Coastal Change now exists, replacing the old PPG 20. This provides guidance to local planning authorities on assessing areas at risk from coastal change and managing development in these areas. However, new government policy from the Department for Communities and Local Government (DCLG) will remove all PPSs and replace them with an over-arching National Planning Policy Framework (NPPF) document. DCLG consulted on the NPPF during 2011; the final Framework document is yet to be published.

One of the "Making Space for Water" projects was to develop risk mapping information for the public. Flood maps already exist and can be viewed on our web site – www.environment-agency.gov.uk. Since 2006, we have been developing National Coastal Erosion Risk Mapping to give an indication of coastal erosion risk around the English coast. This mapping information is beginning to be published on our website. We recommend that the MoD views the information relating to Plymouth.

In the section specifically related to Wales, the MoD makes reference to Integrated Coastal Zone Management (ICZM). ICZM is equally applicable to England and Scotland. Defra have also published an ICZM strategy and is responsible for reporting back to Europe on our progress in achieving ICZM. The MoD should also update the information in section 9.2.3, SMPs. The Durlston Head to Rame Head (south Devon and Dorset) second generation SMP was approved in August 2011 and updated the previous generation of SMPs for that area. The MoD should use this latest SMP as an evidential baseline to understand the coastal flood and erosion risks in the area and the intended coastal management policies. Because the western boundary of this SMP at Rame Head is close to Plymouth, consideration should also be given to the Rame Head to Hartland Point SMP covering Cornwall and the Isles of Scilly. This has also been updated recently.

Plymouth and its environs are protected by a 1 mile long Napoleonic breakwater at the entrance to Plymouth Sound (Plymouth Breakwater). The ownership and maintenance responsibility for the breakwater are unclear. Consideration will need to be given to the amount and standard of protection offered by the breakwater to the project and its developments.

More specific local information about coastal flood and erosion risk is available from our local Area office covering Plymouth, and the coastal engineer for Devon and Cornwall and the Isles of Scilly. (*The Environment Agency*)

- The Committee agrees with the MOD proposals for removing radioactive materials from the boats. Since the original RPV head from the Ringhals 2 reactor has been disposed of in the Forsmark repository, the Committee thinks it would be unreasonable not to be able to dispose of intact RPVs from the boats, which have a smaller diameter. (*DNESC Comment*)
- Any further cutting into the reactor compartment after the compartment has been separated from the rest of the submarine is liable to mean further generation of nuclear waste and further discharges of radioactivity into the environment. Whether or not this increases radioactive discharges into the environment above current permitted levels is beside the point. It would not represent a policy of “concentrate and contain” and should be ruled out. Current plans are for a nuclear waste facility to be ready to accept ‘legacy’ nuclear waste in 2040 and complete ‘disposal of waste from existing nuclear facilities (as opposed to new reactors) by 2130.

We would support proposals to speed up this timetable, and it is not clear whether the Nuclear Decommissioning Authority has made provision to include MoD waste.

Bearing in mind that deep geological disposal of waste runs counter to Scottish Government policy, and that it is quite likely that a deep disposal facility would not be in a position to accept submarine waste until next century in any case, we believe that until such time as a clear authorised route is available for this waste, the Reactor Compartments should remain intact. (*Fife Council*)

3. What are your views on the candidate sites for where the radioactive waste is removed from the submarines? Do you think any significant options have been left out?

November Responses:

- If Devonport is bearing the risk of the dismantling it should not have to bear the storage risk as well, store at a remote site. *(Feedback Form ID: 71)*
- Majority should be scrapped at Devonport. *(Feedback Form ID: 216)*
- Not in Plymouth. *(Feedback Form ID: 217)*
- The option of storing them in an isolated area has not been sufficiently covered. *(Feedback Form ID: 218)*
- I consider all relevant options have been considered and that Rosyth and Devonport are the most appropriate sites for selection. I do not consider any options have been left out. *(Feedback Form ID: 219)*
- There are regular accidents/spillages of radioactive waste at the Dockyard, and that will continue to be a concern. *(Feedback Form ID: 220)*
- Given future possible political scenario in Scotland, and again unless already dismissed, that the option of using Barrow for some phases of the project are worth (re)consideration? (e.g. RPV removal afloat)? *(A. Jones)*
- Both sides have relevant experience and as both are run by [name removed]* profit shouldn't be too big an issue. Long term work needs to be laid out. Devonport however is a busy dock and will be the soul yard for the whole of the Royal Navy for refitting. Rosyth, after the CVF contract will not have the naval contracts. This means Rosyth has a full workforce and space to become a full time dismantling yard. The long term view means that it would be suitable to become the site that the V Boats A Boats and beyond would also go to be dismantled. Rosyth also requires transportation to the yard, would then be the best suited with plenty of room for storage and maneuvering. Its closeness to Faslane that will become the home of the whole surface fleet means expertise and parts can travel between the sites in just over an hour. It is also closer to Cumbria for the waste to then be transported meaning less time out of secured sites and lower transport costs after the initial move of the 10 current subs in Storage. HMS Caledonia although losing it naval status would be suitable for crews after sailing the current subs in. The naval accommodation on site would also be free with the lack of contracts after the 2020 CVF project. *(A. Wedge)*
- No significant options have been left out. It does make sense to dismantle at both Devonport and Rosyth. *(Feedback Form ID: 225)*
- Rosyth and Devonport are logical sites. *(R. Harper)*
- Devonport should be the only option. *(Feedback Form ID: 290)*
- The candidate sites appear to be the cheapest and most expedient of choices – by definition, nuclear work should be carried out away from centres of population.
- There are civil and MoD sites around the coast which would fit this criteria. The SDP project did not arrive at the x2 site solution; it was delivered to the project as a fait accompli. *(I. Avent)*
- Rosyth. *(Feedback Form ID: 350)*

- No. (*Feedback Form ID: 351*)
- I agree the sensible use of Rosyth and Devonport be adopted. (*A. Osborne*)
- Appreciate transport problems and Devonport expertise but Devonport is within a population centre & tourist place. (*Feedback Form ID: 353*)
- It makes sense to use one/both of the existing dockyards. The cost of establishing another site is presumably very high; this might have been included in the report. Is there any USA or European facility that could be used?? Return of waste issues would presumably make this very expensive. (*Feedback Form ID: 354*)
- I live approximately 3kms from the Devonport site and am entirely happy that operations should take place here. (*Feedback Form ID: 355*)

December Responses:

- [Name removed]* already has a licenced site and Devonport should be a candidate site. I don't believe significant options have been left out. (*Feedback Form ID: 375*)
- The dual site approach seems like common sense but the limitation of future to only one site smacks a bit of "eggs in one basket" and so does the use of only one contractor [name removed]*. There is also no mention of the West Coast Base and the existing pool of competent personnel and training facilities. This may leave open the avenue for the accusation of "Going down a pre-conceived path" and indulging in "sham consultation" which could leave the programme in a less than desirable position. Making it more difficult to field social and political pressure to take a less than "optimally sustainable" solution. (*Feedback Form ID: 376*)
- All the work and storage should be done far from population centres. (*Feedback Form ID: 377*)
- Either site seems suitable and has the facilities for submarine storage. (*Feedback Form ID: 399*)
- The submarines should be dismantled within their current locations. (*N. Fyfe*)
- Existing facilities in France, Russia or USA. (*Feedback Form ID: 477*)
- Ideal – Relating to the candidates sites, Rosyth and Devonport have the facilities to complete and recover the waste material. (*A. Walker*)
- Yes. How about an island somewhere off the Kola peninsula? It was always going to end up here in Devonport about 500 meters from my front door. Terrific! (*I. Hunter*)
- Agree with the sites chosen. (*I. Currie*)
- Devonport is the only option as the site and manpower are SQEP'D to carry out this work. Also most of the platforms at Devonport still contain fuel for which Devonport is the only site which can deal with this. Suggest fuel contained platforms are processed first. (*S. McQueen*)
- Shouldn't you have begun by selecting a site for the GDF for the ILW and HLW and planned backwards? Your existing time scale kills dead the very limited 'public consultation' you are trying to generate. (Only 4 people attended the very useful workshop held in Dunfermline 19.11.11 (1PM). Your excellent Consultation Documents contained 1st class pictures... but I could see no captions!) (*G. Anderson*)

- To remove the RPV's from the submarines at the sites where they are laid up is the clear winner. Moving dead submarines from Plymouth to Rosyth or vice versa is an unnecessary expense and a potentially hazardous operation. *(Feedback Form ID: 505)*
- Devonport and Rosyth, i.e. where the submarines are presently stored. Towing subs to either (or a 3rd) involves added hazards. *(M. Rich)*
- We think this work could well be done in Devonport Dockyard; also the subs currently at Rosyth could be dismantled there. Devonport has skilled, experienced workers in place who would be the best ones to do this work. *(R. Furse)*
- As I live in the area, I would like Devonport to be the sole operative. *(A Williams)*
- Both candidate sites have the skills and capabilities to SAFELY conduct this work. *(Feedback Form ID: 509)*
- Don't want Devonport to be involved – too highly populated around. *(Feedback Form ID: 530)*
- No but would prefer sites owned by the MOD. *(Feedback Form ID: 535)*
- Remove at dockyards where submarines are laid up and do it soon, while we still have expertise there. *(Feedback Form ID: 536)*
- Pragmatic way forward. *(Feedback Form ID: 538)*
- The candidate sites seem to be the most logical and no significant options have been omitted. *(P. Lister)*
- I feel all work for the removal of radioactive waste should be carried out at one site, to minimise the locations where nuclear material is being handled, and I agree that Devonport Dockyard is the best site. *(Feedback Form ID: 542)*
- If the sites are suitable and safe then fine. *(Feedback Form ID: 543)*
- I would suggest only one specialist facility should be used. (either) *(Feedback Form ID: 544)*
- Doesn't seem that this could be done anywhere else without incurring vast additional expense. *(J. Cook)*

January Responses:

- Plymouth and Rosyth have been chosen by the government as a fait accompli. Other sites need to be considered e.g. Nigg. Plymouth is particularly unsuitable as the dockyard is in the centre of a highly populated area. *(M Harris)*
- Only two sites have been proposed – a fait accompli as these sites are the cheapest and most expedient options. *(C. Hunter)*
- This should not be done in a city or populated area. *(K. Johnson)*
- Noting that submarines yet to leave service would be dismantled at Devonport, the "dual site" option is the best since it avoids transporting submarines and provides employment at both Devonport and Rosyth. However, in view of Scotland's desire not to carry out nuclear operations and the fact that full independence is becoming a possibility, some contingency may be needed for Devonport to dismantle all submarines. *(B Pym)*
- There is no perceived engineering problems with any of the three options proposed for the removal of the nuclear waste from the submarines. Although since Devonport is currently the only licenced refuelling facility for operation submarines it seems sensible that the dismantling of the defueled submarines

is undertaken at this site. Additionally since 2003 Rosyth has been reducing its nuclear capabilities including the disposal of the heavy lift cranes and reduction of engineering facilities and it is doubtful if the dismantling of the submarines could be undertaken without any substantial additional resources being invested in Rosyth. Also a temporary increase in the workforce of suitably qualified personnel at Rosyth would be required and who may not even be locally employed but hired as contract labour with no benefits to the Rosyth area. It is assumed that this would not be a problem at Devonport since a qualified workforce is already employed. However any achieved benefits at both sites must be offset by the possibility of the ILW being stored on the dismantling site. Apart from Rosyth and Devonport no other site seems capable of undertaking the work, with the problems of the transfer of the submarines to a single site being. (*Feedback Form ID: 683*)

- It would seem sensible to carry out the removal of the radioactive waste from the submarines at their current location. This would negate any cost or political issues involved with moving the submarines between sites. (*Feedback Form ID: 684*)
- No. (*Feedback Form ID: 686*)
- The candidate sites seem the best options, as these sites have the facilities and qualified staff. (*Feedback Form ID: 687*)
- Devonport and Rosyth are used to dealing with these materials safely – they are the obvious sites for this work. (*Feedback Form ID: 688*)
- Although I would prefer the work to be carried out away from Rosyth, the transportation of the whole sub for dismantling elsewhere could mean the other subs being kept afloat for longer. (*Feedback Form ID: 689*)
- Need to target less populated areas for sites. (*C. Martin*)
- It seems sensible to only consider sites that have existing nuclear licences. Given a possible decision for Scotland to become independent of the UK in the near future, it would not be sensible to locate a long-term military project in that country. (*Feedback Form ID: 691*)
- Both Plymouth and Rosyth. (*G Cooke*)
- The promise that Rosyth would only dismantle 7 submarines and that the rest would be dismantled at Devonport is grossly unfair to Plymouth residents. The argument that it would be cheaper not to transport submarines by sea to Rosyth should not influence the decision. Rosyth is a less built up area. Fewer people would be affected if Rosyth was used for dismantling these Submarines. Stop putting cost first. (*L. Miller*)
- This is a question for a paid scientist but the nuclear waste should be nowhere near Devonport, Plymouth a city with over 100 000 people living in it. (*Feedback Form ID: 695*)
- Plymouth and Rosyth have been chosen by the government as a fait accompli. Other sites need to be considered. Plymouth is particularly unsuitable as the dockyard is in the centre of a highly populated area. (*R Plagerson*)
- It is very unfair to only dismantle 7 subs at Rosyth and the rest in Plymouth. This is so unfair to Plymouths local residents. The argument that it is cheaper not to transfer the subs to Rosyth should bear no impact on the decision. Rosyth is far less built up than Plymouth and far fewer people would be affected in Rosyth. Plymouth does not depend on Devonport anymore for jobs etc., so stop putting costs first and think about the people of Plymouth. (*Feedback Form ID: 698*)

- We think the radioactive waste should be removed on the site where the submarine is moored. (*Feedback Form ID: 704*)

February Responses:

- I understand the waste could be removed at a site remote from population, though this would be more costly. To me, it is unbelievable that a site in the centre of a large city should be used. Accidents do happen to systems and there is human error! Before this option is chosen, everyone in Plymouth, Saltash and Torpoint should be contacted. I have found that many local people are unaware of your proposals and not happy when they are told about them. (*G Davies*)
- I think the choice of sites is somewhat dictated by the location of the laid up submarines, together with the fact that these are already MOD sites supported by significant nuclear engineering skills among the local workforces. I am however concerned by the potential implications of a Scottish referendum on independence and its effect on this project. This is further compounded by aspects of the Scottish radioactive waste policy which may prevent certain strategic considerations from being implemented in Scotland. (*V.Cane*)
- Either Devonport or Rosyth would seem suitable, preferably both, as there seems to be little cost benefit in having just one site. (*R. Ellington*)
- Recent news about possible Scottish independence demonstrate that these options have not been sufficiently wide ranging. It is true that there are no suitable sites south of the border with Scotland, remote from centres of population and with marine access. Nevertheless Devonport has now been proposed as the likely site for the nuclear fleet by the Prime Minister today, if Scotland goes independent. It is obvious that you cannot use Devonport for everything. Therefore I think this consultation should have been prepared to consider constructing a suitable site from scratch preferably based on an uninhabited island which might involve compulsory purchase. (*C. Trier*)
- Given the above provisos I see no reason why the 7 submarines cannot be dismantled at Rosyth - keep work and skills in the dockyard in the immediate future until long term work/use of the Rosyth dockyard is ensured for the future. No way should the SDP include transporting submarines from Devonport to Rosyth for dismantling. (*Feedback Form ID: 724*)
- Not in Plymouth – yes the whole community. (*C. McCarthy*)
- Using dry docks at Devonport and Rosyth appears to be the most straightforward approach. However, other options seem to have been discounted: see Q4. (*P Davis*)
- Removal of waste should be done at Rosyth (7) and Devonport (10). This is the obvious solution to minimise transportation. (*Feedback Form ID: 735*)
- Plymouth cannot be seriously considered as a site for the interim or final storage of any level of nuclear waste - it is England's tenth largest City with 3 primary schools within 400 metres of the proposed radioactive waste storage "dump". This is a global problem and has to be considered in terms of a global solution. There are significantly contaminated areas in various countries, which should be part of the consideration in this consultation. Effectively, Plymouth is being "set-up" to store nuclear radioactive waste as a fait-a-compli. (*T. Staunton*)

- Plymouth/Devonport is the ideal location. [Name removed]* have the necessary infrastructure already in place. Plymouth desperately needs this work as the city is struggling to survive in the present economic climate with little alternative work available. (*Feedback Form ID: 742*)
- Removal should take place as Devonport. (*Feedback Form ID: 744*)
- Scrutiny of security and secrecy is lacking! (*Sandey*)
- The site must be geologically sound for interim storage, not limestone or Shale rocks. (*R. Rees*)
- Yes, See Q2 above. (*Feedback Form ID: 747*)
- Agree that minimising the distances travelled is best option. Local communities will already be familiar (and more accepting) of nuclear activities. Base near Lake District an option (recently saw a program on Nuclear Submarine building – community is very accepting, can provide necessary skills base and infrastructure already in place) (*V. Nesbitt*)
- Very significant options have certainly been left out. It should be in a very isolated area very far away from the populations – not Devon. It will cost billions to be set up & is essential it is very remote. (*Feedback Form ID: 751*)
- The work must be done away from centres of population. Devonport is wholly unsuitable. (*Feedback Form ID: 755*)
- Store subs away from the cities and people, definitely not in Plymouth. (*R Spettigue*)
- I feel all radioactive waste should be sited away from populated areas. Which there can be no danger of seepage or contamination. (*L. Crawford*)
- Storage must be away from centres of population, option 4 (p.35). (*E. Knight*)
- Plymouth with city population of 250,000 completely unsuitable such activity. Environmentally disruptive and damaging for protected areas and species inhabiting them. (*Feedback Form ID: 759*)
- There are ten's of thousands of people living within half a mile of Plymouth's Devonport Dockyard some just across the road, with schools, CFE close by. It is highly dangerous to remove radioactive waste in the heart of a city. (*C Giarchi*)
- Wastes should ideally be managed on-site where produced (or as near as possible to the site) in a facility that allows monitoring and retrieval of the wastes. This is known as the Proximity Principle. The Scottish Government says the Proximity Principle should be applied to define the location of facilities in order to minimise potential risk and reduce any potential environmental impacts. This should not outweigh other considerations including safety, technical feasibility of specific locations and ability of communities and environments to accommodate developments without experiencing significant negative effects.
This would argue for storing at Rosyth and Devonport in monitorable retrievable stores the reactor compartments from the decommissioned submarines currently stored afloat at Rosyth unless there are specific local conditions which affect the ability of the community living close by to accommodate the compartments. (*Nuclear Free Local Authorities*)
- If goes ahead 'where' is crucial. Must be 'remote' from dense areas of population.
6.4.2. Claims that all suitable UK sites have been explored but it appears from 6.4.3, 6.4.4., and 6.4.5. that only Devonport and Rosyth are still being considered. I understand that there are other more suitable less densely

populated coastal locations with nuclear licences that are not being considered, perhaps for economic reasons? (*Feedback Form ID: 763*)

- Again too near population. Not a particularly articulate one or one used to asserting themselves. (*Feedback Form ID: 764*)
- On the whole we support the proposal to remove the Reactor Pressure Vessel (RPV) in due course and to store it whole until a disposal route is available; the less human intervention with the reactor the better until absolutely necessary. We are not however convinced by the arguments that the only suitable sites are Devonport and Rosyth. The most appropriate solution would be if the manufacturer of the submarine were to extract and store the RPV. At this stage we have no way of telling where the eventual disposal facility will be; only that it is likely to be in some remote part of the UK with suitable geology, accessible by sea and rail. If a new port was to be built near eg Barrow in Furness, it would be near the existing storage site for High Level Waste (HLW) at Sellafield, near the Low Level Waste (LLW) disposal facility at Drigg and close to the most likely deep geological disposal site for Intermediate Level Waste (ILW). In addition the far more dangerous defueling of the nuclear submarines could take place in an isolated rural area and not in the centre of one of the largest cities in England. Given the amount of money the dismantling, storage & disposal is likely to cost, it is unlikely that the building of a new port would be too expensive. The lack of an existing nuclear operations licence is not insuperable.

The Government needs to speed up negotiations with the NDA about a suitable joint site for ILW storage & disposal or decide to go it alone. Leaving it for another few years while the NDA consults on their options is just procrastination. The likely result is that because the Government has left it too late, we will be left with the “cheapest option”: the need to dismantle the submarines and store the RPVs indefinitely in the centre of Plymouth. (*P Towey*)

- We support the view that the currently decommissioned submarines are initially dismantled to remove radioactive materials at their current storage site, i.e. at Devonport and Rosyth. We believe that all possibilities have been examined and would support the option for removal of RPV at Devonport within an established licensed nuclear site within a suitably monitored environment which has tried and tested support systems and controls. (*B O'Neill*)
- The consideration of candidate sites needs to take into account the full life-cycle of the project, including in particular the interim storage of the ILW, and the recycling of the bulk of the submarine once the R/A material has been removed. The project has initially considered 3 types of site:

1. Greenfield sites - we agree with the project's conclusions that use of a greenfield site should be a 'last resort'
2. Brownfield sites (including contaminated brownfield sites), without existing nuclear licensed or authorised activity on it.
3. Nuclear licensed or authorised sites.

The project has then considered in detail candidate nuclear licensed and authorised sites for their suitability for initial dismantling. It has not assessed the sites' suitability for storing the arising ILW (in its three potential forms as RC, RPV or packaged ILW waste). Clearly, if the sites found to be suitable for dismantling are also suitable for storing the arising ILW, or it can be safely and securely transported off-site, then we would agree that limiting consideration to nuclear

licensed or authorised sites is appropriate. However, if this is not the case for all options (and the RC cut out and storage option would appear to be the most limiting), then it might be appropriate to extend consideration to other sites. A subset of the brownfield sites is existing ship recycling facilities, which would be the most appropriate to consider next:

1. Establish a complete submarine dismantling facility at or local to a ship recycling facility in the UK. At minimum this would comprise RC cut out and storage (locally if not on site) and recycling of the remainder of the submarine.
2. Transport of the submarines in their existing (or near existing) condition to the submarine dismantling site.

The primary reason for limited consideration appears to be the perceived difficulty and timescale involved in developing nuclear infrastructure and obtaining a nuclear site license, on a site with no previous nuclear activities (the SEA also notes a detriment for brownfield sites because pre-existing nuclear facilities and skills are not being utilised, and have to be built up). However, the experience of Studsvik in establishing the Metal Recycling Facility at Lillyhall, which was the first new commercially operated new nuclear licensed site in over 20 years, was that obtaining a nuclear site licence took around 2 years, within the overall planning and development process. This was for a relatively simple, low hazard, low level waste processing facility in West Cumbria. This may not be directly comparable, as the facility would be different, but it does demonstrate that development of a brownfield site is theoretically feasible.

However, the NI does not underestimate the challenges of gaining the support of populations adjacent to such sites (particularly if there is no local experience of nuclear operations) and recognises that successful exploitation of such locations would only be practicable if it is associated with significant local economic advantages. Negative experience from previous MOD invitations for dismantling solutions demonstrates how important it would be to get the proposition right if considering this route.

We believe that consideration of brownfield sites would only be worthwhile if the project was proposing the RC cut out and storage option. Since it is not, and this is a decision with which we agree, there is no value in the project examining such sites again. It would only divert project resources from urgent work to proceed to actual submarine dismantling without further delay. (*Nuclear Institute*)

- This new project is an opportunity to reconsider the current practice of undertaking nuclear work in centres of population. If we step back and take a longer view, investing in infrastructure for nuclear work in cities such as Plymouth just doesn't make sense. This work needs to take place away from population centres. (*S. Tame*)
- I find it difficult to believe that the preferred option is in the middle of a city of over 250,000 people. The Russians have a facility near Murmansk rumoured to be highly dangerous and I believe the US dismantles near to but not in Seattle and stores at Hanford in Washington State. Also the transportation to Sellafeld, assuming that's where it will end up is significantly further by road and rail than the Rosyth option. (*P Shingler*)
- The choice appears to be based on political rather than technical reasoning. Rosyth is approximately 10 miles from the Scottish capital, so is not a suitable site. (*Feedback Form ID: 776*)

- Rosyth should not be considered as an option, it is too close to Edinburgh and in a heavily populated area. *(S Douglas)*
- The consultation presents a spurious choice. The existing submarine bases in Scotland are the best sites. With nuclear disarmament these sites would become available. Even without it they should be considered. *(T Milburn)*
- Having reviewed the information in the 'Criteria and Screening Paper' at Level 5 of the consultation materials, we do not consider that any significant options have been left out. We also consider that an appropriate screening process has been used to identify candidate sites. We note that this initially found that there are significant advantages associated with the use of existing nuclear licensed or authorised sites, compared with the development of new facilities at Greenfield or Brownfield sites. We also note that existing nuclear licensed or authorised sites have been appropriately screened against fundamental and detailed requirements, and that the outcome of the process has been effectively and transparently documented in the 'Criteria and Screening Paper'. *(NuLeAF comments)*
- We are satisfied that all the significant options have been considered. In deciding on the number and location of the sites where the radioactive waste is removed from the submarine, it is important to make sure that the transport of radioactive materials is carried out according to the current safety regulations and to take account of the timescales required for the completion of the project. *(Feedback Form ID: 783)*
- To avoid transporting laid-up submarines, both Rosyth and Plymouth sites be used. *(D Hoadley)*
- The feasibility and credibility of these sites storing ILW is not fully examined and should be included in the assessment. CBC would suggest that a final disposal route for the ILW should be concluded before a decision on the sites for the dismantling is made.

The criteria used to assess the original sites is quite limited and it is considered that it does not take account of the full set of criterion upon which the sites should have been assessed on.

Availability of each site to store the ILW removed from the submarines needs further explanation although it is briefly addressed under "Compatibility with site operations", it is not clear as it states it will be the decision of the site owner to prioritise activities and decide whether storage is acceptable".

Transport links to the sites is another key criteria which has been excluded from the process. If the ILW is not to be stored at the site, where it will be removed, then it must be transported to either a NDA or MoD site. The transport links to the area and means of transportation to the proposed site would therefore be an important factor upon which to assess the suitability of the site for the dismantling process.

A particular concern of Copeland Borough Council is how the dismantled parts will be transported to the Interim storage facility - which may be a NDA site and could be at Sellafield in Copeland.

Also final disposal will be in a GDF and as West Cumbria is the only area currently going through the voluntary process it would seem that it is possible that if the GDF goes ahead that the waste is likely to have to be transported to this area at some stage.

Whilst the Council has no objections to the types of sites being assessed it is considered that the process arriving at the final decision has not been thorough and further consideration should be given to the criteria used in the screening candidate sites for initial dismantling assessment. The screening should take into consideration where the ILW will be stored after removal and possible advantages of locating dismantling sites close to storage sites.

The Council has concerns that not all the relevant or correct criteria have been used in the assessment, as transport / storage and disposal of the removed parts are not given due consideration this could have affected the analysis of the options. CBC would prefer that the nuclear submarines are dismantled (where possible) closer to the area where the ILW will be stored so that the socio-economic benefits of dismantling will be felt by the community that bear the burden of hosting the waste.

Given the next stage of the process (storage / disposal) and its possible location it is considered that due consideration has not been given to all the locations. *(D. Gallen)*

- The candidate sites may become unsuitable within the lifetime of SDP. It is expedient that a new site is established, and that nothing is done to close off a change of site in future. A new condition should be included in the MOD Consultation Response: "to reassess the site suitability for defueling and dismantling at Devonport at an early stage, to allow time for an alternative to be considered, consulted on and built for the 2nd half of the Project". *(D McDonald)*
- I believe both candidate sites are appropriate. I do not believe any significant options have been left out. *(Feedback Form ID: 791)*
- From the limited information given, the choice of the two mooring sites might seem to be the obvious selection; however, the session was significant in what was not stated as well as what was contained. There was, for example, no reference from the various presenters to the strong opposition to the dismantling plans at Rosyth/Devonport from local groups, which might lead one to conclude that the real purpose of the consultation was to generate and use the likely overall choice of the proposed option to nullify such local opposition by heavy 'public' response.

There was actually no discussion at all on the various optional sites for storage. After all the earlier work under Nirex on potential storage sites for such waste, I do not believe that the question is open ended and that options have not already been at least listed. This was another area in which the absence of detail - and the obvious desire not to discuss it - was rather obvious.

It would be really interesting to discover how the government intends to promote 'volunteer candidates' to offer their locales as prospective, long-term disposal site for nuclear waste. *(M Galley)*

- My preference is the Dual Site option – no transport of de-commissioned vessels. *(M O'Hara)*
- We accept that there are a limited number of sites which will realistically be suitable for submarine dismantling operations. We support the principle that if possible an existing nuclear licensed site should be used for these operations, rather than a 'new build' location, in order to reduce the size of the Ministry of Defence's nuclear footprint and for reasons of cost and efficiency.

As the locations where out of service submarines are currently stored, Devonport and Rosyth are obvious candidate sites for submarine dismantling. Dismantling submarines at these locations would eliminate risks arising from their transport to another site but in our view it would probably be feasible to move the defueled submarines by sea from Devonport and Rosyth to another location at an acceptable risk provided there were clear advantages in doing so.

One site which we consider requires deeper consideration as a location for a submarine dismantling facility is Barrow-in-Furness. In equity terms, Barrow would be an appropriate location as the waste would be returned to the location where the submarines were built. Submarine dismantling would help to generate employment in Barrow in the event of an eventual halt to submarine construction in the town. The close proximity of the town to the Sellafield nuclear complex is an attractive factor in relation to interim storage of radioactive waste and could increase the feasibility of the 'reactor compartment separation and storage' option. We accept that the tidal regime in the Walney Channel would complicate access for redundant submarines but we do not consider that this poses an insuperable obstacle.

- It is not clear why Barrow was rejected at an early stage as a candidate site for submarine dismantling. The Ministry of Defence should publish further information on the suitability of Barrow as a location for a submarine dismantling facility, and should publish in full the reasons for rejecting Barrow for submarine dismantling. *(Nuclear Information Service)*
- Given the above provisos I see no reason why the 7 submarines cannot be dismantled at Rosyth - keep work and skills in the dockyard in the immediate future until long term work/use of the Rosyth dockyard is ensured for the future. *(R Creagh)*
- *My preference is the Dual Site option – no transport of de-commissioned vessels. (S O'Hara)*
- No. *(West Kilbride Community Council)*
- No. It seems reasonable and logical that Devonport and Rosyth have been chosen. *(The Highland Council)*
- See above. *(Feedback Form ID: 798)*
- The consultation document indicates that by application of screening criteria the options of dismantling submarines at either or both Rosyth and /or Devonport are considered by MOD. It would appear to be reasonable to assume that removal of radioactive components of the submarine should be carried out at these locations. *(SCCORS)*
- Q3 and Q4: the impression given is that Rosyth and Devonport are the best/only possibilities - I'd suggest that all possible sites be assessed. Both A. Wedge on p.7 of Feedback report and ID:376 on p.8 make very good points. *(Feedback Form ID: 799)*
- The only option considered is to use existing licensed sites. That's wrong (please see response to Q2). *(G Wheeler)*
- You have not mentioned 'remote from centres of population' *(Feedback Form ID: 800)*
- Devonport and Rosyth are far from ideal. They are both in built up areas where any accident leading to aerial or liquid radioactive discharges would (no matter how unlikely) impact on a great many people. *(R Holmes)*

- Is filling the RC with concrete and deep sea disposal totally rejected. (*Feedback Form ID: 802*)
- I believe the choice of Devonport is completely unsuitable. There are 260,000 people living in Plymouth. The site is also sensitive in terms of wildlife and the environment. (*Feedback Form ID: 803*)
- Having reviewed the information in the consultation materials, we do not consider that any significant options have been left out. We also consider that an appropriate screening process has been used to identify candidate sites. We note that existing nuclear licensed or authorised sites have been appropriately screened against fundamental and detailed requirements.

Devonport Dockyard has a highly skilled work force that is already involved in submarine maintenance, submarine refits and refuelling processes and consequently matches the projects requirements. However we accept the factors associated with transport of laid up submarines between Rosyth and Devonport and consequently we support the "dual site option" that allows for the currently decommissioned submarines to be initially dismantled removing radioactive materials at their current storage site, i.e. at Devonport and Rosyth.

- The Council acknowledges that physical constraints and cost may restrict the development of interim storage facilities at the preferred sites but suggest that in any case the use of interim stores at NDA sites is a more sensible and cost effective solution. (*Plymouth City Council*)
- I believe it shows a reckless disregard for the health and safety of ordinary people that dismantling within yards of homes and schools is even an option. Would this be acceptable in Westminster? (*Feedback Form ID: 806*)
- We do not favour transportation of the submarines by sea because of the danger to seas and coasts in the event of an accident. To avoid transporting laid-up submarines we suggest that they are decommissioned in situ at both Rosyth and Plymouth sites. We think a significant option ignored by this consultation is that all military submarine bases and shipyards including Faslane and Coulport be converted to civilian decommissioning and waste management sites with the cessation of military use. In line with this we propose that AWE Aldermaston and Burghfield also become decommissioning and waste facilities, that all warheads be transported back to Burghfield and dismantled, and that those sites are then managed as nuclear waste sites. Although the AWE sites are already contaminated and store nuclear waste we do not think they are suitable for the storage of submarine waste as well because of the undesirability of transporting nuclear waste near to large centres of population. In the same way, if necessary, people need to be evacuated from areas close to where the submarines are currently afloat during dangerous operations such as de-fuelling. We do not believe that the proposed Geological Disposal Facility should be considered as inevitable and think that it would be sensible to plan for alternatives over such a long time scale. (*K Tabernacle*)
- The MoD set out its criteria for dismantling site selection in 2008-09. We provided advice and guidance on site permitting, ship dismantling and radioactive waste management during our pre-consultation work with the Ministry. In particular we

provided our views on developing green and brownfield sites for managing the submarine legacy.

We note that the MoD's assessment indicates that developing a greenfield site could have either a minor negative or significant negative impact in terms of coastal change and flood risk. We believe development of a coastal greenfield site should be classed as significantly negative.

We have previously discussed with the MoD that establishing a new facility to manage SDP would have a considerable negative environmental impact compared with using an existing nuclear site such as Devonport. Any new site would need to undergo permitting by us (and nuclear site licencing by the Office for Nuclear Regulation (ONR)) and would itself need to be decommissioned at the end of the SDP.

We believe that the SEA has shown that it is reasonable to exclude greenfield and brownfield sites from the list of candidate sites to undertake the SDP at an existing MoD or MoD-contractor operated site. We agree that no significant options have been ruled out in the SEA as the original listing for potential sites was lengthy and included other MoD, MoD contractor operated and civil sites in the United Kingdom. MoD has explained why many of these have been excluded and why Devonport and Rosyth – or both sites – are realistic options for managing the SDP. We agree with MoD's rationale for site selection for initial dismantling.

In our opinion, using the existing nuclear licenced site at Devonport enables SDP to be undertaken on a site with full access to nuclear infrastructure including trained personnel familiar with working in a radiological environment and managing radioactive wastes. We are aware of the local sensitivities towards carrying out SDP at Devonport. We believe that these sensitivities would best be addressed through local measures to safeguard the environment and by carrying out this work at a secure dockyard with a long history of radioactive waste management from submarines.

We welcome and agree with the conclusion in this section that development of greenfield sites is to be avoided. In our view SDP would be best undertaken at an existing nuclear licensed site, ruling out development of greenfield or brownfield sites. (*The Environment Agency*)

- It seems that the volatile political situation between Scotland and the rest of the UK may have overrun ideas proposed in the consultation. I find it hard to believe that the two locations presented in the consultation are the only possibilities. How can this be viewed as a choice? I am convinced significant options have been left out. The lack of information available about other activities at alternative sites around the country mislead the reader into believing there are no others. Common sense tells us to conduct risky activities away from large populations centres. Advice from the nuclear industry endorses this. From the options considered in the document Plymouth is not considered large enough nor its population and environment significant enough to stimulate this conscience. Placing such activity in the centre of Plymouth with a population of over 250,000 is the riskiest strategy for public health. Placing it in Rosyth, the least populated option, the least risk to the public, but politically no doubt, the higher risk. I therefore do not consider either of these locations to be an appropriate hub for now or successive generations of activity. How can the issue of cost

effectiveness compare to the risk to the people? *(Feedback Form ID: 808)*

- The Committee agrees with the MOD proposals for where the waste should be removed. (DNSC comment)
- The dismantling (with the Reactor Compartments remaining intact) of the 7 submarines currently at Rosyth should be carried out at Rosyth as part of dual centre solution (ie Rosyth and Devonport workforces benefiting from the dismantling of the submarines located in their respective ports). This work should be carried out with the objective of removing redundant submarines and their resultant nuclear waste from Rosyth in the shortest possible timeframe. Accelerating the programme to deal with one submarine dismantling per year to two per year would be attractive to us. No additional redundant submarines should be brought to Rosyth. Any further storage of decommissioned nuclear submarines and any further dismantling should take place at the port where they are de-fuelled. *(Fife Council)*

4. What are your views on the options for which type of site is used to store the intermediate level waste from submarine dismantling? Do you think any significant options have been left out?

November Responses:

- The NDA option must be pursued as cost is a very important factor in the current climate. *(Feedback Form ID: 71)*
- Use existing sites & increase capacity. *(Feedback Form ID: 216)*
- No submarine dismantling in Plymouth. *(Feedback Form ID: 217)*
- This work should not be carried out by a private company which aims to make a profit. *(Feedback Form ID: 218)*
- It is recognised that centralising radioactive waste treatment and storage facilities leads to a reduction in lifetime costs. So overall aligning with NDA and existing storage sites has the potential to reduce costs associated with managing the 'nuclear' legacy. *(Feedback Form ID: 219)*
- The establishment of a nuclear waste storage facility ("Dump") for Intermediate Level nuclear waste at the dockyard until at least 2040 will prevent investment in the City for the foreseeable future. *(Feedback Form ID: 220)*
- No *(A Jones)*
- Rosyth is the best option for storage as large areas of the yard will be left vacant after the CVF work. It is also the furthest away from a large population so poses less risk to the public. *(A. Wedge)*
- The proposed options are fine - bearing in mind the volumes of waste to be stored. *(Feedback Form ID: 225)*
- Choose an NDA site. *(R. Harper)*
- As above. *(Feedback Form ID: 290)*
- The type of storage site is not actually made very clear, but regional sites away from centres of population would be the most sensible option. *(I. Avent)*
- Sellafield above ground. *(Feedback Form ID: 350)*
- Nearest to save transporting. *(Feedback Form ID: 351)*
- No views but what about the use of 'RD57' for storage. *(A. Osborne)*
- ILW storage should be out of any population centre. Hard to believe that you even consider ILW storage in Plymouth. *(Feedback Form ID: 353)*
- The types of site are very generally described and I do not think that there are other credible alternatives. HMG should really look to identify strategic location(s) for ILW storage. *(Feedback Form ID: 354)*

December Responses:

- I believe storage at sites owned by the MOD or the NDA - remote from the point of waste generation would be the best option. This would also reduce public concern on storage of ILW in an area close to a town/city. *(Feedback Form ID: 375)*
- Having One ILW storage site makes sense on all levels, only one site to staff and guard, only one area of contamination if the worst ever happened. I think that MOD should not have its own sites, either MOD owned or Private but that the use of an NDA site makes most sense. The NDA route does add a significant level of

uncertainty and the risk to cost and schedule must be robustly quantified, as in the answer to Question 2. *(Feedback Form ID: 376)*

- I think scant consideration has been given as sites far away from population centres. *(Feedback Form ID: 377)*
- Surely an NDA site? Facilities already in place and controls for storage already accountable. Would be a risk going to industry – what if it went wrong? *(Feedback Form ID: 399)*
- The waste should be stored by the MoD - the new facility must be built and managed under CDM Regs 07 and the 36 LC my view is that Dounreay is the most appropriate. *(N. Fyfe)*
- Storage should not be in an urban area like Plymouth. *(Feedback Form ID: 477)*
- Not here. *(Feedback Form ID: 478)*
- Do not agree with this happening in Devonport. *(Feedback Form ID: 479)*
- Regarding Rosyth, I am confident that this would work as site. *(A. Walker)*
- For reasons of proximity to my house I prefer an NDA site. If there was one that was suitable you would have identified it by now. Bearing in mind that a new storage facility needs building wherever the ILW goes I reckon Devonport will end up with the whole shooting match. *(I. Hunter)*
- Agree with MOD conclusions. *(I. Currie)*
- NDA option would be preferred option as these are already established and require no delays in consultation and planning. *(S. McQueen)*
- Storage at NDA sites makes sense. However if not available storage at the point of waste generation is not an issue. If anything the RPV's are safer ashore than left in Submarines. *(Feedback Form ID: 505)*
- At the ports of Devonport and Rosyth. *(M. Rich)*
- We thought Devonport Naval Base would be acceptable but we were told of a 'hole in the ground' in Cumbria where apparently people are eager to have the job of storing nuclear waste. That seems fair enough. *(R. Furse)*
- On the grounds of safety in Transporting I believe storage should be as near to the removal point as possible. *(A. Williams)*
- Storage at a Nuclear Licenced Site is a given. *(Feedback Form ID: 509)*
- I am very unhappy that the intermediate level waste, could possibly be stored at either Devonport or Rosyth because of the density of people living in both areas and the fact that the waste could be stored at either site for an indefinite number of years. My preferred site would be sites owned by NDA, as these already store the waste. *(Feedback Form ID: 530)*
- No. *(Feedback Form ID: 535)*
- NDA store – cut defence costs. *(Feedback Form ID: 536)*
- An NDA site seems sensible with the rest of UK plc ILW. *(Feedback Form ID: 538)*
- At the present time Items – 6.5.5 & 6.5.6, do not give enough detail. *(P. Lister)*
- I think that looking into interim storage of ILW at NDA sites is a good option, because it would be making use of their existing experience and expertise, while being more cost effective. *(Feedback Form ID: 542)*
- Again the consideration of the options have been studied and the most suitable and cost effective should be the one that is decided upon. *(Feedback Form ID: 543)*

- Both sites are industrial areas and construction of ILW storage at either removes the need to transport RC. (*Feedback Form ID: 544*)
- Why not store them on nuclear generator sites? (*J. Cook*)

January Responses:

- In chapter 6 there are many options put forward with little detail of where and as yet none have been selected. For example "The NDA is in the process of exploring ...". So it is not possible to put forward an informed view. However, I am not in favour of storage in Plymouth. (*M Harris*)
- The radioactive waste should be stored away from centres of population. The reactor compartments can be floated around the country. In the US they are stored whole in the desert. (*C. Hunter*)
- This waste should be put in a Geological site as soon as it is removed, this should not be kept in a city. (*K Johnson*)
- ILW storage should not take place at Devonport or Rosyth. Storage at an NDA site is by far the best option for both efficiency and cost. Failing that a MOD or industry site would have to be used. (*B Pym*)
- The transportation and storage of ILW is dependant on many factors not least the possibility that existing ILW sites would be unwilling to accept MOD nuclear waste for storage. This would almost certainly be resolved by storage of the waste at the dismantling site until the GDF becomes available as is happening at the present defueling nuclear generating sites. The fact the USA and Russia have chosen not to reduce the ILW to its lowest form before consigning it to a waste depository site suggests the MOD would be undertaking an untried different approach to waste storage, with unknown risks and possible capital costs. Also there is always the possibility that in future a more safe cost effective method of dealing with ILW will be found which may not require the reduction of the waste into small components. All significant options apart from new build were considered. (*Feedback Form ID: 683*)
- Again it would seem logical to store the radioactive waste at the site where it was removed rather than transport it again before a final storage location is available. (*Feedback Form ID: 684*)
- Nil. (*Feedback Form ID: 686*)
- Storage should be at dismantling Site. (*Feedback Form ID: 687*)
- ILW should be stored at NDA owned sites remote to the point of waste generation. (*Feedback Form ID: 688*)
- If it was possible to have the storage facility for the ILW away from Rosyth, I would be much happier, so our community could move on. (*Feedback Form ID: 689*)
- Again, using populated areas is dangerous and ill considered. (*C. Martin*)
- Any existing licensed storage facilities civil or MOD as long as its not in Plymouth. (*G Cooke*)
- Storage of ILW at Devonport or Rosyth is unacceptable. This is not something that should be imposed on local populations. Plymouth has already paid too high a price for having a naval dockyard, e.g. heavy bombing of Plymouth in WW2, lack of diversity in industry, poor tourism industry. Neither Devonport, nor Rosyth should become nuclear dustbins. Storage should be remote from populated areas. (*L. Miller*)

- See question 15. (*C Ward*)
- The other option is a very remote place, for example a small island near the Antarctic, well away from the majority of the human population of the world and their food. (*Feedback Form ID: 695*)
- In chapter 6 there are many options put forward with little detail of where and as yet none have been selected. For example " The NDA is in the process of exploring ...". So it is not possible to put forward an informed view. However, I am not in favour of storage in Plymouth. (*R Plagerson*)
- Storage of ILW at either side is not acceptable. This should not be imposed on local people. Plymouth has already paid a huge price for having the dockyard-we were bombed in WWII, there is a really inadequate tourist industry and have a lack of diversity in other industries. Neither place should be a nuclear dustbin, storage should be in unpopulated areas. (*Feedback Form ID: 698*)
- Sharing with the NDA. (*Feedback Form ID: 704*)

February Responses:

- All nuclear waste should be stored well away from centres of population. There are significant health risks from low level nuclear waste, not only ILW. (*G Davies*)
- As indicated in my response to Q2 I believe that interim storage of the intact RPV's is the strongest technical and strategic option. By my calculation (using the size data supplied in the consultation document) I believe that a total waste storage volume of <1500 cubic metres would be adequate for all of the RPV's from 27 dismantled boats. Even assuming that this is a shielded facility it would be relatively small in comparison to the size of other structures in a naval dockyard. My personal preference would be for the boats to be dismantled at the two sites with all of the RPV's transferred to one site (preferably in Devonport for the reasons outlined in the response to Q3). I have grave concerns about the realities of co-storing the waste on NDA sites. Having been involved in numerous ILW projects on numerous UK sites I think the risks associated with this strategy should not be underestimated, particularly since the non-availability of a geological disposal facility provides the opportunity for waste producers to continually reinvent strategy (events over the last 10-12 years bear this out), meaning that any reliance on a 3rd party store would involve a very high degree of uncertainty. Issues of liability management could also be very complex, particularly if, as I believe, the RPV's would be better stored intact for a deferred period to benefit from radioactive decay prior to size reduction, packaging and conditioning. Whilst your paper makes reference to the availability of possible storage at commercial sites it is not immediately apparent that there are any realistic options available to support this assertion. I would welcome a broader explanation of this consideration. As a final note on the point of storage I believe the NIMBY's may also be very vocal about the prospect of defence wastes being stored in their localities. There have already been significant objections in many areas to the idea of storing waste from other sites, even if the wastes are analogous to those already at the site in question. (*V Cane*)
- The options given seem sensible. Whichever is chosen there will have to be some intermediate level waste stored at the point of generation even if it is just for a short time awaiting transport. (*R. Ellington*)

- The discussion about siting intermediate radioactive waste is excellent but surreal. To have such an open and forthright discussion about this matter whilst at the same time continuing the unlicensed but authorised interim storage of high level radioactive waste in the form of fuelled end of life submarines in the centre of a city with no consultation is bizarre. It is my belief that no other nation would permit such a high level risk to be taken. It is I think unprecedented elsewhere. The fact that it is shrouded in disingenuous terminology such as 'laid up' does nothing to change the scale of the hazard and very real risk. I consider that it is prudent that all storage of radioactive waste should be undertaken remote from centres of population. *(C Trier)*
- It would seem illogical in my view to build a facility to cut up the RPV 'on-site' as that then leaves a facility to be decommissioned with extra costs and risks of contamination. Transport the whole RPV away after encasement whole to a MoD NDA ILW facility. Albeit that may need short-term storage and encasement facility at Rosyth - with appropriate security - it would not be as complex or difficult to de-commission as a sizing down facility. *(Feedback Form ID: 724)*
- As far & away as possible from residential and working communities & problems to areas, Colleges, Universities and hospitals. *(C. McCarthy)*
- The radioactive waste should be stored away from the populated areas. *(Feedback Form ID: 685)*
- Radioactive materials could be removed at other locations with suitable facilities, which could include: a shiplift; or dry dock; or onshore hard standing. There will be regulatory and planning consent issues in all options, but it would be possible to obtain a new nuclear site licence if necessary. Studsvik did this in Cumbria. Theoretically the radioactive materials could be removed with the submarine on a barge or floating dock (floating docks have been used for submarine dismantling in Russia). This would open up many possibilities for location. While there may be cost and security issues, international solutions could also be of interest. The consultation options therefore seem artificially constrained - where is the down-selection? *(P Davis)*
- Storing the ILW at the point of generation, or rather in this case at the point of removal from the boat is the best option. Again it minimises transportation of waste, until a final destination is known. Also my preference is that MOD should keep full control of this material, not trust it to commercial operators. *(Feedback Form ID: 735)*
- Plymouth cannot be seriously considered as a site for the interim or final storage of any level of nuclear waste - it is England's tenth largest City with 3 primary schools within 400 metres of the proposed radioactive waste storage "dump". This is a global problem and has to be considered in terms of a global solution. The international argument that each country should manage it's own nuclear waste is a hypocritical contradiction interims and should be over-ridden - nuclear waste is produced in UK by nuclear weapons owned by the United States, and nuclear power plants owned by French companies. It is international waste requiring international solutions. There are significantly contaminated areas in various countries, which should be part of the consideration in this consultation. Effectively, Plymouth is being "set-up" to store nuclear radioactive waste as a fait-a-compli. *(T. Staunton)*

- It is difficult to understand why it has to be stored for so long without a more permanent solution being found. *(Feedback Form ID: 742)*
- Storage at point of waste generation – Devonport Naval Base. *(Feedback Form ID: 744)*
- Yes options left out, geologically stable ground and areas of distribution. *(Sandey)*
- Yes, Colpoth, Cumbria, Trafigura, Africa, and Bhopal India, already toxic carcinogenic areas guarded by NDA. Send to North Scotland! *(R. Rees)*
- Yes, See Q2 above. *(Feedback Form ID: 747)*
- Sites already used for nuclear sub building / maintenance & MOD sites will have necessary infrastructure and security provisions in place. *(V. Nesbitt)*
- As above. *(Feedback Form ID: 751)*
- Again, must be away from population. Storing waste in Plymouth will blight the city for generations. *(Feedback Form ID: 755)*
- See Q3 above. *(R Spettigue)*
- I feel the design of how to safely store nuclear waste has never been fully developed and we are dealing with second best options. *(L. Crawford)*
- Economic impact on Plymouth not factored in – negative effect of ‘dump’ reputation. *(E. Knight)*
- Must be remote to protect urban population. Other than sites stated why have other areas not been investigated and considered? There doesn’t appear to be a safe long term option. *(Feedback Form ID: 759)*
- The site should be miles away from a densely populated city with risks for hundreds and thousands of years to come. Place site on a remote island or coastline and move ‘well-equipped docks’ there. The lives and health of 250,000 and people are paramount. *(C Giarchi)*
- As mentioned above, the Proximity Principle would argue for what the consultation document calls the “dual site” option. This means that no further dismantling would take place at Rosyth once the seven submarines currently stored afloat there have been dismantled. It is assumed that the ten submarines which remain in service would be dismantled at Devonport, which is the port where they are currently re-fuelled. The hazards associated with transporting submarines which have been stored afloat for a number of years are not examined in the consultation document, although it does say that this “*would involve additional safety measures and regulation*” Transferring the submarines currently stored afloat at Rosyth to Devonport or vice versa fails to meet the Proximity Principle. NFLA would certainly agree that transporting decommissioned submarines should be ruled out. *(Nuclear Free Local Authorities)*
- ‘Type of site’ should be remote from dense areas of population. It is interesting that the 4 options in 6.5.4. involving “storage”, consider things such as, ownership and points “remote from the point of waste generation.”. Not one appears to even consider any option because it is “remote” from large populations of human beings. Why not? *(Feedback Form ID: 763)*
- It is an unknown so no-one must make any direct claims. NDA site seemed best option. *(Feedback Form ID: 764)*
- On the whole we support the proposal to remove the Reactor Pressure Vessel (RPV) in due course and to store it whole until a disposal route is available; the

less human intervention with the reactor the better until absolutely necessary. We are not however convinced by the arguments that the only suitable sites are Devonport and Rosyth. The most appropriate solution would be if the manufacturer of the submarine were to extract and store the RPV. At this stage we have no way of telling where the eventual disposal facility will be; only that it is likely to be in some remote part of the UK with suitable geology, accessible by sea and rail. If a new port was to be built near eg Barrow in Furness, it would be near the existing storage site for High Level Waste (HLW) at Sellafield, near the Low Level Waste (LLW) disposal facility at Drigg and close to the most likely deep geological disposal site for Intermediate Level Waste (ILW). In addition the far more dangerous defueling of the nuclear submarines could take place in an isolated rural area and not in the centre of one of the largest cities in England. Given the amount of money the dismantling, storage & disposal is likely to cost, it is unlikely that the building of a new port would be too expensive. The lack of an existing nuclear operations licence is not insuperable.

The Government needs to speed up negotiations with the NDA about a suitable joint site for ILW storage & disposal or decide to go it alone. Leaving it for another few years while the NDA consults on their options is just procrastination. The likely result is that because the Government has left it too late, we will be left with the "cheapest option": the need to dismantle the submarines and store the RPVs indefinitely in the centre of Plymouth. (*P Towey*)

- We would support storage remote from Devonport, preferably using established secure transport systems via the internal railhead at Devonport Dockyard as used currently for the transport of radioactive material off site associated with the submarine refitting processes. RPV removal with interim storage at a remote NDA facility or MOD site is our preferred option. Our preference is to make best use of existing sites and not require new buildings that would be subject to further planning, licensing processes and environmental impacts. (*B O'Neill*)
- We do not believe significant options in terms of type of site for storing the intermediate level waste from submarine dismantling have been left out. Our main concern is that the project is not more advanced in determining which individual sites in the different categories are considered suitable or unsuitable, going through a process of information gathering, assessment and down-selection. In our view, this is a key consideration on which of the dismantling end states are viable. For example, can the candidate initial dismantling sites also store the arising intermediate level waste in the 3 potential forms (RC, RPV, packaged waste)? If they cannot, then is there a coastal MOD site that could accept this waste for storage? If there isn't, is there a coastal non-MOD site that could accept this waste for storage? We believe this is particularly relevant to the RC cut out and store options. It is assumed (eg in the investment appraisal) that this is viable, but we understand in practice the site owner, supported by the local planning authorities, is not prepared to accommodate a RC interim waste store. If none of these can be established for each considered option, then this would significantly impact the viability of the associated dismantling option. (*Nuclear Institute*)
- An NDA site, away from population centres, is arguably the safest option, also offering the best use of resources and expertise. (*S Tame*)

- I am opposed to the option of storing at the point of waste generation in Devonport. Living approximately 3-4 miles south-west of this site I would be nervous of leakage or accidents occurring. (*P Shingler*)
- Storage at the point of generation is not a suitable option. The options for dismantling site are both close to the sea, close to centres of population, and have not been selected based on suitability for storage of ILW. (*Feedback Form ID: 776*)
- Waste should not be stored next to large bodies of water. (*S Douglas*)
- As Cumbria is the only area known to take a positive attitude to being used for waste storage it is appropriate that, if removed from submarines, it should be taken there. The Clyde is closer than Plymouth. (*T Milburn*)
- We agree that it has not been appropriate to conduct a screening exercise at this stage to identify specific candidate storage sites, and that the focus should be on types of site. We do not consider that any significant options for types of site have been left out. With regard to the potential use of NDA storage facilities, it is important to note that NDA is still some way from establishing a clear and agreed way forward on storage consolidation, particularly for making its facilities available for use by operators outside the NDA estate. It will be particularly important that the further process of assessment of whether it would be more beneficial to use NDA storage facilities or to develop a new facility at other sites is robust and open to stakeholder comment (see also the responses to Q5 and Q9). (*NuLeAF comments*)
- We recognise that transport of radioactive material is well regulated and safe, so that there should be no significant risk associated with transporting intermediate level waste from the point of generation to its storage site. However, we emphasise the importance of taking all the necessary steps to optimise the exposures of workers and members of the public during the transport of intermediate level waste to its storage facility. (*Feedback Form ID: 783*)
- MOD waste should be stored on MOD site(s). People living near civil NPP sites have not been properly consulted and are unlikely to accept MOD waste. Despite the need for dredging the River Tamar, moving the RCs to coastal storage sites is the best option. (*D Hoadley*)
- The information underpinning this section is inadequate therefore it is impossible to give a complete answer. Full disclosure of the proposed storage measures of ILW should be shared with local communities as without this information they are only being given a proportion of the analysis and their responses only relate to the dismantling process and not the storage.
A more open and transparent process such as the MRWS voluntarism process could be applied, a process supported by Government and one which is open, transparent, understandable of community impacts both negative and positive and not imposed upon the community.
The proposed way forward is to continue working closely with the NDA and wider government to assess whether it would be more cost effective and beneficial to use NDA storage facilities or to develop a new one for SDP.
However, this document does not give any clarification of the multi-criteria decision analysis that will be used to assess the effectiveness of the different options. Without this evidence it is impossible to give an educated response on

the viability of the 2 different options. CBC would stress that a consultation on whether it would be more beneficial to use NDA storage facilities or to develop a new facility at other sites, should be carried out once all the information becomes available.

The discussions between MoD and NDA need to be open and transparent in order to instil faith in the process, it is also unclear as to who and when the consultation on the storage of ILW will be carried out.

In section 8.7.6 it states that "Our assessment of the storage site options found that there was little separation between the options to store ILW either at the point of generation or remotely." This is in direct contrast with the non-proliferation of waste policy which advocates managing waste at the site at which it arises and is a policy that Copeland Borough Council would advocate.

Furthermore the economic and environmental implications of transporting the waste needs to be considered. This is only seen as a means for concern in the case of RC separation where the cost and risks of transporting RCs to a remote site would make this option uneconomical.

The SDP document seems to have a presumption in favour of NDA storage facilities. It is felt that full consideration of the potential impacts of transporting the waste and the legacy and implications on the host community must be assessed before this option can be taken forward.

The final destination for the ILW is the GDF facility, the storage facility is seen as an interim measure, however the availability of the GDF is a long way off. Further consideration should also be given to the possible event of a GDF facility not becoming available, what would happen to the waste if this position arises? (*D. Gallen*)

- The options are clear but too limited. Geographical burden sharing of interim waste storage should be considered, along with the use of more than one site. (*D McDonald*)
- No significant options have been left out. I believe a Nuclear Licensed Site familiar with managing ILW would be most appropriate. (*Feedback Form ID: 791*)
- The factor of safety was not really mentioned - not just physical security, but the overall control that successive governments can extend over organisations that are or are likely to fall, under foreign ownership. If it is a question of defence policy that nuclear materials should be removed and stored in the UK, then should not the ownership of storage sites be similarly within direct British control? This would seem to obviate commercial site operations under non-UK ownership. (*M Galley*)
- Option of choice would be storage of ILW at remote NDA Site(s). The material must be dealt with by a recognised, experienced and responsible authority. (*M O'Hara*)
- At this stage in the submarine dismantling project it is too early to identify specific waste storage sites. We agree that the focus should be on types of site and support the view that the choice of site should be made through a future Nuclear Decommissioning Authority consultation on a national programme for interim storage of intermediate level radioactive waste. (*Nuclear Information Service*)
- It would seem illogical in my view to build a facility to cut up the RPV 'on-site' as that then leaves a facility to be decommissioned with extra costs and risks of contamination. Transport the whole RPV away after encasement whole to a

MoD NDA ILW facility. Albeit that may need short-term storage and encasement facility at Rosyth - with appropriate security - it would not be as complex or difficult to de-commission as a sizing down facility.. *(R Creagh)*

- *Option of choice would be storage of ILW at remote NDA Site(s).* *(S O'Hara)*
- As it is MOD Waste and up till now MOD have never disclosed how much waste they possess as defining nuclear material as waste requires it to be classified as a liability and not an asset. It is obvious that the storage should be provided at MOD Site /s in near proximity to the dismantling, the fact that the MOD has not previously addressed the cost implications is obvious. *(West Kilbride Community Council)*
- The consultation document fails to give any real indication of the geographical location at which ILW may be stored other than for the category 'storage at the point of generation' (Rosyth or Devenport). In all other cases the categories do not really indicate the precise location in which the operations might take place. The Dounreay Nuclear Establishment in Caithness currently has ILW (and LLW) facilities. It is possible that the MOD may already have arrangements in place to dispose of material arising from decommissioning HMS Vulcan. The Council would be concerned if ILW or LLW arising from the SDP were to be moved from Rosyth or Devonport to Vulcan and then onto Dounreay. It is the policy of the Highland Council to object to any suggestion of the use of Dounreay or any other site within Highland for a national nuclear waste repository. Introduction of waste from outwith Highland will not be supported. *(The Highland Council)*
- See above. *(Feedback Form ID: 798)*
- SCCORS notes the categorisation of types of site put forward by MOD as options for where ILW may be stored. The categorisation of sites by type according to the categories applied may well be one factor in considering where such waste may be stored but in the opinion of SCCORS it fails to give any real indication of the geographical location at which it may be stored other than for the category 'storage at the point of generation' (Rosyth or Devenport). In all other cases the categories do not really indicate the precise location in which the operations might take place. *(SCCORS)*
- See Q3. *(Feedback Form ID: 799)*
- Permanent storage must be agreed before dismantling is started. A longer period of storage before demolition is desirable and this would allow time for agreement on the long-term solution to be reached. *(G Wheeler)*
- As above. *(Feedback Form ID: 800)*
- If RC is the option chosen then so long as it is not close to a population, is safe from outside intervention and does not visually impact on an area of beauty, it should be acceptable as one would not envisage any problem with radiation easily getting into the environment. If option 2 is chosen there would be less likelihood of an area wanting to store these as they would require more shielding and as they are more transportable the area might rightly or wrongly decide that they would get all the RPVs. If Option 3 is chosen you are limited to where you can find an ILW store. In general, as the waste is so long-lived, nobody wants to be the place that takes everybody's waste. not even West Cumbria. Although the ILW stores are called interim it will only be interim if the GDF ever gets built. *(R Holmes)*
- Waste storage & fire are not good bedfellows. Has the domino effect between

incinerator and licensed site been assessed. *(Feedback Form ID: 802)*

- Again has too much impact on the environment, and should be away from the sea and where people live in great numbers. *(Feedback Form ID: 803)*
- We note that it is has not been considered appropriate to conduct a screening exercise at this stage to identify specific candidate storage sites, and that the focus has been on the types of site. We do not consider that any significant options for types of site have been left out however the Council believes that the interim storage solution is an integral part of the project. Consequently the Council believes that this consultation should have included consideration of preferred candidate sites for interim storage. The Council does not wish to see interim storage of ILW at Devon port Dockyard or Devonport Naval base. The Council believes that the site constraints would prevent intermediate storage of RC and this is likely to constrain the interim storage of RPV. "e would support transport of the RPV to sites remote from Plymouth, preferably using established secure transport systems via the internal rail head at Devonport Dockyard as used currently for transport of radioactive material off site associated with the submarine refitting processes. It is important that the MOD recognises the strategic importance that improved rail connectivity has to the success of the Submarine Dismantling Project and to submarine maintenance work. The maintenance of high quality rail links with the rest of the network is a high priority for the Council. The Council would seek assurance that the rail links will remain a strategic national asset for at least the life of the project. RPV removal with interim storage at an NDA facility or existing store at an MOD site is our preferred option. Our preference is to make best use of existing sites and not require new build subject to further planning, licensing processes and consideration of environmental impacts. It is important to resolve that use of NDA facilities is a credible and agreed way forward on storage consolidation as soon as practicable. *(Plymouth City Council)*
- No realistic option has been proposed. This makes a mockery of the consultation. An urban setting is not a suitable environment for intermediate waste. *(Feedback Form ID: 806)*
- MOD waste should be stored on MOD site(s). People living near civil NPP sites have not been properly consulted and are unlikely to accept MOD waste. Despite the need for dredging the River Tamar, moving the RCs to coastal storage sites is the best option. Since the Reactor Compartments are nuclear waste they should nevertheless be under civilian regulation – ie the ONR and not the DNSR. *(K Tabernacle)*
- Until there is a long term storage facility, this would have to take place away for large population areas. *(Feedback Form ID: 808)*
- We acknowledge the generic principles that MoD has identified in relation to the storage of ILW. ILW resulting from SDP will need to be stored on a nuclear licenced site whilst awaiting disposal at a GDF. Whilst we do not regulate the storage of ILW on nuclear licenced sites we do work very closely with the Office

of Nuclear Regulation (which has this regulatory responsibility) in assessing the environmental impact of storage and final disposability of such wastes. Our views on options for sites to store ILW until a GDF is available are similar to those for selecting a site for initial dismantling. We agree that there are considerable benefits from managing MoD ILW along with other ILW in a combined facility or facilities where suitably qualified staff and management arrangements are available, rather than constructing and operating a new facility. We do not believe that any significant options have been left out of the SEA. Environmental impacts from co-management of ILW would therefore be lower than from constructing and managing a bespoke ILW store until a GDF is available. (*The Environment Agency*)

- The Committee agrees with MoD that regulatory and planning permission must be obtained for storing the ILW in an existing or new store before the waste can be removed from the boats. In the view of the Committee, obtaining planning permission to store the ILW in an existing store or a new one is the most difficult challenge that the SDP has to meet. The history of the UK contains many examples of where obtaining this permission has failed. These include the HLW repository at Billingham, the 'four site saga' for the disposal of short-lived ILW and LLW in near-surface facilities, the Nirex Inquiry in the 1990s and the failure of NDA to date to consolidate the storage of any civil ILW. In the Committee's view, the political difficulties associated with storing MOD ILW in an NDA store mean that this will not be possible within the foreseeable future. Although it has been trying for about a decade, the NDA has failed to obtain stakeholder acceptance to transferring 18m³ of ILW from Chapelcross to the ILW store at Hunterston. The aversion to accepting MOD waste is greater than the acceptance of civil waste from another site. With regard to Sellafield, if the GDF siting process in West Cumbria reaches Stage 4 (the identification of potential sites), this will be a very difficult political process and adding another political challenge would threaten the GDF programme. In the Committee's view, the way that the MCDA was performed repeated the mistake made by Nirex in the 1990s. Not involving local non-MOD stakeholders in Plymouth and Rosyth in the MCDA was a missed opportunity to involve them in the decision-making process and MOD must be encouraged to initiate this involvement as soon as possible. (*DNSC comment*)
- We fully respect the views of the Rosyth and wider Fife communities following the expression of their opinions through the recent Local Opinion Survey organised by Fife Council and we believe that the approach outlined in our response genuinely embraces and reflects these views. Waste of this type should ideally be managed on-site where it is produced, in a facility that allows monitoring and retrieval of the wastes, unless there are specific local conditions, which affect the ability of the community living close by to accommodate the waste. There is a clear message from our Local Opinion Survey responses that Rosyth has already played a sufficient and significant part in helping to deal with this storage issue over the years and responsibility for the nuclear waste element now lies elsewhere. The close proximity of the Rosyth site to residential areas, educational facilities and commercial land make the site unsuitable as a licensed nuclear facility.

This consultation has highlighted the need for every part of the Rosyth Dockyard's nuclear facilities to be de-licenced and decommissioned at the earliest opportunity. Fife Council is willing to work with partners in the form of the Scottish Government, SEPA, [name removed]*, MoD, and other regulatory bodies to help create this situation.

In light of local opinion and the unsuitability of the Rosyth site as a waste store, we would suggest that until the MoD has a clear authorised route for the management of the nuclear waste the reactor compartments remain intact and are stored on land at a NDA site remote from Fife. *(Fife Council)*

5. What are your views about the methods used to compare dismantling and storage options, in particular the factors considered to assess their Suitability / effectiveness / performance?

November Responses:

- Detailed enough to satisfy me. (*Feedback Form ID: 71*)
- Plymouth is not a dustbin. (*Feedback Form ID: 217*)
- I am not happy with the options - no expense should be spared in order to sort out this problem. If nuclear facilities are built then the utmost care needs to be given to dealing with the hazardous waste that results. The fact that the MOD are even considering cutting up these reactors near a City shows that profit is being given priority over the welfare of local people. (*Feedback Form ID: 218*)
- They seem reasonable. (*Feedback Form ID: 219*)
- COA/COE/COEIA + BC intentions read and understood, together with sensitivity analysis a tried and tested method in which case is well/comprehensively made - a bold and impressive decision to publish it all. (*A. Jones*)
- I feel the longer term look, for the V Class and onwards needs to be better assessed. Although a high initial cost would be required to transport the current subs, longer term I believe Rosyth would be a cheaper option. (*A. Wedge*)
- Favourable. (*Feedback Form ID: 225*)
- They appear to have been rationally considered. (*R. Harper*)
- As above. (*Feedback Form ID: 290*)
- At first reading, the attribution process appears to be very wide ranging and thorough, however – when one considers that the consultants who facilitated the process [name removed]* is a subsidiary of [name removed]* it casts considerable doubt over the whole process. Not least there appears to be an industry led push in favour of the most costly and controversial method of 'Cutting-up', when 'Cutting-out' or RPV Storage would be much more cost effective and much safer for both the workforce and public. Storage options: suitable storage for ILW has not been decided, because it became a decision 'in waiting' – based upon NDA policy decisions. ILW storage at source would be worst case scenario for Devonport and seen to be rubbing salt into the wound. Devonport would be contributing enough by hosting the dismantling process. (*I. Avent*)
- Transport it to Rosyth for it to become a 'centre of excellence'. (*Feedback Form ID: 350*)
- I do not know enough about these issues to make any significant comment. (*A. Osborne*)
- At a high level they are adequate.

December Responses:

- These appear to be well considered. (*Feedback Form ID: 375*)
- There seems to be a lack of flexibility in the options approach, (but I have not had the time to read the OASP.) This is a multi platform, multi year programme and constraining the delivery route for the programme at the start adds significant risk

of process inflexibility and inability to respond effectively to emerging risks and opportunities. (Again I have not had time to read the OASP so this answer may be wide of the mark.) (*Feedback Form ID: 376*)

- Seems robust – but have MOD actually listened to industry when costing? How many times do we hear of taxpayers money being wasted due to cost overruns. (*Feedback Form ID: 399*)
- Safety, security, long term (100 years plan) and then cost. (*N. Fyfe*)
- Will cost trump safety? (*Feedback Form ID: 477*)
- RC Separation – RPV removal and Packaged waste – all proposed and seem suitable and workable. (*A. Walker*)
- There's no weighting given to the different considerations. Its obvious you'll go for the cheapest not necessarily the best for the 250,000 citizens of Plymouth so we only get a partial picture not a realistic one. (*I. Hunter*)
- Methodology is satisfactory. (*I. Currie*)
- My thoughts packaged waste then sell remaining to authorised breaker for correct disposal. (*S. McQueen*)
- Safety of personnel and environment is 1st priority, minimise exposure of ILW to both. (*M. Rich*)
- This seems to have been gone into very thoroughly. (*R. Furse*)
- A very objective assessment I believe. However I believe safety and security should override cost. (*A. Williams*)
- A comprehensive analysis. (*Feedback Form ID: 509*)
- The 6.2.1 decision seems to cover it all. (*Feedback Form ID: 535*)
- Fine, get on with it soonest. (*Feedback Form ID: 536*)
- Logical and well thought out. (*Feedback Form ID: 538*)
- The descriptions and diagrams are very clear and concise. (*P. Lister*)
- It seems to me thorough consideration has been given to all factors. (*Feedback Form ID: 543*)
- I would have preferred to see actual costs in £'s discussed openly. (*Feedback Form ID: 544*)
- Ok. (*J. Cook*)

January Responses:

- Cost should not be the main criterion, but safety and in environmental factors should be paramount. I am in favour of 'Do Minimum' even though this "is not being considered as a credible option...". (*M Harris*)
- The consultants [name removed]* are a subsidiary of [name removed]* who stand to make a great deal of money if they get a contract to cut up the reactors. This relationship can't be ethical. (*C. Hunter*)
- RPV removal done away from population centres. Cost should not be a factor. (*K Johnson*)
- The methods used are satisfactory. (Q5 was unclear). (*B Pym*)
- I believe that the least work undertaken in respect of the dismantling of the submarines RC's would be best for the environment and the dose levels received by those required to undertake the work. My view on dismantling and storage are outlined above. No disagreement on the methods used to compare the various options for dismantling and storage or the factors used to

- assess their suitability. (*Feedback Form ID: 683*)
- The methods used to compare dismantling and storage options appear to be comprehensive and capture the potential processes involved during dismantling. (*Feedback Form ID: 684*)
- Nil. (*Feedback Form ID: 686*)
- Option 2 should be used. (*Feedback Form ID: 687*)
- Reasonable - Well considered. (*Feedback Form ID: 688*)
- I agree to less cutting up of the ILW material & can agree it would cost too much to move these subs, also it would take too long a time scale till they could be dismantled some where else. (*Feedback Form ID: 689*)
- Profit for the contractor seems to be the main consideration not health and safety of people. (*C. Martin*)
- Every aspect seems to have been considered. (*G Cooke*)
- Again cost is the main criteria and this is wrong! You talk about integrated options as if the decisions have already been taken. Have they??? The main criteria should be the views and wishes of the people in the areas very likely to be affected. (*L. Miller*)
- Not my problem. (*Feedback Form ID: 695*)
- It is wrong to make decisions based on cost-this issue is too important. I wonder if the decisions have already been taken! You need to ask the views of everyone in Plymouth and Rosyth as we are the ones who will be affected. These opinions should be considered primarily. (*Feedback Form ID: 698*)
- Cost should not be the main criterion, but safety and in environmental factors should be paramount. I am in favour of 'Do Minimum' even though this" is not being considered as a credible option...". (*R Plagerson*)

February Responses:

- You stress cost in 6.8.3. I suggest the cost of a nuclear accident in the middle of a city could also be significant. More important are the potential health risks of the whole enterprise as it is currently being proposed. None of this fits with "Health and Safety," does it? (*G Davies*)
- I am very familiar (and comfortable) with the MCDA approach applied. However I believe it is essential that the consultation demonstrates that the options assessment panel was fully quorate and possessed all of the relevant technical skills and capability to assess the options fully and robustly. Having reviewed the Technical Options study report I cannot see clear evidence of the direct involvement of a radioactive waste management expert - as expressed earlier it should be recognised that all nuclear decommissioning work is in fact the first stage of radioactive waste management, and it is the eventual compliant discharge of this liability that is paramount. It also appears that insufficient data was available on radioactivity inventories and associated doserates - this data has a key bearing on the performance of the different options, particularly those that involve size reduction of the RPV and management of the subsequent wastes. (*V. Cane*)
- The factors and contributory factors seem to be very well thought out. (*R. Ellington*)

- There is no information in the Chapter about how long the temporary encasement security building or a similar but more complex sizing down facility would be in existence at Rosyth nor the complexities of de-commissioning either. But common sense would suggest that a facility with sizing down of the RPV would be more hazardous and take longer and be more expensive than dealing with the RPV whole. *(Feedback Form ID: 724)*
- Cutting and dismantling & storing should not be considered in Plymouth, or any city or town. *(C. McCarthy)*
- Dismantling submarines are not a joke. It's a very serious matter. *(Feedback Form ID: 685)*
- The methods look OK (involving a multi-attribute approach), but as noted in 'further comments' below, it is not clear that they are aligned to Environment Agency best practice. Of course it's the application of the methods that is important. It would be useful to see the down selection of credible options from a long-list. *(P Davis)*
- The assessment is comprehensive and the options well explained. *(Feedback Form ID: 735)*
- See also answer to Q4. The options are not sufficient, with my preferred option of the submarines being removed from Plymouth intact and stored in an already contaminated area away from centres of human population is not considered. My option is valid, thereby making this consultation invalid in my opinion. *(T. Staunton)*
- I do not consider that I have the background knowledge to comment on this matter. *(Feedback Form ID: 742)*
- Perfectly Satisfactory. *(Feedback Form ID: 744)*
- Unsafe & fool hardy to do this in a population area. *(Sandey)*
- Multi nationals appalling track record, [name removed]* & [name removed]* now [name removed]* have had inadequate disposal of leaks and waste. *(R. Rees)*
- They all miss point 1 above. *(Feedback Form ID: 747)*
- Recommend Hiview! MCDA – Good, systematic & robust process capable of providing auditable trail & justifications for decisions made. *(V. Nesbitt)*
- I do not agree with cutting up everything including the reactor as this is not safe for workers or environment. *(Feedback Form ID: 751)*
- Worried that cost is chosen above safety. *(Feedback Form ID: 755)*
- There is no guarantee that there could not be any mistakes or accidents - not in Plymouth please. *(R Spettigue)*.
- I am not conversant with the methods or ability to make comparisons as an ordinary member of the public. *(L. Crawford)*
- The safety record of proposed sites is a factor, e.g Devonport history of accidents. *(E. Knight)*
- There must be minimal risk of leakage. Therefore less tampering the better. Storage must be remote from large populated areas. *(Feedback Form ID: 759)*
- Dismantling and storage of nuclear submarines and radioactive waste should not take place in the heart of Plymouth; in the dockyard at Ernesettle or on the River Tamar. The factors to assess suitability, number 1 - proximity of large population. *(C Giarchi)*
- It is not clear from Figures 9 and 10 what weighting has been given to each of these factors. The Operational Analysis Supporting Paper gives these details. It

is clear that the process has prioritised cost effectiveness over meeting environmental objectives. For the Multi Criteria Decision Analysis a set of 20 criteria were used. These included:

*Worker doses during dismantling transport and storage.

*Potential for unplanned radiation release, including during transport.

*Minimising radiation discharges to the environment.

*Minimising radiation discharges to protect the public.

These criteria were given a combined weighting of 18.8%. Worker doses during dismantling, transport and storage are weighted at zero because this is dealt with as part of the investment appraisal to be consistent with the NDA's way of doing things. This would appear to particularly skew the results towards options involving cutting into the Reactor Compartments rather than leaving them intact. On the other hand 5 criteria which make up the "Reduction in Impact to Government and MOD" group are given a combined weighting of 25.2%. Two of the criteria in this category are Compliance with UK Policy and Strategy on Radioactive Waste Management (4.1%) and Compliance with UK Decommissioning Policy (5.3%). These two criteria in particular appear to skew the whole process making it impossible for options, such as those involving RC separation, which would do well in an analysis based on environmental principles, to score well. The Operational Analysis Supporting Paper makes clear there is little difference in the weighted scores ascribed to options for the Environmental and Health & Safety criteria. The Impact on Maritime Enterprise is the criterion which has the single greatest impact. The Group of criteria which has the greatest impact is the Operational Factors Group which includes the Impact on Maritime Enterprise. The Policy Group has the second greatest impact. One criteria – impact on Maritime Enterprise – meant that storing all 27 Reactor Compartments at Rosyth received a low score, because the footprint of the RC interim store would be comparatively very large (ca.11,600 m²) and locating such a store at Rosyth would have an adverse effect on the ability to decommission or re-develop Rosyth, which in turn could have a negative impact on the maritime enterprise. The Environmental and Health and Safety criteria appear to have scored low because all options are expected to be able to meet legal minimum requirements. In the NFLA view this is beside the point. The chosen management option should be required to use the Best Available Techniques and they should generate discharges and doses which are As Low As Reasonably Achievable. Nowhere in the Operational Analysis are RC Separation and RPV Removal Options compared from this standpoint. NFLA agree with comments made by NuLeaf that suggest the MOD should not have relied exclusively on expert groups to undertake the subjective and value laden task of criteria weighting, when there are a number of precedents in other nuclear related projects for involving stakeholders to generate different criteria weighting sets. (*Nuclear Free Local Authorities*)

- Not complete. Incomplete, some options not fully assessed and analysed as still under review (6.8.4.) etc. Also, economic efficiency seems to be the major consideration with not enough weight being given to public safety. OCFs (6.7.2.) need to be given higher priority, especially concerns about the likely health effects, long and short term, on a population the size of Plymouth. I enclose a copy of a letter from a recent Plymouth Herald. A small increase in the

incidence of any cancers results in a massive increase in human misery. Those making these decisions need to be aware of this pain and suffering behind the statistics. Who has the right to decide that an expected x% rise is an 'acceptable risk'? Would it still be 'acceptable' if it was being considered in the heart of London rather than the heart of Plymouth? Also, with any rise in cancers, there will be a corresponding rise in costs to the NHS, care services and the economy. It seems, even 'experts' are not in agreement about this; there are perhaps just too many unknowns! To summarise, the only location of choice for any of this work, including refuelling, dismantling and the type of storage site, is a site in a location remote as far as possible from human beings.. This is because of 'safety'. Peter Luff MP states that "It is imperative that this solution is safe..."(Foreword SDP Consultation Document, 28.10.2011.) (*Feedback Form ID: 763*)

- It seemed a bit waffley to me. I don't understand why economics is a factor. If we use nuclear submarines we need to be responsible for them. (*Feedback Form ID: 764*)
- We do not consider that the assessment adequately takes account of the effect the use of Devonport for dismantling & long term storage is likely to have on the public perception of Plymouth as a desirable place to live and work, and as a centre for tourism. Whatever the technical arguments that the operations will be safe and secure, the general public and the media will refer to and treat Plymouth as a "nuclear waste dump". This will affect existing businesses in and around Plymouth and probably stop new businesses relocating here and tourists. No other country in the Western World with nuclear submarines uses the centre of a large city for this purpose. This seems to be a cheap option for the Government; especially as one of the main arguments is cost. It is also relevant that access by road, rail & air to Plymouth from other parts of the UK is very restricted – especially now that the airport has closed. In an emergency, how are the experts from outside Plymouth going to get here quickly? (*P Towey*)
- We are satisfied that the methods used to compare the options are appropriate and adequate. However, as the options analysis used by the MOD did not include stakeholders, detailed consideration of the consultation responses will be essential. (*B O'Neill*)
- The methods used to compare dismantling and storage options are appropriate, once option feasibility has been established (or not). We note that the interdependence between different project phases/tasks is covered by the consideration of integrated options, but this consideration is limited by the limited consideration of ILW storage options (to the extent of confirming a minimum availability of storage). The key factors that we believe are missing are programme factors. There are no considerations of option discrimination on programme. This is not adequately captured by considerations of lifecycle cost, and should be considered separately.

There are two programme-related project objectives:

To complete dismantling of the 27 submarines and be storing the arising ILW by 2050

To execute the project without exceeding the current submarine storage capacity.

From the consultation documents, the second objective appears to be the key programme-related objective, as the documents state that current berthing capacity at Devonport will be reached in 2020. (*Nuclear Institute*)

- It seems that the comparison methods are unduly weighted towards complex work being undertaken by [name removed]*, for example; in the suggestion that storage of processed waste is time limited, where as storage of submarines is indefinite. This raises a concern that commercial concerns, rather than matters of public interest are driving the decision making process. (*S Tame*)
- Leaving the reactors in the submarines is not an option, removal and storage away from Devonport is vital. However given the Finns have been building a deep storage facility for years its time to get on with the decision where the waste will be stored safely "into eternity". (*P Shingler*)
- No comments. (*Feedback Form ID: 776*)
- No Comments. (*S Douglas*)
- No Comment. (*T Milburn*)
- It is particularly important that the methods used to compare dismantling and storage options are robust and inspire stakeholder confidence. We have a number of comments in this regard:
- Use of Multi-Criteria Decision Analysis to assess the 'effectiveness of options' - We accept that MCDA is a well established method for ensuring a structured approach to options assessment and informing decision-making. However, there are challenges in demonstrating that a robust assessment has been undertaken, and in explaining the results and the way these are used in decision-making. Ultimately, this is important because confidence in project proposals can be linked to confidence that these challenges have been adequately addressed. Although recognising the considerable effort MOD has made, we would like further assurances in this regard.

First, it is not clear why a 'swing weighting' approach was not used for criteria weighting (SDPAG Observer Comments, p32). A 'swing weighting' approach seeks to ensure that criteria weightings take appropriate account of the plausible range of differences in option performance against each criterion. If this is not done, weightings could have been inappropriately based on more abstract notions of the importance of each criterion.

Second, it is not clear why MOD relied exclusively on expert groups to undertake the subjective and value laden task of criteria weighting, when there are a number of precedents in other nuclear related projects for involving stakeholders to generate different criteria weighting sets. The advantages of directly generating stakeholder weightings are that these can then be used in sensitivity testing within the MCDA, and the impacts on findings can be presented and discussed. In this case, for example, we note that the category of criteria, 'reduction of impact to operations', has been given a high weighting and that an extreme sensitivity test based on its removal from the MCDA "completely changes the pattern of results" from the MCDA. In such circumstances, it would have been useful to have been able to use stakeholder generated weightings to explore and present the impacts of plausible variations in weightings (particularly relating to the criteria group 'reduction of impacts to operations').

Third, it is not always possible to see and understand the basis for the scores that have been given against key criteria. In particular, with regard to criterion 3 policy

(transport), it is unclear why the expert scoring workshop agreed that 2 sets of transportations should merit a score of 5 while 3 sets of transportations should merit a 6 (Operational Effectiveness paper, pD-7) . This closeness of scores (effectively across all options) has the effect of minimising the discriminatory impact of the transport criterion in the MCDA. This is potentially significant as it raises a question over the robustness of the conclusion that options involving ILW storage at the point of generation show no net advantage. The 'Operational Analysis Supporting Document' (para 9.2.1) states that this conclusion arises because transport impacts (for storage at remote sites) were balanced by operational impacts (for storage at the point of waste generation). For reassurance that this conclusion is robust, it would be helpful to be able to see the results of sensitivity tests, based on realistic potential variations in the scores and weights attributed to the transport criterion and in the weights attached to operational impacts. Without seeing the results of specific sensitivity testing of this nature, we are left wondering whether options involving storage at the point of generation could show a net advantage on the basis of plausible variations in transport scores and weights and operational weightings.

Fourth, MOD's approach to health and safety and environmental factors in the MCDA is not the only approach that could be taken. Specifically, MOD argues that these factors did not discriminate significantly between the effectiveness of the options because, in its assessment, all options could be designed to achieve the legally required standards. There is an important and high profile case where a similar approach was strongly criticised by a Public Inquiry Inspector (C S McDonald, 'Cumbria County Council - Appeal by United Kingdom Nirex Ltd', 21 November 1996). In that case, the Inquiry Inspector criticised Nirex's MCDA for attaching little importance or weight to the different margins by which alternative potential sites for a GDF were likely to be able to meet the then regulatory safety targets. He also criticised the company's subsequent failure to comply with the precautionary principle by taking these different margins forward into the ranking of sites. In the light of this case, we consider that MOD would be well advised to undertake specific sensitivity testing to explore the impact of assigning significant weight to the different margins by which different options achieve legally required environment and health and safety standards.

Finally, in general terms, we find the statistical approach to sensitivity testing in the MCDA (using Monte Carlo simulations) hard to understand and rather unilluminating. We would prefer an approach to sensitivity testing which explicitly explores the impacts of using combinations of scores and weights, where the latter derive directly from, or at least could be reasonably attributed to, a range of stakeholder perspectives. We believe that such an approach could contribute significantly to generating stakeholder confidence in the results of the MCDA and subsequently in MoD's proposals.

Other Contributory Factors - We welcome MOD's commitment to develop a parallel analysis of factors that are less amenable to quantitative analysis and the intention to gather relevant evidence during the course of public consultation. However, we think that the Consultation Document could have been used more effectively to encourage stakeholders to review and comment on MOD's initial thinking in the 'Other Contributory Factors' paper at level 4 of the consultation support material. In particular, MoD could have invited comments on its initial

views on the discriminatory power and significance of the OCFs set out in the summary table of that paper (4.1.2).

Our comments on specific aspects on that table are as follows: -

We agree that public confidence could be a significant discriminator, not just between initial dismantling site options, but also between types of storage site. We note that the consultation is likely to generate feedback relevant to this issue, particularly from areas around potential initial dismantling sites as local consultation events are planned in those areas. However, the amount of feedback on public confidence issues relating to type of storage site is likely to be much more limited as, understandably at this stage, no local consultation will have taken place in areas other than at the sites of waste generation. MOD should be careful not to let a lack of feedback from other types of sites skew its subsequent assessment. It could be that subsequent direct engagement with the relevant communities would find that significant public confidence issues arise. We are not convinced that socio-economic impacts should be accorded "low significance". Often, the local view on the significance of socio-economic impacts will be shaped by local circumstances. In particular, the value accorded locally to a certain number of local jobs can depend on local context. We understand that this is acknowledged in the Treasury's 'Green Book', which recognises that a pound spent in a deprived area can be worth more than a pound spent in an affluent area. Because of this, it is recommended that 'distributional' weightings are developed. In principle, if combined with scope for impact mitigation and/or community benefit schemes, then socio-economic impacts could be viewed in some areas as particularly significant.

We are not convinced that impacts of/on other radwaste management initiatives should be accorded only "moderate" significance. If NDA were unable to deliver its aspiration for waste store consolidation, or Government were unable to deliver its programme for GDF development, there would be highly significant impacts on options for managing submarine ILW. *(NuLeAF comments)*

- We are satisfied with the methods used to compare dismantling and storage options. However, it is not very clear in section 6.8.2 which 24 options (from the 36 options potentially available from the combination of Figures 11, 12 and 13) are being assessed. *(Feedback Form ID: 783)*
- It is impossible to compare the options as the benefits to the community are not given in relation to each option. The safest thing for Plymouth is to wind down the operational dockyard and fund it as a heritage site instead. *(D Hoadley)*
- The different management options for submarine decommissioning have different timings but essentially all result in the same end-point - eventual disposal of ILW in the NDA's GDF. However there is almost no useful information about the radioactive waste inventory of nuclear submarines other than a very simplistic summary of 50 tonnes of ILW steel and 176 tonnes of LLW steel activated with cobalt-60 that would require disposal from a typical Trafalgar Class submarine, along with an assertion that "almost all of the radioactivity in the defueled submarine is fixed within solid metal". We would suggest that this is a limited assessment of the potential risks and hazards that may be encountered when dismantling a submarine.

As stated in section 6.3.3 "the main difference between the options is the order and timing in which the size- reduction and storage activities are carried out."

The importance and impact of the above listed activities is barely touched on in this report. This is a critical stage in the process and in order to have confidence in the decision making behind the process a greater level of transparency is required.

Again Multicriteria Decision Analysis (MCDA) has been used to establish which method to take forward as stressed previously in order to have confidence in the process it is vital that the correct criteria are used in the assessment.

A 'Swing weighting' approach has been used to weight the importance of each criteria again the weight attributed to any given criteria can swing the decision in favour of one option over another. Therefore the process of MCDA can be manipulated through the inclusion/exclusion of certain criteria and by attributing less / more weight to other areas, as stated earlier it is considered that transport is a much under rated criteria which needs to be given full consideration.

Especially if the chosen dismantling sites are remote from storage of ILW sites. The weighting of criteria is of particular importance as it raises a question over the robustness of the conclusion that options involving ILW storage at the point of generation show no net advantage.

The 'Operational Analysis Supporting Document' (para 9.2.1) states that The environment criteria and the health and safety criteria "were not found to discriminate significantly between the options. It is considered that this is not a robust assessment of what are fundamental and key points in assessing the dismantling and storage process.

It also states: "Options involving ILW storage at the point of waste generation showed no net advantages over other storage categories in terms of either OE or WLC. This was because transport impacts (for storage at remote sites) were balanced by operational impacts (for storage at the point of waste generation."

Taking into consideration policy of non-proliferation of waste and the concerns already expressed about the lack of weight attributed to transport and the impacts of storage on the "Remote" host community it is considered that the storage / transport of waste is an area that has not been fully investigated and needs to be fully explored before being progressed any further. (*D. Gallen*)

- The methods are not really transparent. Government guidelines specify that local people must gain some benefit. The comparisons of dismantling and storage options did not look at genuine benefit such as reducing hazardous operations. A relevant benefit would be a reduction in existing MOD nuclear operations. (*D McDonald*)
- Comprehensive. (*Feedback Form ID: 791*)
- Given that dismantling is no longer an option, the choice of method that minimises handling (and hence exposure) should be effected. If there is a likelihood that RPVs may ultimately be stored in their entirety (rather than be reduced to a package level at an early stage), then this might be beneficial. Add to that the fact that the construction of the GDF is still apparently some way off, surely the issue of whole RPV storage could be factored into the design. (*M Galley*)
- As can be expected of a narrow minded, selfish and goal driven organisation. Inadequate level of options, designed to achieve what you want, as opposed to what is best for everyone. (*M O'Hara*)

- We do not consider that the Multi Criteria Decision Analysis (MCDA) conducted by the Ministry of Defence represents a robust approach to comparing dismantling and storage options. Although MCDA is an accepted methodology for options appraisal, the analysis conducted for the submarine dismantling project does not appear to have been conducted in accordance with good practice for use of the technique in the nuclear sector.

Specifically:

*The analysis was conducted with a limited group of government specialists and experts rather than a broad range of stakeholders including representatives from local communities.

*A 'swing weighting' approach was not adopted to help determine the relative importance of different factors.

*It is not always possible to see and understand the basis for the MCDA scores and the findings from sensitivity tests are not always shown, giving the impression that information has been presented selectively.

In our view the weightings attached to certain factors in the MCDA and assessment process may skew the outcome of the analysis:

*The zero weighting for worker doses during dismantling, transport, and storage effectively means that this factor counts for nothing in the MCDA process.

*The weightings attached to reduction in impact to government and Ministry of Defence and reduction of impact to operations are relatively high. The conclusion which will be drawn by many stakeholders from outside government is that the choice of options has been made to minimise the expense and inconvenience to government at the expense of other stakeholders and factors.

In general environmental and socio-economic factors have been given a lower weighting than we would expect to see.

As a result, we are concerned that the approach taken to the MCDA appears to distort the results of the analysis. The MCDA should be conducted again by independent experts from outside the Ministry of Defence selected by the submarine dismantling project independent advisory group using a best practice approach with a full range of stakeholders. The approach taken to option selection is likely to play a key role in public acceptance of decisions made by the submarine dismantling project and it is important that a robust, fair, and transparent approach has been seen to be taken if there is to be confidence that the selected option is the best choice. *(Nuclear Information Service)*

- There is no information in the Chapter about how long the temporary encasement security building or a similar but more complex sizing down facility would be in existence at Rosyth nor the complexities of de-commissioning either. But common sense would suggest that a facility with sizing down of the RPV would be more hazardous and take longer and be more expensive than dealing with the RPV whole. *(R Creagh)*
- *Adequate. (S O'Hara)*
- No further comment. *(West Kilbride Community Council)*
- No Comment. *(The Highland Council)*
- See above. *(Feedback Form ID: 798)*
- The consultation document indicates that the factors set out in figure 9, derived from the objectives of the project in section 4.3, have been used by MOD to compare options. Section 6.7.1 indicates MOD's opinion that decisions must be

based firmly on evidence and section 6.7.2 indicates that these factors can be assessed quantitatively. It appears that factors such as socio-economic ones are being accorded a lower status of 'other contributory factors' simply because they are not easily presented as numbers. This approach could result in a bias towards and undue weighting of easily-quantifiable factors. As discussed in response questions 6, more consideration should be given to the radiological impacts of the different options. (SCCORS)

- The major defect is that the best option has not been considered. See Q2 response. (G Wheeler)
- None suitable for Devonport. (Feedback Form ID: 800)
- The statement in 6.7.3 about "a need to update and expand our understanding" weakens confidence in the MOD. RC was favoured after the well regarded Isolus consultation but is now being rejected. You state it is due to cost, effectiveness and environmental effects, but it is not convincing that the major factor isn't just cost. If the UK can't afford to have RC as an option then it can't afford to have more nuclear subs. (R Holmes)
- Do it once, handle it once, store it and finish it. The workforce, their skills, equipment and real estate have a finite lifespan. (Feedback Form ID: 802)
- Safety is the most important consideration. (Feedback Form ID: 803)
- It is particularly important that the methods used to compare dismantling and storage options are robust and inspire stakeholder confidence. It is not always possible to see and understand the basis for the scores that have been given against key criteria. Although recognising the considerable effort MOD has made, we have concerns about the clarity of the weighting of the decision making criteria. We are advised that Multi Criteria Decision Analysis (MCDA) is a well established method for ensuring a structured approach to options assessment and informing decision-making. However, we do not think the consultation documents provide sufficient clarity for the public to judge that a robust assessment has been undertaken, and how the assessment results are used in decision making. Transparency is important to public confidence in this process and as advised previously, the Council believes that public confidence is an important measure of success of the project.

It is not clear why the MOD relied exclusively on expert groups to undertake the task of criteria weighting, when there are a number of precedents in other nuclear related projects for involving stakeholders to generate different criteria weightings. It would have been useful to have been able to use stakeholder generated weightings to explore the impacts of variations in weightings.

The MOD's approach to health and safety and environmental factors in the MCDA is not the only approach that could be taken. Specifically, MOD argues that these factors did not discriminate significantly between the effectiveness of the options because, in its assessment, all options could be designed to achieve the legally required standards. This approach fails to identify the safest option or the most environmentally friendly option and subsequently takes the safety or environmental factors out of the decision making process other than through the cost of meeting the

minimum required compliance level.

We are aware that Public Inquiries have previously criticised where little importance or weight was given to the different margins by which alternative potential sites for a GDF were likely to be able to meet the then regulatory safety targets. The Inquiry also criticised that applicant's subsequent failure to comply with the precautionary principle by taking these different margins forward into the ranking of sites.

We consider that MOD should undertake specific sensitivity testing to explore the impact of assigning significant weight to the different margins by which different options achieve legally required environmental and health and safety standards.

Finally, in general terms, we find the statistical approach to sensitivity testing in the MCDA (using Monte Carlo simulations) hard to understand. We would prefer an approach to sensitivity testing which explicitly explores the impacts of using combinations of scores and weights, where the latter derive directly from, or at least could be reasonably attributed to, a range of stakeholder perspectives. We believe that such an approach could contribute significantly to generating stakeholder confidence in the results of the MCDA and subsequently in MOD's proposals.

Other Contributory Factors. (OCFs)

We welcome MOD's commitment to develop a parallel analysis of factors that are less amenable to quantitative analysis with the intention to gather relevant evidence during the course of public consultation. However, we think that the Consultation Document and Stakeholder Workshops could have been used more effectively to encourage stakeholders to review and comment on MOD's initial thinking in the 'Other Contributory Factors' paper at level 4 of the consultation support material. In particular, MOD could have invited comments on its initial views on the significance of the OCFs set out in the summary table of that paper (4.1.2). This is especially important when one considers the almost exclusive MOD membership of the workshop, which considered the OCF's paper.

We agree that public confidence could be a significant discriminator, not just between initial dismantling site options, but also between types of storage site. We note that the consultation is likely to generate feedback relevant to this issue, particularly from areas around potential initial dismantling sites as local consultation events are planned in those areas. Consequently it is the Council's belief that the site for interim storage should have formed part of this consultation.

We are not convinced that socio-economic impacts should be classified as "low significance". Often, the local view on the significance of socio-economic impacts will be shaped by local circumstances. We acknowledge the difficulty the MOD has in assessing these impacts, given the approach to assessment, particularly as public confidence is an important factor in socio economic impact.

The MOD's approach to this consultation recognises the sensitivity of public opinion to radio active material and the MOD clearly desires to

generate public confidence. Consequently the MOD will recognise that public opinion of the project could have a significant impact on the "Plymouth Brand". It may have been wise to involve local experts in this analysis of the project impact on Plymouth and it is recommended that further consideration be given to the importance of impact mitigation and/or community benefit schemes.

We are not convinced that impacts of/on other radioactive waste management initiatives should be accorded only "moderate" significance. If the NDA were unable to deliver its aspiration for waste store consolidation, or Government were unable to deliver its programme for GDF development, there would be highly significant impacts on options for managing submarine ILW. (*Plymouth City Council*)

- The primary objective should be safety not profit or convenience. There is no justification for the risk and pollution involved in cutting up reactors in an urban setting. (*Feedback Form ID: 806*)
- It is impossible to compare the options as the benefits to the community are not given in relation to each option. The safest thing for Plymouth is to wind down the operational dockyard and fund it as a heritage site instead. (*K Tabernacle*)
- We have provided regulatory advice and guidance to the MoD over the period of time they developed the dismantling and storage options. Apart from the "do nothing" option, our view is that the MoD has used analysis methods that allow for a short list of realisable options to be drawn up for consultation. We have no further comments. (*The Environment Agency*)
- Breaking up the RPV into its smallest components as packaged waste, although convenient for the contractor, creates the greatest risk to the public from the ILW. I would favour keeping the whole unit as intact as possible. However, damage may occur to the RP on removal. It is not an endeavour this country has much experience in. Has any other country attempted this level of dismantling? I am aware that the US keep the core as intact as possible. Need we go further? (*Feedback Form ID: 808*)
- The Committee has not studied the cost Model or the MCDA but considers that local stakeholders should be involved in deriving the criteria and the scoring schemes and attributing weights to the criteria. All of these require value judgments and it is essential to successful implementation that the values of stakeholders close to the dismantling dockyards and potential ILW storage sites are represented. (*DNCS comment*)
- The decision making approach, options for removal and factors considered appear to be reasonable and will have to meet the required controls from the several principle regulatory bodies. (*Fife Council*)

6. Do you think we have captured all the potential advantages and disadvantages of the options and if not which others would you propose?

November Responses:

- Maybe more investigation on the commercial benefit to local economies. *(Feedback Form ID: 71)*
- Yes. *(Feedback Form ID: 216)*
- You have not sufficiently explained that the safest option to find storage which allows for these submarine reactors to be stored without being cut up. *(Feedback Form ID: 218)*
- Yes. *(Feedback Form ID: 219)*
- With possible exception of option mentioned at answers to Qs 2 & 3 above no. *(A. Jones)*
- Rosyth is closer to Faslane and Cumbria by a considerable distance. Devonport will have to pick up all the refit work for the fleet where as Rosyth will no longer serve the Navy in any other capacity. The Rosyth basin allows for manoeuvring, storage and water to barge transfer much better. *(A Wedge)*
- Yes. *(Feedback Form ID: 225)*
- 100% potential cannot be guaranteed but generally but generally the options appear to have been recognised. *(R. Harper)*
- There are NO benefits for the selected 'host' sites, only negative impacts.
- Not enough consideration or discussion was given to the socio-economic impacts upon a city that is striving to market itself as a World centre for tourism and a University Centre of Excellence. *(I. Avent)*
- RPV to Rosyth. *(Feedback Form ID: 350)*
- One site. *(Feedback Form ID: 351)*
- I believe you have captured all significant issues. *(A. Osborne)*
- No Plymouth as a population centre and tourist centre not appreciated. Should not store ILW in Plymouth. *(Feedback Form ID: 353)*
- Quite a good high level summary. Are there any security issues associated with storage of the RPV? The term "commercial site" is used which I find a bit odd. Does this just mean a non MoD site? Centralised storage with NDA ILW has many advantages. *(Feedback Form ID: 354)*

December Responses:

- Yes. *(Feedback Form ID: 375)*
- As with Question 1 a fair scoping of the Advantages / Disadvantages but I suggest the addition as an advantage the Growing of UK expertise in the Decommissioning Nuclear Power Plant with its spin off of more Nuclear Trained Personnel available to the Civil Nuclear Industry which will need to expand and refresh its competence base if UK is to expand its Nuclear Power Generation capability to ensure continued fuel security and combat AGW (Anthropomorphic Global Warming.) *(Feedback Form ID: 376)*
- Nowhere near populated areas. *(Feedback Form ID: 377)*
- Yes. *(Feedback Form ID: 399)*

- I have seen nothing about what capability needs to be built into a storage facility to enable clean up to take place - I have been a Modex PAG Chairman and understand some of the challenges and dealing with the final solution needs to be addressed as a capability. *(N. Fyfe)*
- All potential advantages and disadvantages have been covered in great depth, all avenues including relative cost and options have been fully investigated. *(A. Walker)*
- I'm not a statistician so I've no idea. *(I. Hunter)*
- Yes the analysis is comprehensive. *(I. Currie)*
- Yes and once again go for RPV removal and packaged waste. *(S. McQueen)*
- Yes. *(M. Rich)*
- Yes. *(R. Furse)*
- The only thing not mentioned is land and property values / public acceptance, of such projects. *(A. Williams)*
- Yes well discussed arguments. *(Feedback Form ID: 509)*
- Yes. *(Feedback Form ID: 535)*
- Yes. *(Feedback Form ID: 536)*
- It would seem so. *(P Lister)*
- As a layman I feel it is a very thorough proposal. *(Feedback Form ID: 543)*
- Yes. *(Feedback Form ID: 548)*

January Responses:

- If 'Do Minimum' is not an option I suggest remove the Reactor compartment at a site away from dense populations and store the compartments at the site e.g. Nigg. *(M Harris)*
- There are no advantages, only negative impacts. *(C. Hunter)*
- Tow the subs far away from the population. *(K Johnson)*
- Yes. *(B Pym)*
- The advantages were adequately detailed in the presentation with scant references being made to any perceived disadvantages i.e radiations doses for workers, the possibility of the ILW being rejected by existing sites, how the submarine hulls would be removed to registered breakers yards etc. also the cost of any new engineering facilities required for the dismantling process or the necessity for new greenfield developments in respect to ILW. *(Feedback Form ID: 683)*
- The advantages and disadvantages are clearly explained and help to paint the full picture of what would be required to carryout out the work on either or both sites. *(Feedback Form ID: 684)*
- I find it difficult to answer these questions since I have no technical knowledge to asses the situation. *(Feedback Form ID: 686)*
- Yes. *(Feedback Form ID: 687)*
- Well reasoned – No additional proposals. *(Feedback Form ID: 688)*
- It would be sensible to take the option that gets the work done quicker so Rosyth can be free from subs, for Rosyth's community benefit. *(Feedback Form ID: 689)*
- There are no advantages only dangers to populations. *(C. Martin)*
- Yes. *(G Cooke)*

- You have limited the options to Devonport and / or Rosyth and pointed out that the Devonport option is cheapest. There are 300,000 people in the Plymouth area who will be affected if this goes ahead. The 'do minimum' option is the only acceptable option until the GDF is made available. Plans for the GDF must provide facilities for keeping the RPV whole without size reduction. (*L. Miller*)
- Ask a paid scientist. (*Feedback Form ID: 695*)
- Options have been limited to Devonport/ Rosyth. It is pointed out that Plymouth is cheapest. Over 300,000 people live in Plymouth and will potentially be affected. The 'Do minimum' option is the only acceptable one until the GDF is made available. Plans for the GDF must provide facilities for keeping the RPV whole without size reduction. (*Feedback Form ID: 698*)
- If 'Do Minimum' is not an option I suggest remove the Reactor compartment at a site away from dense populations. (*R Plagerson*)
- Yes. (*Feedback Form ID: 704*)

February Responses:

- Your Fig 12 in Chapter 7 ignores the risk of nuclear accident in Plymouth. You do not include this risk in your notion of "disturbance" to the community Amazing! (*G Davies*)
- I believe that consideration of the positive effect on radioactive waste management options associated with decay storage for a deferred period of up to 100 years should be taken into account. As stated above this appears to infer a need for better radiological characterisation data. (*V.Cane*)
- Yes. (*R. Ellington*)
- Yes. (*Feedback Form ID: 724*)
- No! (*C. McCarthy*)
- Do you really think there is an advantage ? No. (*Feedback Form ID: 685*)
- The advantages of size reduction are under-stated. In terms of minimising future liabilities it would be much better to do 100% job now, putting the ILW into packages that will need disposal criteria in all circumstances and which can be moved around the country to optimise storage and disposal opportunities. One stated disadvantage of the size reduction option is not really valid: the packaged waste should not be vulnerable to changes to GDF entry conditions because it will be broadly similar to other ILW intended for geological disposal. RPV storage at Devonport or Rosyth has attractions, but the deferment of moving or size-reducing them to enable later clean-up of the dockyard is a concern. RPV storage at LLWR is an interesting option not discussed - it would be outside the current planning consent for that site. However, if it is true that the RPVs will be LLW not ILW within a reasonable timeframe, it would be useful to see this discussed. (*P Davis*)
- Yes, the pros and cons are well covered. (*Feedback Form ID: 735*)
- Your "Do Minimum" option is a feint: the reality is the submarines cannot be stored long-term afloat, but you have not considered dry-dock options for the short-term. The RC separation and storage Option 2 is seen as the "least-worst" option, but in reality condemns Plymouth to a nuclear waste dump and long-term (possibly centuries) label of the "Sellafield of the South West", preventing economic recovery or inward investment. Option 3 of "size-reduction and storage

of radioactive waste" must not happen - such experimental meddling with dangerous toxic and carcinogenic waste is intolerable. I cannot support any of these options, and demand that the closure of the Devonport nuclear facilities is considered and recognised as the best option for the people of Plymouth and surrounding area. Dredge the Tamar and Sound, put the intact hulks on ships and transport them out of Plymouth and to significantly contaminated sites away from centres of human population, and STOP MAKING ANY MORE NUCLEAR WASTE UNTIL YOU KNOW HOW TO DISPOSE OF IT WITHOUT HARM OR THREAT TO FLORA OR FAUNA! (T. Staunton)

- There is no advantage with taking no action and continuing to leave the submarines just sitting around. (Feedback Form ID: 742)
- Yes. (Feedback Form ID: 744)
- Sent it north to toxic Cumbria by rail! (Sandey)
- Sell and tow them to a safe depository for security reasons of our ports. (R. Rees)
- See Q1 and Q2 responses. (Feedback Form ID: 747)
- Yes. (V. Nesbitt)
- As above. (Feedback Form ID: 751)
- Disadvantages of using Devonport are that it will blight the city for decades. (Feedback Form ID: 755)
- There has been no option for the no option. Therefore Consultation one sided. (R Spettigue)
- I feel this document has only served to continue with options that are not in the general public's interest. (L. Crawford)
- Connecting this inquiry & problem with continued production of nuclear waste. (E. Knight)
- Disadvantages are far greater in reality than those suggested. Little consideration for true environmental and health costs. (Feedback Form ID: 759)
- This question is over the heads of most people in Plymouth and only a nuclear specialist could deal with it. There are no advantages to the stated options when considering Plymouth Dockyard. The health and safety of people here comes first. (C Giarchi)
- Only one disadvantage is given for the RPV Removal and Storage option. MoD needs to give much more information about the implications of cutting into the reactor compartment in order to remove the reactor pressure vessel. The SEA Non-Technical Summary suggests that the following should be added: Risk of accidentally discharging radioactive contaminants marginally higher than for RC separation. Although the SEA claims that both worker doses and planned discharges are predicted to remain within limits for the RPV Removal option, it fails to make a comparison with the RC removal option or argue that it meets the ALARA principle. (Nuclear Free Local Authorities)
- Economic efficiency may seem most important now, but need to consider long term impact on people and long term impact on health (and associated costs) see answer to Q5. (Feedback Form ID: 763)
- You do not mention in Devonport the disadvantage being in a populated area. (Feedback Form ID: 764)
- No. See above. (P Towey)
- We are satisfied from the information provided that all potential advantages and

disadvantages of the options appear to have been captured. (*B O'Neill*)

- Additional advantages/disadvantages we would propose:
 1. Whether or not the option involves double-handling of waste. In principle this should be kept to a minimum.
 2. The extent to which the option minimises the amount of ILW
 3. Public confidence in an option, based on evidence from prior consultations.
 4. Inter-generational equity.
 5. To what extent the option is open to future developments (positively in terms of technology development and negatively in terms of further regulatory and societal constraint). (*Nuclear Institute*)
- Removing the RPV and size reducing to store as packaged waste appears to be the most sensible and economic option. As indicated above the lack of a facility in the interim to store this before deep level storage facility is built is a problem. Transportation to this via road or rail does increase risks of accidents and leakage. (*P Shingler*)
- Should consider impact of possible future Scottish independence during the lifetime of the dismantling process or storage of ILW. This would be a disadvantage for the Rosyth, or dual, option. (*Feedback Form ID: 776*)
- No Comment. (*S Douglas*)
- The crucial issue, that of storage of radioactive material in a built up area for an indefinite period, is not confronted. In the event of a nuclear accident a huge population would be put at risk and the natural efforts of local people to evacuate the area would hamper efforts to deal with emergency. We might be faced with the obscenity of Authority, in whatever guise, trying to prevent the population leaving so as to reduce disruption. Its worth noting in this context that an exercise a few years ago suggested that the Police might not be willing to enter the area in the event of a nuclear emergency. (*T Milburn*)
- In the light of the comments on assessment methods in response to Q5, it is difficult to make a judgement about whether all the potential advantages and disadvantages have been adequately captured. This difficulty is exacerbated by the absence of a clear explanation in the consultation document of how the lists of advantages and disadvantages in Figures 11, 12 and 13 are linked to the findings of the MCDA. Indeed, we provide specific comments below which throw up questions about those linkages.

We also assume that the preliminary findings from the OCF assessment have not yet been incorporated into figures 11, 12 and 13 summarising the advantages and disadvantages of each option.

Overall, we think a judgement on whether all the potential advantages and disadvantages have been captured needs to be made in the light of: (a) the results of a more accessible and focused approach to sensitivity testing within the MCDA (which takes into account the comments in response to Q5 above); and (b) a more developed assessment of the discriminatory power and significance of the OCFs (informed by stakeholder review and comment on MOD's initial thinking). We have the following specific comments on the advantages and disadvantages in Figures 11, 12 and 13 of the consultation document:

 - We note that despite the assertion that environmental factors did not discriminate significantly between options (see comment above in response to Q5), Figure 11 includes a "largest overall environmental impact" disadvantage

against the RC separation and storage option and Figure 12 includes a "reduced risk of disturbance to local community" advantage against the Rosyth dockyard option. Although we are not disagreeing that these are legitimate findings, we would like to be able to see that they are underpinned by a more accessible and focused approach to sensitivity testing which systematically explores the discriminatory power of environmental and health and safety factors. Such an approach might also help identify further advantages and disadvantages associated with particular options from different stakeholder perspectives.

- We also note that despite an approach to scoring within the MCDA that appears to minimise the discriminatory impact of the transport factor, reduced or increased amounts of transport are listed as advantages or disadvantages, particularly in Figure 13. Again, although we are not disagreeing that these are legitimate findings, we would like to be able to see how they are underpinned by sensitivity testing within the MCDA.

- In Figure 11, it is not clear that the disadvantage "less flexible to changes in entry conditions to the proposed GDF", as accorded to the technical option RPV removal and size-reduction for storage as packaged waste, is soundly based. We note that the ILW in this option would be packaged in a way that is consistent with civil nuclear requirements for disposal. As such, the packaged wastes would conform with currently anticipated 'entry conditions' for a GDF. Against this background, it is not clear what sort of foreseeable changes to GDF entry conditions could arise which would require changes to well established and widely practiced approaches to packaging. The question therefore arises of whether it is right to accord a disadvantage of "less flexibility" to this option? We also note that including this disadvantage may amount to 'double counting' as flexibility advantages are already listed for the other two options in Figure 11.

- In Figure 13, we note that a possible additional advantage associated with 'storage at point of waste generation' is compliance with UK policy and strategy on radioactive waste management, as the Operational Effectiveness report states that this option scores highest against this factor (para 4.2.9). (*NuLeAF comments*)

- Yes. (*Feedback Form ID: 783*)
- No. We propose that the option to store waste on-site at dismantling site(s) be off-set by SIGNIFICANT benefit to the community in terms of radiation risk. Similarly, if it is moved off site, then communities local to the chosen site(s) are relieved of an existing nuclear risk. (*D Hoadley*)
- As stated throughout this report it is considered that the issue of transporting and storage of waste is one which has been over looked or not weighted suitably and is an area which needs to be readdressed and given due consideration before moving forward with either strategy.

The potential impacts on the community of hosting the storage of ILW have not been captured. There is no data presented on actual submarine decommissioning and waste management costs. There is no financial detail provided to be able to make an informed comment on whether the proposals are an effective use of tax payers money. therefore the exclusion of the financial information makes it difficult to give a complete response to this consultation. Community benefits are not covered in this consultation; this is of particular importance if the storage of ILW is not at the dismantling locations as the benefits

associated with job creation of dismantling are not then felt within the ILW host community. Furthermore, a community benefits package should be considered for those areas identified as dismantling sites as the downturn in tourism, perception of the area etc would become very apparent as soon as the nuclear dismantling starts. *(D. Gallen)*

- No advantages on the scale needed are offered. *(D McDonald)*
- Yes. *(Feedback Form ID: 791)*
- Probably not, as with my answer above I think your self-interest prevents you from a comprehensive study of all the factors. You can apply statistics to whatever population sample you wish, it won't make any of your conclusions universally true especially when you have only one outcome in mind. *(M O'Hara)*
- It is difficult to answer this question in the light of our comments in response to the previous question on shortcomings with the options assessment methodology. There may be local, site specific issues which the Ministry of Defence is unaware of, and we trust that feedback from local stakeholders in Devonport and Rosyth will help in identifying advantages and disadvantages associated with these issues. *(Nuclear Information Service)*
- Cutting into the RC to remove the RPV must carry greater risks than simply leaving the RC intact - this doesn't seem to be reflected in the document. *(R Creagh)*
- Adequate. *(S O'Hara)*
- Yes, However the Packaged Waste option relies entirely on the use of NDA storage facilities of which in Scotland there is only one (Hunterston) and that has planning permission only for the A station waste. Use of this facility would create significant response from the locality against such a move. *(West Kilbride Community Council)*
- Many of the advantages and disadvantages relating to where ILW may be stored can only be assessed properly once specific potential locations are identified and cannot be properly assessed at the level of 'type of site', each of which has widely different possible locations within them, other than for the category of 'storage at point of waste generation'. *(The Highland Council)*
- You have not addressed the potential disastrous effects of an accident – they do (and have happen(ed)) *(Feedback Form ID: 798)*
- Section 7 provides MOD's current assessment of the options. Section 7.2 compares the options for how radioactive waste is removed from submarines. The consultation document indicates that figure 11 summarises MOD's assessment of how the advantages, disadvantages and costs compare for each of the options for how radioactive waste is removed. Section 7 does not quantify the differences in radiological impact to the public and the environment between the options (in contradiction of principle set out in section 6.7.1) but 7.2.7 indicates that, in considering Health and Safety factors, there were some differences between estimates of radiation exposure to workers between the options. It concludes however that it did not distinguish between the options as all estimates were low relative to statutory limits and typical employer dose constraints. This conclusion does not address the legal requirement to ensure that doses remain as low as reasonably achievable (ALARA) in addition to being below statutory limits. Section 7.3 compares the options for where radioactive waste is removed from the submarines. The consultation document indicates

that figure 12 summarises MOD's assessment of how the advantages, disadvantages and costs compare for each of the options for where radioactive waste is removed. SCCORS notes that much of this assessment relates to costs and operational efficiency factors, with some consideration of the impact on local communities. The consideration of these latter factors is welcomed, though it is noted that a full consideration of the socio-economic factors is not encapsulated in this analysis. Commentary has been made to the need to address socio-economic factors elsewhere in this response.

Section 7.4 compares options for which type of site is used to store ILW.

The consultation document indicates that figure 13 summarises MOD's assessment of how the advantages, disadvantages and costs compare for each of the options for which type of site is used to store ILW removed from submarines. SCCORS is of the opinion that many of the advantages and disadvantages relating to where ILW may be stored can only be assessed properly once specific potential locations are identified and cannot be properly assessed at the level of 'type of site', each of which has widely different possible locations within them, other than for the category of 'storage at point of waste generation'. Commentary has been made on this elsewhere in this response. (SCCORS)

- Inadequate consideration has been given to the Do Minimum option. You have just assumed that storing afloat is the only option. Land storage - dry-dock - has not been considered and should be, as a 30-year solution. This would allow further radioactive decay, facilitate demolition at one site and allow the decision on long-term storage of intermediate-level waste to be reached. It all seems too obvious! (G Wheeler)
- Stop creating more nuclear waste as we cannot yet deal safely with the waste we already have. (Feedback Form ID: 800)
- No. You do not do justice to the disadvantage part for RPV and size reduction by merely stating "less radioactive decay prior to size reduction" You should have been more open and said "increased radioactive discharges and radiation dose to workers". We know these are regulated but regulation does not in itself guarantee there will be no health effects. (R Holmes)
- Devonport is a developing area with an increasing population. Large scale development is planned to all areas, that needs jobs – this facility will blight the area. (Feedback Form ID: 803)
- It is difficult to make a judgement about whether all the potential advantages and disadvantages have been adequately captured. This difficulty is exacerbated by the absence of a clear explanation in the consultation document of how the lists of advantages and disadvantages in Figures 11, 12 and 13 are linked to the findings of the MCDA. Overall, we think a judgement on whether all the potential advantages and disadvantages have been captured needs to be made in the light of:
 - (a) the results of a more accessible and focused approach to sensitivity testing within the MCDA; and
 - (b) a more developed assessment of the discriminatory power and significance of the OCFs (informed by stakeholder review and comment on MOD's initial thinking).

We would like to be able to see a more accessible and focused approach

to sensitivity testing which systematically explores the discriminatory power of environmental and health and safety factors. Such an approach might also help identify further advantages and disadvantages associated with particular options from different stakeholder perspectives.

(Plymouth City Council)

- As above. *(Feedback Form ID: 806)*
- No. We propose that the option to store waste on-site at dismantling site(s) be off-set by SIGNIFICANT benefit to the community in terms of radiation risk. Similarly, if it is moved off site, then communities local to the chosen site(s) are relieved of an existing nuclear risk. *(K Tabernacle)*
- Which other sites should be considered. *(Feedback Form ID: 808)*
- We believe that all of the important advantages and disadvantages have been identified. In addition the MoD has sought to explain how, in particular, any disadvantages would be managed. As environmental regulators, we would like to continue our engagement with the MoD, and with future potential contractors over how the environmental impacts would be further reduced and minimised. *(The Environment Agency)*
- The Committee has nothing to add to what MOD has done. *(DNSC comment)*
- Only one disadvantage is given for the RPV Removal and Storage option. MoD needs to give much more information about the implications of cutting into the reactor compartment in order to remove the reactor pressure vessel. The SEA Non-Technical Summary suggests that the following should be added: Risk of accidentally discharging radioactive contaminants marginally higher than for RC separation. Although the SEA claims that both worker doses and planned discharges are predicted to remain within limits for the RPV Removal option, it fails to make a comparison with the RC removal option. *(Fife Council)*

7. Are there any other significant issues or factors you think we have overlooked?

November Responses:

- The impact of an independent Scottish Parliament making unforeseen decisions in this area. (*Feedback Form ID: 71*)
- No. (*Feedback Form ID: 216*)
- Death by radiation poisoning. (*Feedback Form ID: 217*)
- You have not acknowledged that there are already safety problems within the MOD. A freedom of information request revealed in the Guardian newspaper that there was lax safety as noted by the nuclear environment and safety board. (*Feedback Form ID: 218*)
- No. (*Feedback Form ID: 219*)
- The Environmental Report does not take into account the proximity and lethality of the siting of a large Incinerator (Energy from Waste) plant immediately next to the nuclear facilities.
 - * The Environmental Report does not take into account the proximity and lethality of the siting of a military jetty for use by the Marines (including live munitions) immediately next to the nuclear facilities
 - * The Environmental Report does not take into account the proximity of high density population of some of the poorest communities of England, with extremely poor Health demographics that will be placed at further risk by a nuclear waste processing and storage facility. (*Feedback Form ID: 220*)
- Unless already considered/dismissed the EIA/SEPA aspects of unforeseen 'arising's emergent upon docking (e.g. pluck out of the sky: reduced hull scantlings/unforeseen cooling circuit degradation) necessitating regulatory authority involvement? (*A. Jones*)
- Long term sustainability. A constant continuous dismantling program similar to the long term future build programme being attempted for A class and then successor. (*A. Wedge*)
No. (*Feedback Form ID: 225*)
- No, but I am not an expert. I rely on you for this. (*R. Harper*)
- Host sites away from centres of population were not considered within the project.
- The SDP was 'railroaded' into a x2 site solution by a political decision from above. The x2 site decision was delivered to a stunned AG by the Project Manager (*I Avent*)
- Ignorance. (*Feedback Form ID: 350*)
- No. (*Feedback Form ID: 351*)
- No, I believe all significant issues covered. (*A. Osborne*)
- If NDA does not come up with storage site in time or is too expensive, what then? (*Feedback Form ID: 353*)

December Responses:

- No. (*Feedback Form ID: 375*)

- The likely expansion of the need for Nuclear qualified personnel in the uk power generation industry for the decommissioning of current plant and the design, build and operation of Nuclear Power Plants. *(Feedback Form ID: 376)*
- No. *(Feedback Form ID: 399)*
- Final waste removal, and the generation of new waste caused during this process. *(N. Fyfe)*
- Yes a planned incinerator. *(Feedback Form ID: 478)*
- No – all covered in good detail, health and safety and all assessments have been taken into the fullest account. *(A. Walker)*
- Yes, the fact that no one really wants it. Benefits to the community are very problematical, a few jobs in a dangerous industry. This city has been bled dry by MOD, why pretend you give a shit? *(I. Hunter)*
- No Comment. *(I. Currie)*
- Only to consider a very good 'simple easy to understand brief' to the residents of regions where packaged waste is to be stored. Remember most civilians are totally ignorant and in some cases frightened of nuclear issues. Also do not forget to cope for the prof agitators. *(S. McQueen)*
- No. *(M. Rich)*
- No. *(R. Furse)*
- Which ever Dockyard is chosen to do the work, will it have a detrimental effect on the procurement for other work in that yard or area. *(A. Williams)*
- No. *(Feedback Form ID: 509)*
- No. *(Feedback Form ID: 535)*
- No. *(Feedback Form ID: 536)*
- None. *(Feedback Form ID: 538)*
- No. *(P. Lister)*
- Only the blinkered people who cannot see past what 'THEY' want, they are not prepared to listen. You have obviously done your homework and would not propose anything that had any sort of foreseeable risk. *(Feedback Form ID: 543)*
- Is there considered a need for extra naval docking facilities required for future security, i.e keep Rosyth. *(Feedback Form ID: 544)*

January Responses:

- Host sites away from centres of population are not considered. The submarine dismantling project has been railroaded into a two site decision. Other options like Nigg in Scotland away from the centres of populations should now be considered. *(C. Hunter)*
- Peoples opposition, no escape for population - if it goes wrong airport is too close, motorway ends at Exeter, trains don't run in storm at Dawlish. How do we escape or are we left to die a horrible death. *(K. Johnson)*
- As mentioned in Question 3, it may be necessary to draw up brief contingency plans for Devonport to dismantle all submarines. Scotland may well not move towards independence but it is sensible to have thought about the problem beforehand. *(B Pym)*
- I believe only the radiation limits expected during the dismantling process and the dose to which the workforce could be subjected to should have been addressed more openly. *(Feedback Form ID: 683)*

- I believe all the significant issues and factors have been included. (*Feedback Form ID: 684*)
- It seems to me that you explain all possibilities and tried to accommodate / meet all objections. (*Feedback Form ID: 686*)
- No. (*Feedback Form ID: 687*)
- No. (*Feedback Form ID: 688*)
- As the MOD were aware that dismantling of nuclear subs would have to be undertaken at their end of service, surely the final storage place should have been already in place & not approx 2050. (*Feedback Form ID: 689*)
- Siting in cities is crazy, look at isolated site. (*C. Martin*)
- I have concerns that future changes in contractual arrangements for the management of the MoD dockyards could leave experienced and specialist staff no longer employed by the company engaged on the submarine dismantling. I know employees are covered by the TUPE Regulations but companies do not always wish their key employees to transfer to a competitor. (*Feedback Form ID: 691*)
- No. (*G Cooke*)
- Yes! Plymouth residents do not want the nuclear submarines dismantled at Devonport nor do they want ILW waste stored here. (*L. Miller*)
- Plymouth City is an unsuitable venue. (*C Ward*)
- Taking the submarines away from the densely populated Plymouth area immediately. (*Feedback Form ID: 695*)
- Sites away from centres of population are not being considered. Instead of a two site solution other options like Nigg in Scotland away from dense centres of population should be considered. (*R Plagerson*)
- Yes-Plymouth people do not want nuclear submarines dismantled at Devonport nor do we want ILW waste stored here. (*Feedback Form ID: 698*)
- No. (*Feedback Form ID: 704*)

February Responses:

- The fact that Devonport is in the middle of a large city. (*G Davies*)
- I think you have covered all the factors. (*R Ellington*)
- In asking for views on whether ILW is transported away or a local facility is built you have not indicated the sort of distance that waste (complete or sized down) will have to be transported. Faslane is presumably a facility that could be used in Scotland or Cumbria in England. I don't see transport to the above or nearer sites known to you to be unduly hazardous given that statutory regulations and protection would be adhered to. (*Feedback Form ID: 724*)
- People – The cost to the environment – land and sea. (*C. McCarthy*)
- There must be less populated area to dismantle submarines. (*Feedback Form ID: 685*)
- See above responses. (*P Davis*)
- No. (*Feedback Form ID: 735*)
- The consultation does not consider the potential profit margins of the three options for the private operator, [name removed]*. The lobbying influence of this transnational corporation is not sufficiently balanced by the democratic process represented by this technical and dense consultation process, leaving the

representation of public opinion, wishes and needs poorly served. Of course, [name removed]* would seek to undertake the most hazardous option which would allow the highest charges to the tax-payer for the highest profit-margin. To offer a public consultation that does not reflect the politics and economics of the situation, but only a confined set of industrial options is a corruption of the democratic process. We do not have anything like the full story presented to us, and cannot have faith in the process as a result. You have overlooked entirely the economic and political issues for the people of Plymouth. (*T. Staunton*)

- No. (*Feedback Form ID: 742*)
- No. (*Feedback Form ID: 744*)
- Plenty health hazards to local environs. (*Sandey*)
- Yes, the stress of living with this potential risk & threat of storing harmful WMD waste. As sitting ducks, for the first strike of the European theatre. (*R. Rees*)
- Yes. UK should lead the world in renouncing nuclear energy until safe and proper neutralising of waste products can become possible. (*Feedback Form ID: 747*)
- No. (*V. Nesbitt*)
- Yes, As above. (*Feedback Form ID: 751*)
- Disagree with estimate of cost of moving submarines outlined at Guildhall Consultation. I don't believe the figures. (*Feedback Form ID: 755*)
- See answer to Q6. (*R Spettigue*)
- The possibility of a nuclear accident / incident, which would have a major detrimental effect in a city of 250,000 people. (*L. Crawford*)
- The added complication of the incinerator proposed to be sited at Devonport is not included. (*E. Knight*)
- Health of urban population. Health of ecosystems. Risk of water, air and land contamination too great! (*Feedback Form ID: 759*)
- If the cutting up of nuclear submarines were to take place in a densely populated area then it would raise significant emergency planning implications. The population around Plymouth Dockyard is so dense that it would be impossible to evacuate the population nearby (tens of thousands of people, including primary, secondary schools and colleges) in the event of an accident. (*C Giarchi*)
- A more complete assessment would compare discharges and worker doses for the three options by listing likely radio-isotopes released with estimates of the level of radioactivity. A draft application for a radioactive discharge authorisation would have been one possible way to present the information. It is impossible to properly compare the three options from the point of view of the environmental principles mentioned above without this information. It is not sufficient to argue that discharges will remain within authorised limits – the chosen process also needs to meet the ALARA principle. (*Nuclear Free Local Authorities*)
- See Q5 and 6. Should we not build on experiences from the past, knowledge and approaches in other countries and only act when all experts agree it is 100% safe to do so? (*Feedback Form ID: 763*)
- See above. (*Feedback Form ID: 764*)
- No. See above. (*P Towey*)
- No. (*B O'Neill*)
- 1. Much of the RPV is not ILW, but LLW (or even VLLW). We note that the project understands that the RPV head can be treated as LLW, but a significant

majority of the RPV could also be sentenced as LLW, if the RPV is appropriately processed. We note that this is recognised in the SEA, which notes the arising ILW could be anything between 15 and 58 tonnes. However, it is not clear that this is being taken into consideration, for example for the early size reduction and packaging option in terms of quantity (and hence store footprint required) of arising ILW.

2. It is unclear that due consideration has been given to the potential for radioactive contamination (and associated levels) outside the RPV. There could well be areas of 'crud' build-up which were not removed at the time of defueling that could affect the ability to dismantle the components in the way proposed.

3. The GDF project will also need to be cost-effective, and will be a much larger and more costly project than the SDP. Accepting non-standard packages, unless there is no practicable alternative, is unlikely to support that objective. It is not so much the final placement within the GDF that may be the constraining issue, but the potential impact on the design of the facilities for accepting into the GDF and transporting them within the GDF to their final placement. *(Nuclear Institute)*

- I'm guessing that Rosyth isn't a realistic option because if the SNP achieve their aims of an independent nuclear free Scotland then this base has to be closed along with Faslane. I would imagine that the submarine fleet and reactor refuelling and disposal would all have to come to Devonport! *(P Shingler)*
- No comment. *(Feedback Form ID: 776)*
- No comments. *(S Douglas)*
- No comment. *(T Milburn)*
- Our concerns are not that significant issues or factors have been excluded, but that it is not clear that all relevant issues or factors already identified have been robustly taken into account in assessment (see responses to Qs 5 and 6). *(NuLeAF comments)*
- Section 7.2.7 says that all estimates of radiation exposure to workers were very low relative to statutory limits and typical employer dose constraints. However no reference is made to keeping radiation doses as low as reasonably achievable. *(Feedback Form ID: 783)*
- Yes. The exclusion of the defueling process for laid up and future decommissioned submarines from the consultation is unreasonable and acceptable (sic). This essential but high-risk operation has been deliberately kept out of the SDP debate. We cannot have confidence in the MOD recommendations which exclude reference to defueling. *(D Hoadley)*
- The fate of the spent fuel seems to be outside the scope of the SDP consultation but nevertheless the transfers are relevant to Copeland Borough Council's overview of the full impacts of defueling and decommissioning of nuclear submarines. It would be extremely beneficial if information could be provided on the MoD spent fuel stored at Sellafield and the future plans for this legacy fuel and the new planned spent fuel storage. It would seem reasonable that with more spent fuel assumed to come to Sellafield that present agreements should be reviewed to ensure maximum benefits for the local community are realised. Presently there are none. *(D. Gallen)*
- Yes. Defueling of laid-up submarines at Devonport is the most dangerous part of the whole process. The plan was to defuel decommissioned submarines before they were laid-up but the MOD has failed to do this. As 6 submarines have been

laid-up whilst still containing fuel, the policy must change to accommodate the change in circumstances. The 6 laid-up submarines containing fuel are clearly within SDP remit. They should not be excluded from this Consultation. (*D McDonald*)

- The difference between size reduction of ILW now compared to size reduction at a later date has not been clearly articulated in the documentation. There are advantages in further delay and decay of the RPV allowing for less rigorous size reduction techniques to be employed at a later date. Furthermore, with a more mature GDF design becoming available, delaying size reduction of the RPV mitigates the risk of expensive, dose intensive early size reduction generating a non compliant package for disposal, resulting in the potential for re-work. (*Feedback Form ID: 791*)
- Yes, you fail to fully acknowledge any link between your plans and that of the proposed waste incinerator (MVV Devonport). It is not beyond reasonable logic to speculate that with a furnace of the size proposed (to deal with 265,000 tonnes of mixed waste from homes and business), its proximity to the planned site of submarine work and the secretive nature of both MVV's plans and the MoD, that some waste from your proposed work will end up being burnt as mixed industrial waste. When talking with both MVV and Navy representatives at respective events it was clear that tools and clothing used in your proposed work would be classed as very low level nuclear waste (VLLW) and could therefore be incinerated. Surely there would be an accumulative effect particularly over a 40 year period of operation. What do you plan to do with the sonar damping tiles that cover the surface of the hull? It seems clear to me that MVV's plans and yours are not exclusive, a point of view supported by the MoD's clear support for MVV's incinerator (you were desperate to get it!) (*M O'Hara*)
- We are not aware of any such issues at this stage. As stated above, we consider that the assessment methodology has yet to adequately take into account all the issues that have been identified. (*Nuclear Information Service*)
- In asking for views on whether ILW is transported away or a local facility is built you have not indicated the sort of distance that waste (complete or sized down) will have to be transported. Faslane is presumably a facility that could be used in (*R Creagh*)
- Transporting of Radioactive waste around the country is both a environmental and a significant security risk, Scottish Government guidance is for Nuclear waste to be stored 'Near Surface Near Site'. (*West Kilbride Community Council*)
- The document could usefully summarise the relevance, or otherwise, of Scottish Government Policy on ILW. (*The Highland Council*)
- The high risk factors. (*Feedback Form ID: 798*)
- The document could usefully summarise the relevance, or otherwise, of Scottish Government Policy to MOD's proposals. (*SCCORS*)
- Not enough attention given to hazards to humans and effects of accidents or leaks from disposal of the lowest level of waste. How reliable are the firms used for existing "methods of disposal"? Leaks have occurred over the years. The shore at and around Dalgety Bay is to be investigated for emissions from Donnibristle ILW waste (where luminous dials from aircraft were put into landfill when the base was closed in the 50s/60s) to ensure there are no unacceptable levels of risk to humans, shell fish etc. (*Feedback Form ID: 799*)

- Question 6 response summarises my view of the consultation. In omitting the best solution, you are trying to force respondents to choose from poor options. *(G Wheeler)*
- As above. *(Feedback Form ID: 800)*
- Adverse publicity from Dalgety Bay .You will probably realise that the initial reluctance to accept responsibility has lead to a loss of faith. This makes it less likely that areas will opt for MOD waste activities. *(R Holmes)*
- Scotland may seek independence. *(Feedback Form ID: 802)*
- I think you overlook the huge impact an accident will have in the area. *(Feedback Form ID: 803)*
- Our concerns are not that significant issues or factors have been excluded, but that it is not clear that all relevant issues or factors have been robustly taken into account in the assessment, as referred to in the previous answers. *(Plymouth City Council)*
- The health and safety of the people of Devonport, Plymouth and surrounding areas, the devastating effect on the local economy of a nuclear scrapyards within a city. *(Feedback Form ID: 806)*
- Yes. The exclusion of the defueling process for laid up and future decommissioned submarines from the consultation is unreasonable and unacceptable. This essential but high-risk operation has been deliberately kept out of the SDP debate. We cannot have confidence in the MOD recommendations which exclude reference to defueling. *(K Tabernacle)*
- Of extreme concern is public safety. Cumulative cuts in MOD budgets over successive parliaments make any activity at this time less than ideal. The national press has many instances of personal concerns by MOD staff about the impact of this. Decisions need to be taken with gravity and conscience, not over a calculator. *(Feedback Form ID: 808)*
- We believe that the current assessment adequately summarises the realisable options available to the MoD. The Environmental Report provides a sound account of the baseline conditions particularly relating to Devonport. The Environmental Report also provides a good evaluation of any likely environmental effects from the dismantling and processing options.
The Environmental Report acknowledges that further assessment, such as the Environmental Impact Assessment (EIA) will be necessary once site specific details are available at a project level rather than strategic plan scale. In relation to the draft Habitats Regulations Assessment (HRA), several references or links to other data sources may need to be updated. For instance, the SSSI improvement programme that ran until 2010 is no longer relevant in the context of page 25 of Appendix A of the Environmental Report. Similarly, the Office of National Statistics web page referenced on page 279 of that appendix is no longer available.
The SEA also recognises the need for other competent authorities, including ourselves, to be involved in project level assessment and states the requirement to agree a lead authority when assessing applications. We are a statutory consultee in this process. While the need for discharge consents is identified, other environmental permits such as waste management and pollution prevention and control may also be needed. Variation of a radioactive substances regulation permit may also be required. Possibly the most significant issue that has not yet

been addressed is that of in-combination and cumulative effects of SDP with any other plans or projects, where these are known, that may be envisaged at Devonport through the life of SDP. We do not believe that any other significant options have been overlooked. (*The Environment Agency*)

- No. (*DNSC comment*)
- A more complete assessment would compare discharges and worker doses for the three options by listing likely radio-isotopes released with estimates of the level of radioactivity. A draft application for a radioactive discharge authorisation would have been one possible way to present the information. (*Fife Council*)

8. What are your views on our proposals and our rationale for: a) How we remove the radioactive waste?

November Responses:

- Yes, RPV removal seems best. (*Feedback Form ID: 71*)
- Use the existing highly trained personnel. (*Feedback Form ID: 216*)
- Not in Plymouth or England. (*Feedback Form ID: 217*)
- This should be stored without cutting up the reactors. (*Feedback Form ID: 218*)
- The approach seems reasonable. Indeed interim storage of RPVs means that options are not precluded and the benefits of radioactive decay are realised. (*Feedback Form ID: 219*)
- See Q2/3/5 answers. (*A. Jones*)
- Logical. (*R. Harper*)
- Cut out. (*Feedback Form ID: 350*)
- Proposal 2. (*Feedback Form ID: 351*)
- I agree with your rationale. (*A. Osborne*)
- RPV removal and storage has many advantages not least radiation dose during dismantling. I assume the gamma radiation is dominated by cobalt 60 so a few tens of years storage is a big advantage. The RPV is very robust and long term storage should present few difficulties. (*Feedback Form ID: 354*)

December Responses:

- I am in agreement with the proposals made. (*Feedback Form ID: 375*)
- This smacks of putting it off to another day. I suggest that it is better to try to work the whole process Remove, Reduce and Package for storage. This will test the process early in the programme and be more palatable, for selling to the nation. (*Feedback Form ID: 376*)
- RPV removal seems to be the most cost effective and safe option. (*Feedback Form ID: 399*)
- There are very few options and although there is a commitment to meet legislation the cost of doing so does not seem to have been taken into account and assumed to be the same for all options - my view is that the preparation and storage is probably one of the biggest costs and will limit the selected final solution only to a MoD owned site. (*N. Fyfe*)
- Least bad. (*Feedback Form ID: 477*)
- Appropriate and must be monitored throughout. (*A. Walker*)
- The rationale is comprehensive. (*I. Hunter*)
- Agree. (*I. Currie*)
- Carry out de-fuelling and dismantling of RC in Devonport only viable option. Defuel, remove all arisings decontam, remove RPV's, pressurise MCP's, all primary systems, cut up and store. (*S. McQueen*)
- I agree with your proposal 'RPV removal and storage'. (*Feedback Form ID: 505*)
- Agree with RPV removal and storage. (*M. Rich*)
- We support your proposals. (*R. Furse*)

- As answered in Q2 the smaller it is the easier and safer it is to move. (A. Williams)
- As long as it is done safely. (Feedback Form ID: 509)
- How would you guarantee no leakage of radioactive material, if the RC is opened and the RPV is removed from it? At the time of removal and before the hole is closed over, could there be leakage. I am not convinced that the RPV could not leak radioactive material, once out of the R Compartment (RC). (Feedback Form ID: 530)
- 8.3.1 option. (Feedback Form ID: 535)
- Store ILW in existing sites. (Feedback Form ID: 536)
- Agree. (Feedback Form ID: 538)
- This is adequately covered. (P. Lister)
- The proposals make sense, as does the associated rationale. (Feedback Form ID: 542)
- I had the pleasure of speaking to [member of project team, name removed] before the workshop and felt perfectly comfortable with your proposals for a, b and c. (Feedback Form ID: 543)
- R.C. Complete. (Feedback Form ID: 544)
- OK. (J. Cook)
- I agree that RPV removal and storage is the best option. (Feedback Form ID: 548)

January Responses:

- You are pressing the view that removal of the RPV is the best option before this consultation has been concluded. Hence, this is not a valid consultation. I am in favour of removal of the entire RC as the least dangerous option if something has to be done. But continuing to store the submarines until a final solution for underground storage of the radioactive waste (2040?) is the best option. (M Harris)
- See comments above. (C. Hunter)
- To disregard to human health and life. (K Johnson)
- I support the proposals for RPV removal and storage. (B Pym)
- As stated I believe the least should be undertaken with minimum disruption to the radioactive waste, therefore if the status quo is not an option the RC should be separated in tact, sealed and stored at a safe state at a secure nuclear waste site would be my preferred option. (Feedback Form ID: 683)
- The radioactive waste should be removed using the RPV removal and storage option. (Feedback Form ID: 684)
- Suggested option best. (Feedback Form ID: 687)
- Satisfactory. (Feedback Form ID: 688)
- The less cutting up the better for the ILW material. (Feedback Form ID: 689)
- Dangerous and Unnecessary. (Clive Martin)
- I believe the MoD and its contractors have suitable experience and are competent to carry out this operation. (Feedback Form ID: 691)
- Remove RC preferable but impractical for reasons stated. Remove RPV & store in tact in licensed place until GDF available. (G Cooke)

- The safest method should be used not the cheapest or most convenient. (*L. Miller*)
- Ask a paid scientist. (*Feedback Form ID: 695*)
- You are pressing the view that removal of the RPV is the best option before this consultation has been concluded. Hence, this is not a valid consultation. I am in favour of removal of the entire RC as the least dangerous option if something has to be done. But continuing to store the submarines until a final solution for underground storage of the radioactive waste (2040?) is the best option. (*R. Plagerson*)
- The safest method should be used, not the cheapest or most convenient. (*Feedback Form ID: 698*)
- Agree. (*Feedback Form ID: 704*)

February Responses:

- See response to Q2. (*G Davies*)
- The potential benefits of storing reactor pressure vessels whole, rather than size-reducing them, may be over estimated. In para. 8.3.2 it is stated that the size reduction process would require less expensive facilities if reactor pressure vessels were to be stored whole for a number of years. The explanation for this is said to be lower levels of radioactivity due to decay. Even with lower levels remote handling of the cutting tools and cut parts would probably be necessary in order to protect workers to the height standards expected. It is hard to see how costs could be saved. Add to this the difficulty of moving up to 80 tonne loads to a remote storage facility and there may well be benefits in cutting and packaging the pressure vessels rather than storing them whole. (*R. Ellington*)
- Agree with RPV removal and disposal whole after encasement. (*Feedback Form ID: 724*)
- Not feasible – do not cut up in Devonport. It should not be about cost saving. (*C. McCarthy*)
- RC separation is probably the least favoured option. However, there should be a detailed assessment of RPV removal versus size reduction, specifically investigating whether short term size reduction can be achieved without undue radiological dose and risk. Assuming there are no undue health and safety issues, size reduction ('do it once and do it right') has important benefits. As noted, storage costs are relevant. (*P Davis*)
- RPV removal best option. (*Feedback Form ID: 735*)
- The less that radioactive material is interfered with, the better and safer. (*T. Staunton*)
- Rationale sensible. (*Feedback Form ID: 742*)
- RPV Removal. (*Feedback Form ID: 744*)
- Defueling and cutting up of the dinosaurs. (*Sandey*)
- Defuel off shore, seal entomb reactor core in relevant compound. Gibraltar, Malta etc., Islands. (*R. Rees*)
- See responses 1,2 & 7. (*Feedback Form ID: 747*)
- Agree with philosophy of keeping 'options open' regarding size reduction, however would there not be implications regarding the waste management

hierarchy, which would encourage volume minimisation (therefore, disposal space required and associated foot print) any way? (V. Nesbitt)

- As above. (Feedback Form ID: 751)
- Keep it undisturbed & Intact as much as possible. (Feedback Form ID: 755)
- No nuclear dump in Plymouth. (R Spettigue)
- I do not want a nuclear dump sited in the city of Plymouth. (L. Crawford)
- As above with minimum disruption to ILW. (E. Knight)
- Minimal exposure to people. (Feedback Form ID: 759)
- No radioactive waste should be released into the atmosphere or into a river, like the Tamar. Whatever method is chosen, the work should be undertaken miles away from a centre of population. (C Giarchi)
- The consultation documents do not give enough information to argue the case that RPV Removal is the best option. This currently looks as though it has a higher risk of accidental discharges; higher actual discharges into the environment and a higher worker dose in comparison to the RC Removal option. (Nuclear Free Local Authorities)
- Too many unknowns. Where and over how long a period is there a proven safety record for RPV removal and storage? (Feedback Form ID: 763)
- Really too technical and again an unknown for me to make a comment. (Feedback Form ID: 764)
- Agree that removal and whole storage of the RPV is the best option but do not accept the timetable – see above. (P Towey)
- The proposals seem reasonable. (B O'Neill)
- We do not consider that the project's preferred option is optimal nor even necessarily practicable. We note above (A2) that there are two other options for separating the radioactive material from the rest of the Reactor Compartment which do not appear to have been appropriately explored.

We agree with the project's conclusions that considerations of nuclear safety (for both the public and any workers involved) do not discriminate between the options. The radiological hazard is stable and relatively modest and well understood compared to other nuclear dismantling projects already successfully completed elsewhere in the UK.

From the SEA report (section 5.5), the estimated dose to the workers involved is given for each technical option:

*RC separation and storage 0.07 to 0.12 millisieverts per year

*RPV removal and storage 0.47 to 0.85 millisieverts per year

*RPV removal and waste packaging 0.5 to 0.9 millisieverts per year

The corresponding maximum anticipated dose to a member of the public (in the critical group) is less than 0.003 millisieverts per year.

These figures can be compared to 'everyday' occupational and natural background exposures using figures published on the Health Protection Agency (HPA) website:

*Eating a 135g bag of Brazil nuts 0.005 millisieverts

*One transatlantic flight 0.07 millisieverts

*CT scan (head/chest/whole body) 1.4 to 10 millisieverts.

*UK average annual dose (all sources) 2.7 millisieverts per year

*Cornwall resident average radon dose 7.8 millisieverts per year.

*So the maximum dose to a member of the public is equivalent to eating about 80 grammes of Brazil nuts. The occupational dose to a worker involved in the dismantling work is equivalent to between 1 and 13 Transatlantic flights per year, and less than having one CT scan.

We have examined the integrated option lifecycle cost expectations (and uncertainty bands) documented for each of the integrated options considered. There is insufficient information provided (in terms of cost breakdown and supporting cost benchmarking) to determine the likely accuracy of these cost estimates. Historically, nuclear decommissioning project costs have varied widely as the project data has matured, and therefore we would not consider the cost spreads detailed to be discriminatory either, except possibly for the major outliers. For example, the Investment Appraisal Paper (Annex D) suggests the only discriminator is to preclude the 'Do Nothing' option and to preclude the 'Rosyth only' options.

We note the Investment Appraisal has identified two features of delayed ILW size reduction and packaging which may be beneficial in terms of project cost:

1. It may be possible to dispose of the RPV 'intact' in the GDF.

We believe this is unlikely to be a realistic expectation and should be removed from project consideration. We have already noted the inefficiency of this approach, as much of the RPV is not ILW and could be recycled, or disposed of more effectively. In principle, it is not in the wider interests of UK plc. What is to stop every other potential GDF user taking a similar stance for non-standard items? What the SDP is in effect seeking to do is substitute a potential project cost for a project externality that somebody else (probably the NDA) would have to resolve.

We are concerned that keeping this aspect within the project thinking could cause loss of focus on other aspects of the project which need addressing urgently.

2. There are potential benefits as well as potential disadvantages to delayed RPV size reduction

- a. Further decay of radioactive species such that less of the RPV will remain ILW or the RPV will be safer and more economic.

In practice, such decay is only expected to have measurable benefit within the first 30 years after each submarine has been taken out of service. A number of the submarines laid up have already exceeded this 30 year 'window' and more will have done so before dismantling takes place.

We agree with the project that radiological hazard is not a significant discriminator between the different options, and so in practice any benefit in this area, even if dismantled within the 30 year period, will be modest.

We have already noted that a much more significant way of reducing the amount of waste sentenced as ILW is to process the RPV to separate the minority which will be ILW from the rest of the RPV which will not be.

So we view this potential advantage as being very small in practice.

- b. That technology will develop over the intervening period to make processing more efficient and less costly.

This consideration looks potentially attractive but is unlikely to be borne out in practice. This is discussed in the Independent Peer Review of the SDP Technical Options Study (page 8):

'...several aspects of discussion is given associated with the benefits of future technologies and developments in expertise... This is a common theme in many debates about 'difficult' challenges that would appear to benefit from future discoveries and developments. However, a degree of caution is necessary in this area: Firstly, many significant technological achievements have been the result of a perceived commercial need and significant investment has often been made in order to get technology to a level of maturity at which it can be used, such as the advent of the PC. By comparison, such developments rarely happen by way of the pure research and development programmes of industry and the university sector. Secondly, during the period that work is delayed by the prospect of future developments, the submarines' infrastructure will degrade further possibly exacerbating the problem from that of its current state; this is a common thread of many legacy issues in the nuclear power industry. Thirdly, during this period much of the existing expertise and knowledge base will retire and/or will die. Finally, on several occasions during the second workshop, the view was expressed that none of the options presented challenges that were sufficiently complex as to rely on the prospects of future research particularly heavily. Conversely, it is clear that to wait introduces other areas of complexity and uncertainty.'

We broadly concur with this view:

1. The likelihood of appropriate technology development occurring in this case is low and uncertain
2. There are offsetting factors such as degradation in material condition and knowledge and expertise that are more certain and almost certainly more costly.
- c. The regulatory environment is likely to change in a more rather than less constraining way.

All the experience over the 50 year history of the nuclear sector, is of the regulatory requirements and environmental requirements becoming more not less stringent.

Therefore, we believe that the conclusions of the Technical Options Study, in terms of discounting the RPV removal and storage option, remain valid.

The two options remaining from the Technical Options Study were:

1. RC cut out and storage
2. RPV removal and size reduction to packaged waste for storage.

Notwithstanding the fact that the RC cut out option was the preferred option arising from the previous public consultation in 2003, it is clear that it faces a number of significant challenges and uncertainties:

- a. Whether RCs can be transported and stored in compliance with UK, EU and International Regulations (noting transport is included in any option of dual site dismantling, or storage remote from the dismantling site).
- b. Where RCs could be stored at either Devonport or Rosyth (it is assumed to be feasible but is it practicable) and whether such a proposal is likely to be publicly acceptable locally.
- c. Whether the RCs could be stored remotely from the dismantling site, and if so where?

Even if these challenges could be satisfactorily addressed, this still leaves a legacy issue, as with RPV removal and storage. It is worth noting in this context the current position of France in this regard. Having initially separated and stored

the RCs of 3 submarines, they are now considering how to process the RCs to a form compatible with eventual waste disposal. The French experience is particularly relevant to the UK:

1. It has similar spatial constraints to the UK (than say USA or Russia) although to a lesser degree.
2. It is a fellow member of the EU (operating within the same overarching EU legislation regime) and a close partner in both military and civil nuclear matters. Therefore, we concur with the project's decision to not pursue the RC cut out and store option further.

In summary:

1. We do not agree with the SDP proposal for RPV removal and storage, nor accept the supporting rationale. We believe the reasoning that led to the Technical Options study discounting this option remains valid.
 2. We agree with the SDP proposal not to pursue RC cut out and storage.
 3. We recommend the SDP follow the option involving early waste packaging.
 4. We recommend the SDP review the methodology of how to remove the radioactive materials from the submarine, taking into account possible alternative options identified earlier (response A2). (*Nuclear Institute*)
- You appear to offer no credible rationale (8.3.3) for rejecting RC separation. (*S Tame*)
 - As stated earlier the only realistic option is to remove the whole reactor compartment and then reduce into manageable pieces to transport. (*P Shingler*)
 - No comment. (*Feedback Form ID: 776*)
 - No Comment. (*S Douglas*)
 - As indicated above it should not be removed immediately. (*T Milburn*)
 - The proposed option of RPV removal and storage appears reasonable, but we would like to see a more systematic and robust underpinning that takes into account the comments in our responses to Q5 and 6 above. We agree that further assessment could make either the RPV removal OR Packaged Waste options more attractive. (*NuLeAF comments*)
 - The proposals seem sensible based on what has been presented in the consultation document. (*Feedback Form ID: 783*)
 - RC removal. (*D Hoadley*)
 - How the radioactive waste is removed will play a part in how and where it can be stored. As stated in the above questions Copeland Borough Council has concerns over the process and the criteria used to assess these options.
 - We believe that the 3 options outlined are the most feasible, however a more detailed analysis of the criteria and weighting used to determine which process is progressed is needed to instil faith in the process. The process has not taken account of the difference in perceived or real impacts. The perceived negative impact on communities has not been given consideration. (*D. Gallen*)
 - The MOD option tells only half the story. Without a change in submarine procurement and operational policy, it is meaningless to ask people to choose between solutions that accommodate the perpetuation of public risk from a naval nuclear fleet. (*D McDonald*)
 - Satisfied. (*Feedback Form ID: 791*)
 - See Q2. (*M Galley*)
 - RPV Removal option (Option 2). (*M O'Hara*)

- We consider that the Ministry of Defence has not yet published enough information for consultees to be able to answer this question on an informed basis. This appears to partly because of the project's nature, in undertaking work which has not previously been done in the UK, and partly because of secrecy constraints imposed by the Ministry of Defence. The Ministry's refusal to release certain information about reactor types and operation appears to be driven by concerns that the United States authorities would not wish to see such information made public. In our view enabling the correct choice of methods for dismantling out of service submarines which have the least impact on public safety and the environment should be given a higher priority by the Ministry of Defence than military arrangements between the USA and the UK. To this end, the Ministry of Defence should publish the following information in order to inform and explain decision-making on submarine dismantling and radioactive waste removal:
 - The predicted post-defueling radioactive inventory in the reactor pressure vessel and primary and secondary cooling circuits for each of the submarines which is to be dismantled.
 - The detailed risk analysis for each of the proposed dismantling and storage options, including the radiation doses to which it is anticipated that workers and members of the public would be exposed as a result of each option.
 - The risk of an accident during submarine dismantling will be a concern to some members of the public. The Ministry of Defence should publish its assessment of possible accident scenarios and their associated risks during the dismantling process (including scenarios resulting from malicious acts) and preliminary views on how such risks would be mitigated and accidents handled.
 - In order to inform discussion on whether it is feasible to move submarines which are currently in storage afloat between sites, information on hull integrity and the general condition of each submarine and the Ministry of Defence's assessment of the risks identified in moving the vessels should be published.
 - The expected costs and benefits accruing to communities hosting submarine dismantling facilities, including outline information on the kind of compensation package that the Ministry of Defence would anticipate making to host communities.

One factor which will influence the decision on how to remove radioactive waste from the submarines is the risk that radioactive fission products may have migrated from reactor fuel modules into the reactor and its steam generating and cooling circuitry. The degree to which this may have happened will influence the radioactive dose to which workers dismantling the submarines will be exposed. The Ministry of Defence should therefore seek further advice on this point from independent experts and should also be willing to adapt its approach to the dismantling process in the light of experience with the first, demonstrator, submarine which is to be dismantled.

The Ministry of Defence assumes that all reactor pressure vessel waste must be size reduced and packaged before it can be stored in a national radioactive waste repository. However, it is not yet clear whether it will be necessary to cut up and repackage the reactor pressure vessel for it to meet waste acceptance criteria for the repository. Size reduction is a potentially hazardous and costly activity and it should not be undertaken if there is no genuine need to do so.

If the assumption is correct the key issue in the choice of option for removal of waste is when the waste should be size reduced. If waste is size reduced at an early stage in the process – immediately after submarine dismantling – the dose to workers cutting up the contaminated components will be higher than if size reduction is delayed until shortly before the waste is consigned to the repository. This is a point in favour of size reduction at a later stage in the process.

On the other hand, delaying size reduction would transfer the radiation risks, expense, and responsibility for cutting up the pressure vessel to a future generation. As a guiding principle, Nuclear Information Service considers that the costs of dealing with nuclear legacies should be carried by the generation which made the decision to generate the waste and has received the benefits associated with generating the waste – in this case, ourselves, the current generation. For this reason we favour the 'RPV removal and size reduction for storage as packaged waste' option from the three options proposed by the Ministry of Defence.

A commitment from the Ministry of Defence to undertake size reduction at the earliest possible stage, rather than at an unspecified time in the future, would reduce the potential risk of the submarine dismantling project failing to meet its objectives if a future government is reluctant to meet the costs of size reduction or procrastinates for other reasons.

In order to engender public confidence in the dismantling process the Ministry of Defence should make visible and tangible arrangements for protecting the public and the environment from the impacts of dismantling. The submarine dismantling process should be openly regulated by the Office for Nuclear Regulation and the Environment Agency at all stages. Submarine defueling should also be brought within the *vires* of the two regulators. We do not consider that the Defence Nuclear Safety Regulator is an appropriate body to regulate defueling and dismantling as it lacks the necessary accountability and independence to command the confidence of the public.

In a number of places the consultation documentation states that proposed options will meet legal requirements and regulatory standards. Legal requirements and regulatory standards do not always represent best practice and may change, and we believe it is important for the Ministry of Defence to adopt an approach which ensures that doses and discharges are always kept as low as reasonably achievable. (*Nuclear Information Service*)

- Agree with RPV removal and disposal whole after encasement
- *RPV Removal, option 2. (S O'Hara)*
- Use already experienced contractors provided that the contract conforms to EU legislation. (*West Kilbride Community Council*)
- No comment. (*The Highland Council*)
- You over look the possible risks. (*Feedback Form ID: 798*)
- SCCORS notes that MOD's proposed option, set out in section 8.3.1, is RPV removal and storage. (*SCCORS*)
- If demolition on one site was chosen, this would not be the problem you have invented. (*G Wheeler*)
- Not in a city setting. (*Feedback Form ID: 800*)
- Health and safety should be the overarching criteria which they cannot be due to cost. Radioactive discharges do add to risk of negative health effects even if

the discharges are regulated. Bearing these in mind Option1 is the best of the 3.
(*R Holmes*)

- Disturb it as little as possible. (*Feedback Form ID: 803*)
- The proposed option of RPV removal and storage appears reasonable. We agree that further assessment could make either the RPV removal or Packaged Waste options more attractive. We would have preferred to be able to consider the storage of whole RPV in the GDF as a viable agreed option within this consultation. (*Plymouth City Council*)
- The primary objective should be safety not profit or convenience. There is no justification for the risk and pollution involved in cutting up reactors in an urban setting. (*Feedback Form ID: 806*)
- Reactor Compartment removal. (*K Tabernacle*)
- We support the MoD's intention to manage the legacy of nuclear powered submarine operations to minimise risks to the environment. We believe that the three options for removing radioactive waste are realistic and can be delivered. The rationale for preferring RPV separation and storage is well presented. As this is likely to deliver the lowest overall environmental impact for managing the ILW, we believe that the MOD should continue to work closely with the NDA and wider government to assess whether it is more cost effective and beneficial to make the case for eventual disposal of intact RPVs at the GDF. The rationale for co-operation with the NDA for interim storage of SDP ILW has also been explained in detail and offers wider environmental benefits in that the MoD would not need to construct a bespoke ILW store. Potential environmental impact from SDP would therefore be reduced. (*The Environment Agency*)
- See response to Q4. (*DNSC comment*)
- The consultation documents do not give enough information to argue the case that RPV Removal is the best option. This currently looks as though it has a higher risk of accidental discharges; higher actual discharges into the environment and a higher worker dose in comparison to the RC Removal option. (*Fife Council*)

8. What are your views on our proposals and our rationale for: b) Where we remove the radioactive waste?

November Responses:

- Yes, dual site. (*Feedback Form ID: 71*)
- Long term / under ground facility. (*Feedback Form ID: 216*)
- Not in Plymouth. (*Feedback Form ID: 217*)
- This should not be removed if at all possible. (*Feedback Form ID: 218*)
- Based on the options available Devonport and Rosyth are the only viable locations. (*Feedback Form ID: 219*)
- See Q2/3/5 answers. (*A. Jones*)
- Logical. (*R. Harper*)
- Devonport. (*Feedback Form ID: 290*)
Preferably Rosyth. (*Feedback Form ID: 350*)
- On site. (*Feedback Form ID: 351*)
- No significant views. (*A. Osborne*)
- It appears to me that the key factor is cost with perhaps a socioeconomic factor for some work at Rosyth. The absence of any indicative costs in the paper makes it difficult to come to a view on whether use of both sites makes sense. (*Feedback Form ID: 354*)

December Responses:

- Devonport and Rosyth would be the ideal sites. (*Feedback Form ID: 375*)
- This looks sound. (*Feedback Form ID: 376*)
- Nowhere near population centres. (*Feedback Form ID: 377*)
- Agree – Use both sites for vessels stored at each one – cost for transporting either way would be huge. Controls already in place and staff trained. (*Feedback Form ID: 399*)
- I have no firm views on this. (*N. Fyfe*)
- Hobsons choice. (*Feedback Form ID: 477*)
- Appropriate and must be monitored throughout. (*A. Walker*)
- You have limited choice so they're realistic. (*I. Hunter*)
- Agree. (*I. Currie*)
- Devonport only financial option. (*S. McQueen*)
- I agree with your proposals to remove at both Rosyth and Devonport. (*Feedback Form ID: 505*)
- Devonport & Rosyth Dockyards. (*M. Rich*)
- See Q3. (*R. Furse*)
- As in Q4 as near to the shipyard as possible. Again my preference is Devonport. (*A. Williams*)
- As long as it is done on a nuclear regulated site under the watchful eye of ONR. (*Feedback Form ID: 509*)
- I dislike the thought that 27 submarines could be dismantled in Devonport, as despite all assurances, accidents can and do happen and this is a highly populated area. (*Feedback Form ID: 530*)
- Devonport seems more favourable. (*Feedback Form ID: 535*)

- Devonport first, Rosyth second. (*Feedback Form ID: 536*)
- Agree. (*Feedback Form ID: 538*)
- Agree. (*P. Lister*)
- I understand the dual-site proposal and the rationale behind it, but I think that removing and handling nuclear material from the submarines should be undertaken at only one site in the UK. And as I understand it, the financial cost of floating the 7 Rosyth submarines to Devonport is similar to the dual-site option proposed. (*Feedback Form ID: 542*)
- See a. (*Feedback Form ID: 543*)
- Stored on site where removed. (*Feedback Form ID: 544*)
- Wouldn't it be best to use a site as far away from populated areas as possible? (*J. Cook*)
- Using Devonport and Rosyth is the best option. (*Feedback Form ID: 548*)

January Responses:

- You seem to have eliminated other sites before this consultation and are only presenting Plymouth and Rosyth as the options. Again this makes the consultation invalid. (*M Harris*)
- No new jobs will be created, so Plymouth will not benefit. Only 100 staff will be required and will be taken from the existing staff at the dockyard. (*C. Hunter*)
- Do it far away from peoples homes. (*K Johnson*)
- I support the proposals and the rationale to conduct initial dismantling at both Devonport and Rosyth. This avoids moving submarines but see Question 7. (*B Pym*)
- The RC should be removed to a safe and secure nuclear licenced facility preferably away from the dismantling site. (*Feedback Form ID: 683*)
- The radioactive waste should be removed at both Devonport and Rosyth Dockyards. (*Feedback Form ID: 684*)
- As above. (*Feedback Form ID: 687*)
- Satisfactory. (*Feedback Form ID: 688*)
- Would prefer that once the material is dismantled & cut into appropriate size packages it could be transported away from Rosyth. (*Feedback Form ID: 689*)
- Moving to cities is mad, dangerous and ill considered. (*C. Martin*)
- This waste should be removed where there are competent staff licenced to undertake the work. (*Feedback Form ID: 691*)
- Plymouth and Rosyth. (*G Cooke*)
- Away from densely populated areas. (*L. Miller*)
- A secure site or sites away from Plymouth or other conurbation. (*C Ward*)
- Ask a paid scientist. (*Feedback Form ID: 695*)
- You seem to have eliminated other sites before this consultation and are only presenting Plymouth and Rosyth as the options. Again this makes the consultation invalid. (*R Plagerson*)
- It should be far away from densely populated areas. (*Feedback Form ID: 698*)
- Agree. (*Feedback Form ID: 704*)

February Responses:

- See response to Q3. (*G Davies*)
- Agree with the proposal to use both Devonport and Rosyth. (*R. Ellington*)
- Accept need possibly for new build facility for SDP but this should be within an existing MoD NDA site for ILW - No new facility within populated centres and not in vicinity of Rosyth nor Devonport. (*Feedback Form ID: 724*)
- Not in residential areas. (*C. McCarthy*)
- There will be no benefit to Plymouth. (*Feedback Form ID: 685*)
- Using both Rosyth and Devonport looks appropriate, but it is not clear that the investment costs have been fully addressed. The level of investment is relevant. If it is decided that very large and costly facilities are needed for the safe removal of the RPV and for size reduction, this would suggest that it would be better to provide this at one location. However, if a safe and pragmatic approach can be devised that entails more modest investment, this would match the two-dockyard approach better. There might be lessons from USA non-submarine activities about pragmatic and safe nuclear decommissioning and dismantling - UK should try to avoid large over-engineered and inefficient installations. In any event, MOD should tap into worldwide experience, particularly with regard to Russian submarine dismantling. (*P Davis*)
- RPV removal best option. (*Feedback Form ID: 735*)
- Don't do it in Plymouth, and don't do it anywhere unless you have a safe long-term storage repository away from any centre of human population. (*T. Staunton*)
- Devonport is the ideal location and the area desperately needs the work. (*Feedback Form ID: 742*)
- Removal at Devonport alone. (*Feedback Form ID: 744*)
- Not here in our populated city. (*Sandey*)
- Not here in limestone and shellity . (*R. Rees*)
- See responses 1,2 & 7. (*Feedback Form ID: 747*)
- Feel reassured that journeys involving transfer of radioactive material will be reduced (improving safety) and glad that this outweighs cost of duplicating services. (*V. Nesbitt*)
- As above. (*Feedback Form ID: 751*)
- Far away from population centres. (*Feedback Form ID: 755*)
- No nuclear dump in Plymouth. (*R Spettigue*)
- I do not want the removal of radioactive waste to take place in the city of Plymouth! (*L. Crawford*)
- Not within centres of population. (*E. Knight*)
- Must not be in a city with large resident population. (*Feedback Form ID: 759*)
- Yes, radioactive waste should not be removed or stored in the heart of a densely populated city like Plymouth. (*C Giarchi*)
- NFLA would certainly agree that transporting 20 decommissioned submarines from Devonport to Rosyth should be ruled out. But very little information is given about the risks associated with transporting decommissioned submarines. Transferring the submarines currently stored afloat at Rosyth to Devonport fails to meet the Proximity Principle. (*Nuclear Free Local Authorities*)
- See above. Not safe in centre of population – Plymouth 250,000 and growing.

(Feedback Form ID: 763)

- Not good enough giving cost the final reason. *(Feedback Form ID: 764)*
- We are not convinced that this needs to be done in Devonport. – see above. *(P Towey)*
- The proposals seem reasonable. *(B O'Neill)*
- We agree in principle with the SDP proposal to carry out initial dismantling at both Devonport and Rosyth. However, we note this option assumes that a single size reduction and packaging facility will be built at one of the sites, and the RPVs transported to it from the other dismantling site (Investment Appraisal Document Annex C). This raises two potential issues:
 1. Can the RPVs be transported cost-effectively, in compliance with UK, EU and International Regulations? We have examined the RPV transport feasibility document in outline, and remain to be convinced that it is practicable to transport RPVs other than by sea. (We note that the SEA report assumes RPV transport by road would be limited to relatively short distances).
 2. We assume that a LLW processing facility will be provided at both dismantling sites.

We believe the technically most challenging part of the project is the physical removal of the RPV and the other radioactive materials from the submarine (see responses A2 and A8a). By contrast, the technology involved in processing the waste is mature and used elsewhere in the UK.

We see significant advantages in teams on two sites seeking to optimise this process in parallel, with significant learning opportunities between the two. A healthy rivalry between two teams engaged on similar tasks is also good for stimulating progress and excellence. *(Nuclear Institute)*

- You appear to take no account of the wider question of where nuclear work should take place - this is, in my view, a mistake. *(S Tame)*
- In the middle of a city the size of Plymouth could be described as madness, but there appear to be no other options on offer! *(P Shingler)*
- Consider Rosyth to be completely unsuitable, propose Davenport only option. *(Feedback Form ID: 776)*
- Should not use Rosyth. *(S Douglas)*
- As indicated above it should be removed in an area remote from major populations and stored in an area remote from major populations. *(T Milburn)*
- The proposed option of initial dismantling at both Devonport and Rosyth appears reasonable, but we would like to see a more systematic and robust underpinning that takes into account the comments in our responses to Q5 and 6 above. We think that further assessment should be used to establish whether it is possible to differentiate between the initial dismantling site options more conclusively. It is also very important that further assessment enables the views of the relevant local authorities at the proposed sites to be properly and explicitly addressed. *(NuLeAF comments)*
- The proposals seem sensible based on what has been presented in the consultation document. *(Feedback Form ID: 783)*
- At both sites. *(D Hoadley)*
- There is a presumption throughout the paper that moving the waste to a NDA site is the most feasible solution. This decision has not been fully rationalised and the decision process may be considered flawed if it does not give due consideration

to all possible implications for environmental, health and safety and transport impacts. It is considered that to date these considerations have been limited and a much more robust examination is required. (*D. Gallen*)

- People local to the suggested sites need to know what proper compensation in terms of reducing other local MOD radiation risks is offered. (*D McDonald*)
- Satisfied. (*Feedback Form ID: 791*)
- See Q3. (*M Galley*)
- Dual Site option. (*M O'Hara*)
- Assuming that there are no other suitable options for submarine dismantling (see our comments about Barrow in Furness in response to question 3), we share the view of the Ministry of Defence that the dual site location (dismantling at both Devonport and Rosyth) would be the best way forward. An advantage of undertaking dismantling operations at two locations using two facilities is that dismantling would take place at a faster rate, resulting in completion of the dismantling of redundant submarines which are currently in storage by an earlier target date.

The Ministry of Defence should be willing to compensate communities living near the dismantling sites for the potential extra risks they may face from hosting the dismantling facility. As well as providing financial and infrastructure benefits, as far as possible efforts should be made to provide 'radiological compensation' by reducing risks and doses from other nuclear operations in the vicinity. In the case of Devonport, this could be achieved by ceasing to undertake routine submarine maintenance operations at the dockyard when the submarine fleet eventually moves to Faslane.

As Rosyth does not have a submarine defueling capability and the Scottish Government is unlikely to consent to redevelopment of defueling capability at Rosyth, submarines which have yet to leave service will have to be defueled at Devonport after their retirement. This means that either i) a dismantling facility at Rosyth would deal only with submarines currently in storage at Rosyth before closing, or ii) defueled out of service submarines, would have to be transported by sea from Devonport to Rosyth for dismantling if it was decided that the facility should remain open. Our preference would be for dismantling of submarines which have yet to leave service to take place at Devonport. (*Nuclear Information Service*)

- It would seem sensible to do the work where the existing decommissioned subs are rather than attempting to move them. Subs still in service should be scheduled to end their life at whichever yard (Rosalyst or Devonport) has capacity to store and process them at the time they come out of service. The option of doing the work anywhere else should be eliminated, and the movement of hulks should be eliminated - this means it has to be done in both places. (*R Creagh*)
- *Dual Site, option 3.* (*S O'Hara*)
- At the existing two bases at Devonport and Rosyth as you say transportation of hulks for dismantling is uneconomic. (*West Kilbride Community Council*)
- No comment. (*The Highland Council*)
- See above. (*Feedback Form ID: 798*)
- SCCORS notes that MOD's proposed option, set out in section 8.5.1, is to undertake dismantling at both Devonport and Rosyth. (*SCCORS*)
- As above. (*Feedback Form ID: 800*)

- Here MOD says that protecting secrets is the limiting factor that stops the subs going to the most ideal site a truly remote desert site. Then for the 3 other options it's really cost again. (*R Holmes*)
- Where are the most labour skills? (*Feedback Form ID: 802*)
- Far away from centres of population and away from the sea. (*Feedback Form ID: 803*)
- Further assessment should be used to establish whether it is possible to differentiate between the initial dismantling site options more conclusively. It is also very important that further assessment enables the views of the relevant local authorities at the proposed sites to be properly and explicitly addressed. (*Plymouth City Council*)
- I believe it shows a reckless disregard for the health and safety of ordinary people that dismantling within yards of homes and schools is even an option. Would this be acceptable in Westminster? (*Feedback Form ID: 806*)
- At both sites. (*K Tabernacle*)
- See response Q8a. (*The Environment Agency*)
- See response to Q4. (*DNSC comment*)
- Very little information is given about the risks associated with transporting decommissioned submarines. Fife Council agrees strongly that transporting 11 or more decommissioned submarines from Devonport to Rosyth should be ruled out, and so we would suggest that the dismantling (with the Reactor Compartments remaining intact) of the 7 submarines currently at Rosyth should be carried out at Rosyth. (*Fife Council*)

8. What are your views on our proposals and our rationale for: c) Which type of site will be used to store intermediate level radioactive waste?

November Responses:

- Yes, pursue the NDA option. *(Feedback Form ID: 71)*
- Existing. *(Feedback Form ID: 216)*
- What about our children's futures. *(Feedback Form ID: 217)*
- A secure site away from populated areas. *(Feedback Form ID: 218)*
- The approach seems reasonable. *(Feedback Form ID: 219)*
- Consultation document assessment is sound and comprehensive at this stage *(A. Jones)*
- Logical. *(R. Harper)*
- Devonport. *(Feedback Form ID: 290)*
- Please refer to replies and views given in previous questions. *(I. Avent)*
- Central location. *(Feedback Form ID: 350)*
- No significant views. *(A. Osborne)*
- This is the important bit of the proposal clearly. *(Feedback Form ID: 353)*
- I support the possible use of NDA sites mainly due to the ability to share Infrastructure costs. *(Feedback Form ID: 354)*

December Responses:

- NDA site would be the best option. *(Feedback Form ID: 375)*
- The NDA solution makes sense. Our nation needs coherent through life management of ILW which is much more likely with a single organisation managing it. *(Feedback Form ID: 376)*
- Please nowhere near population centres even as an intermediate option. *(Feedback Form ID: 377)*
- NDA seems most sensible option – facilities, controls & staff already in place. *(Feedback Form ID: 399)*
- I think it must be an MOD owned site. *(N. Fyfe)*
- Can we make sure we have a remote facility before we let Devonport be named as a cutting site. *(Feedback Form ID: 477)*
- Devonport or Rosyth – as long as Health and Safety are taken into account. *(A. Walker)*
- You cover the type of site but haven't really come clean over the probable outcome. *(I. Hunter)*
- Agree. *(I. Currie)*
- NDA sites available use them. *(S. McQueen)*
- See answer to Q4. *(Feedback Form ID: 505)*
- Existing MOD site. *(M. Rich)*
- See Q4. *(R. Furse)*
- An existing site of MOD / NDA, would be the least controversial. *(A. Williams)*
- I would prefer to see storage at an NDA site that will take ultimate responsibility when it transfers to the GDF. *(Feedback Form ID: 509)*
- See Q4. I think the best site would be a NDA site, using years of experience there and they are away from highly populated areas. *(Feedback Form ID: 530)*

- Existing sites owned by MOD. (*Feedback Form ID: 535*)
- Existing sites. (*Feedback Form ID: 536*)
- An NDA site with the rest of UK plc ILW. (*Feedback Form ID: 538*)
- Agree with the rationale. (*P. Lister*)
- I think the proposal is sensible, as is the associated rationale. (*Feedback Form ID: 542*)
- See a. (*Feedback Form ID: 543*)
- Local. (*Feedback Form ID: 544*)
- Surely the NDA option is best. Doesn't the Government have a responsibility to make sure there are disposal facilities for all nuclear waste? (*J. Cook*)
- Working with the NDA to find the best sites seems appropriate. (*Feedback Form ID: 548*)

January Responses:

- As stated earlier detail of the sites is lacking, so it is not possible to answer this question. But continuing to store the submarines until a final solution for underground storage of the radioactive waste (2040?) is the best option. (*M Harris*)
- This should not be sorted in Plymouth otherwise we risk Plymouth becoming the "Sellafield of the South West" (*C. Hunter*)
- Preferably the moon, sadly not an option, find the storage site first far away from peoples homes. (*K Johnson*)
- Use of an NDA site is clearly the preferred option. The SDP should continue to work with the NDA to produce a suitable and cost effective solution. (*B Pym*)
- The size and weight of the RC would almost certainly require a new build facility as opposed to any existing ones. (*Feedback Form ID: 683*)
- The radioactive waste should be stored at the site where it is removed from the submarine until a final storage location is available. (*Feedback Form ID: 684*)
- As stated in chapter 8.7.1. (*Feedback Form ID: 687*)
- Store ILW at a remote NDA Site. (*Feedback Form ID: 688*)
- Use NDA / Civil Nuclear sector practice & storage places which are already in use. (*Feedback Form ID: 689*)
- Based on profit for contractor no mention of risks to people. (*C.Martin*)
- Existing Civil or MOD licensed storage facilities. But under no circumstances would I approve storage in Plymouth. (*G Cooke*)
- Only the GDF should be used to store ILW. Interim storage will delay the availability of the GDF, so should not be considered. (*L. Miller*)
- Ask a paid scientist. (*Feedback Form ID: 695*)
- As stated earlier detail of the sites is lacking, so it is not possible to answer this question. But continuing to store the submarines until a final solution for underground storage of the radioactive waste (2040?) is the best option. (*R Plagerson*)
- Only the GDF should be used to store ILW-interim storage will only delay the availability of the GDF so should not be considered. (*Feedback Form ID: 698*)
- Agree. (*Feedback Form ID: 704*)

February Responses:

- See response to Q4. (*G Davies*)
- The best option would seem to be storage of packaged waste at an NDA site. If reactor pressure vessels have to be stored whole then storage at the dockyards would probably be the best option in order to avoid transport of loads of 50 to 80 tonnes. (*R. Ellington*)
- Not expert enough to determine MoD or NDA - that has to be a scientific and security judgement made at the highest level of responsibility politically and industrially/scientifically. (*Feedback Form ID: 724*)
- It should be remote. (*C. McCarthy*)
- This should not be stored in Plymouth. (*Feedback Form ID: 685*)
- UK is at an immature state with regard to consolidating storage of ILW - the main blockers are political. However, leaving ILW at diverse sites is a sub-optimal strategy, and unlikely to be acceptable at Rosyth in any case (despite the fact that there is already an ILW store there). NDA strategy allows for consideration of consolidated storage. Assuming size reduction is used, packages will be transportable. The best place to store waste is Sellafield, where the submarine ILW would represent a small proportion of the total there. For this to happen the Cumbrian political climate would have to move more towards embracing the provision of UK nuclear solutions. This is a complex matter that cannot be bottomed out here! (*P Davis*)
- Point of generation, i.e. Rosyth and Devonport. (*Feedback Form ID: 735*)
- An already severely contaminated site away from any centre of human population or area of natural beauty or special scientific interest. These sites exist, for example the current land storage at Saida Bay, Russia and elsewhere. (*T. Staunton*)
- No comment. (*Feedback Form ID: 742*)
- The ILW should be stored at sites remote from the point of waste generation. (*L Medlyn*)
- Site at Devonport under NDA (new site under NDA). (*Feedback Form ID: 744*)
- Geologically sound not Western Mill Creek. (Else we'll all be up the creek). (*Sandey*)
- Stable geographically sound granite with no fissures. Site it at Exeter at Gold Command! (*R. Rees*)
- See responses 1,2 & 7. (*Feedback Form ID: 747*)
- I understand that problems have already been encountered in the identification of a suitable site for an ILW repository – public/community buy-in, time scales etc.. Would a storage facility for SDP encounter similar problems? Again think minimising distance travelled using closer facilities would be beneficial. (*V. Nesbitt*)
- NOT DEVONPORT – A very isolated site very far away from any population. Plymouth does not wish to be Sellafield of South West! (*Feedback Form ID: 751*)
- Far away from population centres. (*Feedback Form ID: 755*)
- Not in Plymouth! (*R Spettigue*)
- A site that is not located within the confines of a densely populated city! (*L. Crawford*)

- In the casings until long term site becomes available. (*E. Knight*)
- Plymouth unsuitable due to large resident population. (*Feedback Form ID: 759*)
- A remote island or remote part of the coastline. Not near a large centre of population or in the heart of it, as in Plymouth. (*C Giarchi*)
- The suggestion that RPV could be transported to and stored in an NDA storage facility also fails to meet the Proximity Principle. Moving RPVs from Rosyth to, for example, Hunterston or from Devonport to, for example, Hinkley Point, would be likely to generate considerable public disquiet. There will also be questions about why the NDA has spare storage capacity. Does this mean, for example, that civilian nuclear waste which is currently allocated space in an NDA store will have to be managed by an inferior method? (This was recently considered with the now dropped NDA proposal to build a near surface “disposal” facility at Hunterston in Scotland for graphite waste). (*Nuclear Free Local Authorities*)
- See above. If goes ahead, must be done in location which is secure, accessible yet remote from centres of dense population. (*Feedback Form ID: 763*)
- How would assess something is impracticable? That could be anything. I think it's impracticable to put so many people's lives and health at risk too. I trust NDA more than MOD. (*Feedback Form ID: 764*)
- We consider that the ILW should be stored on the site where it will be disposed of. We prefer that no final decisions are taken before it is known where the disposal facility will be. That should be the Government's priority at this stage. (*P Towey*)
- The rationale seems reasonable and storage remote from Devonport would be our preferred way forward. The use of NDA facilities, which would avoid the construction of a new store would appear to offer the best option. (*B O'Neill*)
- Before setting out our response, it is worth putting the 'size' of the storage into some everyday context. As noted in the consultation documentation, the store 'footprint' for RC storage is quite substantial, equivalent to nearly two regulation-sized football pitches. In contrast, the store 'footprints' for the other two options are much smaller, about 800m² (RPV storage) to 1,000m² (packaged waste storage). A standard (doubles) tennis court occupies 261m², and so these store 'footprints' correspond to 3-4 tennis courts.

In principle, any current nuclear licensed or authorised site in the UK which currently holds intermediate level waste in storage, or is anticipated will do so, could be suitable. However, any non-MOD site that might be considered, not only requires the site owner to accept the waste importation; it must also be acceptable to the local community and other site stakeholders. This could be pursued by a number of approaches. The principles of volunteerism, with community engagement and benefit packages for the host community, as is being pursued for the GDF siting provide one such model for siting new facilities. Where extant sites are to be used, the community support packages as deployed for the Vault 9 construction and operation at the LLWR and the LLW facility at Dounreay provide good practice examples.

Siting processes for radioactive waste should adhere to four principles:

- Framing – siting processes have to recognise, and allow for the articulation of, a diverse range of frames (technical, emotional and others) which may seem incompatible and competing, but are all valid for the individual or groups concerned

- Flexibility – be able to accommodate change in response to future events (e.g. membership of committees should not be set in stone, etc)
- Fit – work with existing structures thereby exploiting the trust those have built within the local community (and we note that the SDP project engages with existing Local Liaison Committees at Devonport and Rosyth)
- Finalisation – the siting process should offer a final resolution to the issue.

We are aware that the NDA has been attempting for a few years to develop regional ILW stores, which makes good economic sense. We understand that this has faced difficulties of public acceptability, since this involves necessarily importing some waste onto a site from elsewhere from operations from which the local community (eg in terms of employment) has not benefitted. The balancing of perceived risk against demonstrable benefit is key for the acceptability of any radioactive waste siting. Communities at existing nuclear sites are some of the most risk aware, yet paradoxically the most accepting of radiological risk, as they have jobs, investment and long-standing familiar relationships against which to balance this risk.

However, evidence from West Cumbria in relation to the attempted nomination of land for the construction of new nuclear reactors by RWE at Braystones and Kirksanton demonstrates that even for areas with existing nuclear facilities, local acceptance can not be assured despite the prospect of jobs and investment. The non-nuclear concerns of stakeholders, such as traffic and construction nuisance, are for ‘nuclear communities’ often of greater importance than the radiological nature of the proposed facility.

There are a number of non-MOD sites that may not be suitable anyway:

- Sites with nuclear operations that at maximum give rise only to Low Level Waste (LLW)
- Sites where nuclear operations (including waste storage) are expected to cease before the GDF is operational.
- Sites which in the national strategic interest have been ear-marked for other purposes. This may include for example the eight sites designated for New Nuclear Build.

Clearly, if a non-MOD site is not available, then it is incumbent on the MOD as the waste owner to provide suitable storage on a MOD site.

We believe that the form of the waste is an important determinant in gaining acceptance of its storage. Storing RCs or RPVs ‘whole’ will necessarily involve constructing an additional ‘different’ store on a site. Importing packaged waste may well be more acceptable, leading to at most an extension of an existing store, or even utilising spare capacity.

The re-use or extension of existing facilities is likely to be a more publicly acceptable solution than the construction of new facilities. At Dounreay, the local objections to the LLW facility turned on the issue of encroaching onto previously undeveloped land, and in West Cumbria for the siting of new reactors, the public objected to the use of land which was not at Sellafield. As the two most recent examples in the UK, these demonstrate the problematic nature of Greenfield sites (issues which aren’t exclusive to nuclear sittings, but common to most greenfield planning applications). (*Nuclear Institute*)

- There seems to be an undue emphasis of cost, and a lack of due attention given to safety and long term good practice and sustainability of the project, in reaching your proposal in this area. (*S Tame*)
- There doesn't appear to be a site identified yet so no dismantling can occur until this facility is built. (*P Shingler*)
- Completely unsuitable to store ILW at either Rosyth or Davenport. A more suitable location must be chosen for storage. (*Feedback Form ID: 776*)
- Should not use Rosyth. (*S Douglas*)
- No radioactive waste should be stored at Plymouth or Rosyth. It is only through governmental lack of foresight that the risk of de facto storage at these sites exists. (*T Milburn*)
- The proposed way forward of continuing to work with the NDA and wider Government to assess whether it would be more cost effective and beneficial to use NDA storage facilities or to develop a new one for SDP appears reasonable. As this work is undertaken, it will be important to provide adequate opportunity for stakeholders to see and comment on the results of assessment. If it becomes clear that there is a robust case for using NDA storage facilities, it will be very important that the NDA engages with the relevant local authorities in identifying which of its storage facilities and sites could be used. Similarly, if it becomes clear that existing licensed or authorised sites owned by MOD or industry are preferred, it will be very important that MOD or industry engages with the relevant local authorities in identifying which sites could be used.
- On MOD's current view that there is little separation between the options to store ILW either at the point of generation or remotely, we would like to see a more systematic and robust underpinning that takes into account the comments in our responses to Q5 and 6 above. (*NuLeAF comments*)
- The proposals seem sensible based on what has been presented in the consultation document. (*Feedback Form ID: 783*)
- MOD. (*D Hoadley*)
- Again there is an assumption that an NDA storage site is the more favoured option rather than building a storage facility. Unless it is proven that this is the best solution continued investigation and comparison to developing a new build facility is necessary. (*D. Gallen*)
- No community can be expected to take ILW unless proper compensation in terms of reducing other local MOD radiation risks is offered. Only MOD sites should be used for MOD waste, on the grounds that the operator pays. Although NDA would be paid to accommodate MOD waste, as would a commercial company, their sites are needed for civil power and medical wastes. (*D McDonald*)
- Integration with civil nuclear waste sites is important as I believe it will offer significant cost, operational and environmental benefits. (*Feedback Form ID: 791*)
- See Q5. (*M Galley*)
- Remote NDA Site option (Option 4). (*M O'Hara*)
- We agree with the proposal that intermediate level radioactive waste from dismantled submarines should be placed into interim storage at sites managed by the Nuclear Decommissioning Authority. We do not consider it to be either cost-effective or desirable for the Ministry of Defence to establish its own separate arrangements for the interim storage of radioactive waste. Radioactive

waste of all types is a national liability and should be treated as such and placed under the long term management of a single government body. The Nuclear Decommissioning Authority is the appropriate body to take this role, and in any event Ministry of Defence radioactive wastes will ultimately be handed over to the Nuclear Decommissioning Authority for custody in the national radioactive waste repository when it is eventually built. For this reason, we do not consider that a Ministry of Defence-owned site would be an appropriate location for interim storage of radioactive waste from submarine dismantling. We are aware that the Ministry of Defence is in dialogue with the Nuclear Decommissioning Authority over its nuclear liabilities and would like to see closer co-operation and dovetailing of projects between the two organisations.

Nuclear Decommissioning Authority sites chosen as locations for interim storage facilities should be remote from centres of population.

Although it is the government's intention to open a national radioactive waste repository in due course significant questions remain unanswered about when the repository will be open to accept waste. To minimise the risks resulting from a significant delay in opening the repository, interim waste stores should be constructed to a standard capable of holding waste safely and securely for an extended period. Although the submarine dismantling consultation documents state that the national repository is expected to open in 2040, it will not be accepting radioactive waste from the submarine dismantling project until at least twenty years later. In our view, the design life of the interim storage facility should be substantially longer than the proposed 100 year life span.

We note that, as well as the interim storage location(s) for intermediate level radioactive waste from submarines, short-term storage facilities will need to be constructed to hold waste generated at the dismantling facility before it is transported to the interim store. *(Nuclear Information Service)*

- Not expert enough to determine MoD or NDA - that has to be a scientific and security judgement made at the highest level of responsibility politically and industrially/scientifically *(R Creagh)*
- Remote NDA Site(s), option 4. *(S O'Hara)*
- Near Surface Near Site. Not NDA sites. *(West Kilbride Community Council)*
- The lack of certainty of type of site which it is proposed to use makes it difficult to comment further at this time. It is likely that many issues associated with this topic will only be able to be discussed meaningfully once both a type of site and potential locations are identified. *(The Highland Council)*
- SCCORS notes the further considerations being given by MOD on this topic. The lack of certainty of type of site which it is proposed to use makes it difficult to comment further at this time. It is likely that many issues associated with this topic will only be able to be discussed meaningfully once both a type of site and potential locations are identified. *(SCCORS)*
- Only the long-term site should be used. No short-term, temporary solution should be entertained. *(G Wheeler)*
- As above. *(Feedback Form ID: 800)*
- It should go where well-informed people are willing to have it for an indefinite period. Areas which already have nuclear facilities should not be discounted but neither should they be seen as automatically willing to take waste from out with their area. It is not so much the volume of waste but the idea that

once an area accepts a single non locally generated waste package then it will open the floodgates, which once opened will never close. (*R Holmes*)

- That which requires minimum transport from dismantling site. (*Feedback Form ID: 802*)
- Somewhere remote. (*Feedback Form ID: 803*)
- Plymouth City Council do not believe that the Devonport Naval base or the Devonport Dockyard are suitable for the interim storage of ILW. The Council believes that interim storage of ILW is integral to SDP and options for the preferred site for storage should have formed part of this consultation. However the proposed way forward of continuing to work with the NDA and wider Government to assess whether it would be more cost effective and beneficial to use NDA storage facilities or to develop a new one for Submarine Dismantling Project (SDP) appears reasonable. As this work is undertaken, it will be important to provide adequate opportunity for stakeholders to see and comment on the results of assessment. (*Plymouth City Council*)
- No realistic option has been proposed. This makes a mockery of the consultation. An urban setting is not a suitable environment for intermediate waste. (*Feedback Form ID: 806*)
- MOD. (*K Tabernacle*)
- See response Q8a. (*The Environment Agency*)
- See response to Q4. (*DNSC comment*)
- As stated in the response to 4 above the preference is for Intermediate Level Waste storage at an NDA site outwith Fife. (*Fife Council*)

9. Do you have any comments on the next stages of decision making process that will follow this consultation?

November Responses:

- No. (*Feedback Form ID: 71*)
- Do not get bogged down by outside influences who have no idea of submarine / radiation / or disposal of. (*Feedback Form ID: 216*)
- A public open enquiry. (*Feedback Form ID: 217*)
- These stages should clearly acknowledge at the outset that there have been concerns expressed about nuclear safety at the MOD. The public should be informed about this as soon as this is apparent. (*Feedback Form ID: 218*)
- No. (*Feedback Form ID: 219*)
- No. (*Feedback Form ID: 225*)
- Unless already factored in it (again) is possible that some future changed political climate in Scotland may make major changes to national/local authority planning approval processes has the sensitivity analysis considered this? Or from a UK Govt perspective something that must be played with a straight bat - for now? (*A. Jones*)
- More Publicity? I was only made aware of this 'exhibition' after someone else found it by accident. (*R. Harper*)
- Only Devonport has the expertise. Devonport should get the contract. (*Feedback Form ID: 290*)
- The next stages of the process should take into consideration the views that have been expressed in the x2 previous consultations. The ISOLUS project was a very inclusive consultation which actively sought public opinion and favoured the 'cutting-out' option. This consultation is merely asking the public to comment on the decisions made by MoD and Industry. Therefore this project is not a true Public Consultation, and will have little or no meaningful effect upon the decision making process. (*I. Avent*)
- Aggressive process of dismantling. (*Feedback Form ID: 350*)
- No. (*Feedback Form ID: 351*)
- I am thankful of my opportunity to comment. (*A. Osborne*)
- The approach seems reasonable.
- The next stages seem appropriate. I support the concept of work on one submarine as a "pathfinder" project Do not get bogged down in too much more consultation over and above that needed by the planning and regulatory processes. (*Feedback Form ID: 354*)

December Responses:

- I believe the MOD has used a transparent and an open process. (*Feedback Form ID: 375*)
- If NDA can not develop the required facilities in time why would MoD be able to do so? I feel that it would be a mistake for MoD to take the "go it alone route" as this would likely be driven by politics not science and solid reasoning. (See previous references to appropriate risk envelopes. (*Feedback Form ID: 376*)
- No. (*Feedback Form ID: 399*)

- Having read the data I think that the preferred option is already in place. *(N. Fyfe)*
- The entire population of Plymouth should be consulted. *(Feedback Form ID: 479)*
- Yes – Public involvement at all stages – taking an account of all views over a large cross section, public input is very important and also involvement throughout. *(A. Walker)*
- No, it all seems a bit inevitable really. *(I. Hunter)*
- Waste fuel reprocessing should take place to reclaim fissile materials. *(I. Currie)*
- Start the dismantling process as soon as Devonport facilities are ready to proceed. *(S. McQueen)*
- Your invitation to the general public should carry a health warning – use it or lose it. Any badly attended meetings should not be revisited. As most people get their news from TV, could not some kind of interactive program be set up. *(G. Anderson)*
- No comments. *(Feedback Form ID: 505)*
- No. *(M. Rich)*
- We appreciate that you are making an exhaustive study of the best options, and that you are consulting the public. We hope that a policy will be in place before the 2020 deadline. *(R. Furse)*
- It is essential to get affected local authorities and public on side. For this the MOD has to offer other substantial skill and resource linked work. *(A. Williams)*
- Provided safety is not compromised by cost savings the decision making process is acceptable. *(Feedback Form ID: 509)*
- No I 'm sure with such an important subject no one will be taking any short cuts. *(Feedback Form ID: 535)*
- Press for early as possible decision. Save defence funds. *(Feedback Form ID: 536)*
- No comments. *(P. Lister)*
- I hope this will not be a long drawn out process which will not only add COST but increase RISK of deterioration of the submarines. *(Feedback Form ID: 543)*
- It should be carried out as a matter of urgency. *(Feedback Form ID: 544)*

January Responses:

- The consultation document states that the MOD is in consultation with the NDA about storage of ILW and will make its own selections. This uncertainly is not acceptable. It seems that the decision making process is out of the hands of the public and this consultation is just a publicity exercise. *(M Harris)*
- We the people must decide not MOD or the Government, but you will do it anyway. *(K Johnson)*
- The next stage should also take views from the two previous consultations (ISOLUS) which favoured cutting out the entire reactor. *(C. Hunter)*
- My only concern lies in the lack of appropriate detail in the timeline expressed in Figure 5 (page 21) and as repeated at paragraphs 9.3.1 and 9.3.2. The SDP will inevitably suffer delays and without the setting of target dates we may well find that there is the added cost of providing additional berthing facilities before dismantling has begun. *(B Pym)*
- The next stages of the project will be governed by decisions made at Westminster government and Scottish Parliament in Edinburgh so any

comment would be inappropriate. I do believe that public enquiry may be required in due course regarding disposal sites for ILW. (*Feedback Form ID: 683*)

- No Comments at the present time. (*Feedback Form ID: 684*)
- No. (*Feedback Form ID: 687*)
- None. (*Feedback Form ID: 688*)
- The quicker the best option is reached, the better for all concerned. (*Feedback Form ID: 689*)
- Reconsider. (*C. Martin*)
- No. (*G Cooke*)
- Although it is stated that our views matter, I do not think the consultation process is rigorous enough. There should be local referendum for populations who might be affected. People should be able to vote for or against proposals regarding nuclear submarine dismantling and ILW storage on their doorstep. (*L. Miller*)
- See question 15. (*C Ward*)
- You should consult intelligent people who know what Cancer is, how it is caused and the cost to families of treating cancer. (*Feedback Form ID: 695*)
- The consultation document states that the MOD is in consultation with the NDA about storage of ILW and will make its own selections. This uncertainly is not acceptable. It seems that the decision making process is out of the hands of the public and this consultation is just a publicity exercise. (*R Plagerson*)
- The consultation process is not rigorous enough. There needs to be a local referendum for those who will be most affected. We should have a voice and choice as to proposals regarding nuclear sub, dismantling and ILW storage in the locality. (*Feedback Form ID: 698*)
- No. (*Feedback Form ID: 704*)

February Responses:

- I am very worried that Devonport will be identified as a storage site for ILW, thus enabling sub dismantling to begin in Plymouth. I don't think anyone, including the MOD, really knows what to do about the problem of nuclear waste storage and that is why it is so important not to develop any more nuclear subs. (*G Davies*)
- As stated in my response to Q5 I would like to see a more transparent demonstration of the skills and experiences of those involved in the options assessments, particularly with regard to radioactive waste management expertise. (*V. Cane*)
- It must take into account the possibility of Scottish Independence and accept that moving all high risk operations away from centres of population should be a high priority regardless of cost and convenience i.e. presence of existing MOD facilities. (*C.Trier*)
- No. (*Feedback Form ID: 724*)
- Find a new storage site away from towns, cities and communities. It should not be about saving money. (*C. McCarthy*)
- MOD have already been making decisions. People have no power to change it. (*Feedback Form ID: 685*)

- The business case approach is correct. As noted in 'further comments' and reasons to individual questions, there needs to be more transparent down-selection and alignment with EA REPs. The business case should be based on Treasury's preferred 5-case model. (*P Davis*)
- MOD should proceed with consultation on the preferred option to build ILW storage at RRD and DRD and consider NDA storage of ILW as a fall-back or last-resort solution. (*Feedback Form ID: 735*)
- I have no faith in the next period of decision-making, due to the evidenced lobbying power of [name removed]* of the Government purchasing and history as a "preferred supplier" to the Ministry of Defence. The three options offered represent: Option 1: Plymouth becomes a Nuclear Waste Dump; Option 2: Plymouth becomes a Nuclear Waste Dump; and Option 3: Plymouth becomes a Nuclear Waste Dump. There is no choice for the people of Plymouth to end the nuclear industry in this City. (*T. Staunton*)
- Too Slow. (*Feedback Form ID: 742*)
- I accept the need to consult but with all the controls and regulations in place the future consultations should be limited as much as possible. (*Feedback Form ID: 744*).
- Yes, how much money has this consultation cost to dictate a harmful policy on us! (*Sandey*)
- How much are these consultations costings! us! No especially when John Lyons was being questioned on standards by Parliament Committee in Jan 2012. (*R. Rees*)
- The decision making process is flawed because there is no option on the table covering responses 1,2 & 7 above. (*Feedback Form ID: 747*)
- No – will be interested to see general response though! (*V. Nesbitt*)
- As above. (*Feedback Form ID: 751*)
- I don't expect it to be open or honest, public consultation are rarely respected by Government. (*Feedback Form ID: 755*)
- Look for an alternative away from centres of population. (*R Spettigue*)
- No to a nuclear dump! Ensure open, honest and transparent consultancy! (*L. Crawford*)
- It already feels out of the community's hands. (*E. Knight*)
- Need clarity, honesty. Should be widely advertised to raise awareness of implications. Need public site (e.g library) to show results to all residents of affected area. (*Feedback Form ID: 759*)
- This consultation did not reach the vast majority of the people of Plymouth and area. There should be an independent public enquiry before any further decisions are made. (*C Giarchi*)
- The MoD's joint assessment with the NDA on using NDA facilities should be released for public consultation. The MoD should publish draft radioactive discharge authorisations for each of its three options for both Rosyth and Devonport to allow further public comment before making any decisions. The MoD should convene a meeting of the SDP Advisory Group to assess the main points of the responses to the consultation and the MoD's planned further actions to take this policy process through to formal decision-making by Ministers. (*Nuclear Free Local Authorities*)

- Need to put more emphasis on safety. Those, who have responded need to be kept informed and those making the decisions need to listen and take on board public concerns and suggestions. (*Feedback Form ID: 763*)
- The criteria for MOD assessing are too open to misinterpretation. (*Feedback Form ID: 764*)
- Yes, if the discussions with the NDA are likely to be long-winded, the Government should go straight to looking for an MOD only storage and disposal site. The dismantling and temporary storage can then take place in a suitable site nearby. (*P Towey*)
- Our concern is for the management of risk perception within the local population and we would support continued openness and clarity in frequent communications following this consultation and in the development of the project. (see15). (*B O'Neill*)
- Once the results of the consultation has been collated and reported (in about June 2012), the remainder of the process up to key decision-making (as represented by the Main Gate Business Case recommendation and approval) scheduled for 'sometime in 2013' appears to be purely internal, within the MOD and wider Government. Within this period, we understand that the joint MOD/NDA feasibility study on ILW storage is due to report. It is not stated how wider stakeholder engagement is to be maintained over this period (which could be up to nearly 2 years in duration). For example, will the feasibility study be publicly available and comments invited from consultees (to this consultation) before a recommendation is put forward?
Will the recommendations themselves be stakeholder-tested before submittal, particularly if they deviate significantly from the reported outcome of this public consultation? (*Nuclear Institute*)
- It would be important to give significant weight to the findings of the two previous (ISOLUS) consultations. (*S Tame*)
- I feel that the timetable should be speeded up as having ten submarines with reactors on board in Devonport for the next eight years at least doesn't make me feel comfortable! Building the storage facilities could take decades given the requirement for planning permission. (*P Shingler*)
- No comment. (*Feedback Form ID: 776*)
- No comment. (*S Douglas*)
- No comment on further consultation. However the idea of an experimental project being undertaken in a built up area is anathema. (*T Milburn*)
- We think it essential that MOD publishes timely information that clearly explains what further assessments are being undertaken, over what timescales, and with what opportunity for stakeholder engagement and comment.
We suggest that the further assessments and stakeholder engagement include:
 - a more accessible and focused approach to sensitivity testing within the MCDA, which explicitly explores the impact of using combinations of scores and weights, where the latter derive directly from, or at least could be reasonably attributed to, a range of stakeholder perspectives;
 - a more developed assessment of the discriminatory power and significance of the OCFs, informed by stakeholder review and comment on MOD's initial thinking;

- a more developed assessment of the differentiation between initial dismantling sites, taking proper and explicit consideration of the views of the local authorities in those areas;
- a more developed assessment of the cases for using NDA storage facilities, or new storage facilities at MOD or commercial sites, taking into account the views of relevant stakeholders on those cases;
- review and development of the advantages and disadvantages of each option, taking into account the findings of the four sets of further assessments above;
- if it becomes clear that there is a robust case for using NDA storage facilities, engagement by NDA of the relevant local authorities in identifying which of its storage facilities and sites could be used (paying due regard to local development plans, the need for impact mitigation and the case for community benefits); and
- if it becomes clear that existing licensed or authorised sites owned by MOD or industry are preferred for storage, engagement by MOD or industry of the relevant local authorities in identifying which sites could be used (paying due regard to local development plans, the need for impact mitigation and the case for community benefits). *(NuLeAF comments)*
- No comments. *(Feedback Form ID: 783)*
- Keep all Consultation respondees informed and keep the door open for better suggestions. *(D Hoadley)*
- The next stage of the process must be shown to have revisited the areas that have been highlighted in this consultation as lacking in credibility and needing further examination. Details on who, when and how consultation on ILW storage will happen are necessary, and as the date for start of the dismantling is 2020 these consultations need to start as soon as possible. *(D. Gallen)*
- Unless there is programme to end nuclear submarine operations and dangerous nuclear posturing, a Public Inquiry is needed to discover if the proposed SDP is adequately justified. *(D McDonald)*
- It is not clear what further decision making activities will be undertaken to offer a solution for ILW storage, nor is it clear how long this process will take. Continued uncertainties will drive risk and time / cost into the programme. *(Feedback Form ID: 791)*
- The Ministry of Defence should publish the results of this consultation as soon as is practicable and should also set out its 'roadmap' for future stages in the submarine dismantling project in a timely manner. We consider that further work is needed to ensure that options assessment has been suitably robust (see answer to question 5) and no final decision to commit to any option should be made until this work has been completed and independently validated. The independent advisory group for the submarine dismantling project should continue to meet to guide the project, and should oversee the drafting of the response to this consultation and the drafting of recommendations to Ministers on final selection of the options to be pursued. *(Nuclear Information Service)*
- It would be important to give significant weight to the findings of the two previous (ISOLUS) consultations. *(R Creagh)*
- No. *(West Kilbride Community Council)*
- The Council welcomes the opportunity for further consultation and involvement in the process. *(The Highland Council)*
- It seems like you have made your mind up already. *(Feedback Form ID: 798)*

- MOD set out the next stages of decision making in section 9 of the consultation document. SCCORS welcomes MOD's commitment that no dismantling of submarines will take place until a storage solution has been agreed. SCCORS notes the commitment to liaison with local authorities and other regulators as required in respect of planning matters and environmental assessments. It also notes the commitment to further consultation with local communities. SCCORS believes these to be essential steps in any future activities. (SCCORS)
- Unless you reconsider the whole approach, the process will be seriously flawed. (G Wheeler)
- I feel that the dismantling will go ahead at Devonport if that is what the MOD want. It will be 'sold' to the media as an opportunity to create more jobs. (Feedback Form ID: 800)
- It comes as an eye opener that the UK can afford to buy new nuclear subs but can't afford to pay for the most effective of the 3 options. Option1 It is wrong to inflict a less sound option on any area. The NDA offering to accommodate the MOD waste is all very well but by doing this they may very well lose the confidence of people around NDA sites. (R Holmes)
- Please include conservationists and the public. (Feedback Form ID: 803)
- We think it essential that MOD publishes timely information that clearly explains what further assessments are being undertaken, over what timescales, and with what opportunity for stakeholder engagement and comment. We recommend that the MOD should work with the NDA to achieve early clarity of the options available to use NDA sites interim storage and storage of RPV in the GDF.

We suggest that the further assessments include:

- an accessible and focused approach to sensitivity testing within the MCDA, which explicitly explores the impact of using combinations of scores and weights and takes into account a range of stakeholder perspectives;
- a further assessment of the OCFs, taking into account stakeholder review and comment on MOD's initial thinking;
- a more effective assessment for site differentiation, including consideration of the views of the local authorities in those areas;
- a more developed analysis of the storage options taking into account the views of relevant stakeholders on those cases prior to making decisions on dismantling options.
- review and development of the advantages and disadvantages of each option, taking into account the findings of the four sets of further assessments above;
- if it becomes clear that there is a robust case for using NDA storage facilities, engagement by NDA of the relevant local authorities in identifying which of its storage facilities and sites could be used; and
- if it becomes clear that existing licensed or authorised sites owned by MOD or industry are preferred for storage, engagement by MOD or industry of the relevant local authorities in identifying which sites could be used.
- a robust analysis of the socio economic impact, including a full

assessment of the impact of the project on the Reputation / Brand Image of Plymouth and the locality surrounding Devonport. (*Plymouth City Council*)

- I don't believe this is a consultation in any accepted sense of the word. No realistic options for storage are proposed. The proper next step would be to hold a real consultation. In the meantime until there is a disposal option stop building new submarines. (*Feedback Form ID: 806*)
- Keep all Consultation respondees informed and keep the door open for better suggestions. (*K Tabernacle*)
- Please consider other UK sites for this activity. (*Feedback Form ID: 808*)
- We are aware of the MoD's commitment to publish the results from this consultation. We are content for our comments on SDP to be made publicly available.

The decisions on SDP are the responsibility of the MoD. When MoD publishes the results of the consultation we expect to continue to be engaged, providing regulatory advice and guidance until the MoD contracts SDP work to an organisation which will deliver the desired outcomes. This organisation will require environmental permits under a range of environmental legislation. We expect to undertake work with the MoD and its contractor(s) on any EIA and environmental permitting processes, well in advance of any actual dismantling work taking place. (*The Environment Agency*)

- The success of the project depends on obtaining planning permission for the ILW store(s). Because of the unlikelihood of obtaining approval for a site other than the site of origin (see response to Q4), involving local stakeholders at Plymouth and Rosyth in the decision-making process as soon as practicable is essential. (*DNSC comment*)
- The MoD's joint assessment with the NDA on using NDA facilities should be released for public consultation.

The MoD should release draft radioactive discharge authorisations for each of its three options for both Rosyth and Devonport to allow further public comment before making any decision.

10. Do you have any comments about how this consultation has been conducted? Did the consultation provide enough information for you to reach your views on the key decisions? Did it meet the seven consultation criteria?

November Responses:

- Yes. (*Feedback Form ID: 71*)
- Time for taking decisions otherwise these used submarines will be around forever. (*Feedback Form ID: 216*)
- Very low key, what about people living right next door to it. (*Feedback Form ID: 217*)
- You have not acknowledged that the most expensive option is the safest option and that there is profit to be made in choosing a riskier cheaper option. (*Feedback Form ID: 218*)
- I believe the consultation documentation to be informative and well structured. (*Feedback Form ID: 219*)
- Yes on all counts but I consider myself an 'intelligent customer' with previous RN/DERA/QQ/DES/[name removed]* experience. That said the one-to-one conducted tour/coffee+chat I enjoyed at the Carnegie Conference Centre exhibition convinced me that the level of information resource available for the general public is more than adequate for the job. I look forward to further engagement at the workshops in due course. (*A. Jones*)
- No. (*Feedback Form ID: 225*)
- Excellent very clear and everyone was helpful. (*R. Harper*)
- The consultation in effect completely dis-empowers members of the public because it is only asking him/her to comment upon MoD decisions that have already been made. i.e. MoD Statement - Devonport / Rosyth has been selected for the next 60 years to be host to a nuclear scrapyards for redundant submarines. Question: What colour would you like road signs around the dockyard to be? - or would flower beds around the dockyard gates be nice? The consultation fails to meet item 3 of the seven criteria – in that 'what is being proposed' is not clear. Too much is resting upon on going talks with the NDA regarding ILW Storage. (*I. Avent*)
- Yes ample. (*Feedback Form ID: 350*)
- Gave all the information for a layman to understand. (*Feedback Form ID: 351*)
- A very well put together document which should be commended for its honesty. (*A. Osborne*)
- Useful to be able to get paper copies of the key documents. Well prepared document suitable for a wide audience but perhaps too qualitative e.g on cost. (*Feedback Form ID: 354*)

December Responses:

- Consultation was conducted well and the time extended to allow for the Xmas break. (*Feedback Form ID: 375*)

- The consultation process seems ok to me. (This is the first time I have responded to a public consultation.) (*Feedback Form ID: 376*)
- Documentation was helpful. Staff helpful at Plymouth Guildhall. (*Feedback Form ID: 399*)
- Information was satisfactory but I found the site by accident and for this issue very poorly notified to the 'public'. (*N Fyfe*)
- The Consultation was very glossy but seemed to avoid the no option for Devonport. (*Feedback Form ID: 477*)
- Too much info technical. Local people in a very deprived area, Barne Barton would struggle with this. (*Feedback Form ID: 478*)
- We did NOT receive this questionnaire, only got it on request. Very poor given our location. (*Feedback Form ID: 479*)
- Yes, participated in a workshop and all my concerns were aired and answers given clearly, fully and I was put at ease with my concerns. I left much more aware and informed of the process being proposed. (*A. Walker*)
- Like many government departments you seem to work on the principle of "everything but the nitty gritty." Where's the comparative costings? Then we could see the realities behind what otherwise is a meaningless public relations exercise. (*I. Hunter*)
- No comments. (*I. Currie*)
- Yes to me totally but perhaps a bit too much above some civilian inhabitants who have no knowledge of science, are frightened and are easily led by local irritants. Once again to me excellent. (*S. McQueen*)
- All the feedback I have heard has been positive and the exercise well received. (*Feedback Form ID: 505*)
- Very good, a full & frank presentation, backed up by the required experts. (*M. Rich*)
- This consultation was in our opinion conducted in an excellent manner. The people who spoke to us were uniformly pleasant and informative; also the visual aids were excellent. (*R. Furse*)
- The written presentation is excellent. However the hidden content is highly technical and way beyond most of the public. It is comparable to putting your trust in a medical consultant. Your track record with NUC's is good. The only substantive input I can offer is yes I trust you with my home port. I have lived with ships and weapons all my life its been my income. I am now prepared to do the dirty washing. (*A. Williams*)
- Very informative and helpful. (*Feedback Form ID: 509*)
- It is all a bit technical for the 'man on the street', but I fear for the health of the population, see Q15. (*Feedback Form ID: 530*)
- I am quite satisfied with the information I was told and read about. (*Feedback Form ID: 535*)
- Third round, please, no more. (*Feedback Form ID: 536*)
- No comments on 'how' there is enough information on the broad issues. It meets six (1-5 and 7) criteria outlined in Annex 'c'. (*P. Lister*)
- I feel the consultation document was informative, and easy to access online. Although I could not find how to access the factsheets mentioned throughout the report, which I would like to have done. So unfortunately I find myself unable to comment on the Environmental Questions. (*Feedback Form ID: 542*)

- Consultation was fine if people had let the proposals be put on the table in full and not interrupt with their personal little whims and attention seeking attitude (IN MY OPINION). I was there to learn and understand and not condemn before the workshop started, as some people appeared to do. I felt I had enough information to give a considered opinion. I presumed the 7 criteria would have been fully explained if time had been available, but by reading the consultation documents all appears to be covered there THOROUGHLY. *(Feedback Form ID: 543)*
- True costing estimates would have been useful. *(Feedback Form ID: 544)*
- Yes. *(J. Cook)*
- Consultation provided information needed in detail so that I could reach a view on the decisions to be made. *(Feedback Form ID: 548)*

January Responses:

- This consultation was poorly advertised and hence poorly attended in Plymouth and the one unplanned day in Saltash Guildhall. There was minimal signage on the first day of consultation in the Guildhall in Plymouth. The choice of St Mellion Hotel as the site for consulting Saltash was ridiculous as it is isolated, hard to get to and no where near Saltash. In my mind this consultation in the Plymouth area is invalid. *(M Harris)*
- The public has been disempowered by this consultation as we are only asked to comment on the MOD decisions that have already been made. *(C. Hunter)*
- It was very good but a waste of time, you have already decided it will be Plymouth. *(K Johnson)*
- Yes – happy with the consultation. *(B Pym)*
- I believe the presentation and consultation to be of a high order although this must be tempered by the fact that I have prior knowledge of nuclear submarines and the rational previously considered in the disposal question. *(Feedback Form ID: 683)*
- The consultation was carried out in a professional manner and was presented by knowledgeable and enthusiastic staff keen to answer questions and provide information. *(Feedback Form ID: 684)*
- No quarrel with the way the Consultation was conducted. But it was hardly a consultation; more a public relations event explaining what the MOD intends to do. *(Feedback Form ID: 686)*
- The consultation was conducted on a very professional way and much information given. *(Feedback Form ID: 687)*
- Very well presented by knowledgeable staff. *(Feedback Form ID: 688)*
- Seems to me that the whole process has been engineered to make it complex and difficult for people to understand or make them feel powerless. *(C Martin)*
- Very well presented. *(G Cooke)*
- This feedback form is not user-friendly. I have a degree but still struggle to answer the questions. The form appeared to me to be designed to discourage feedback. Also the spaces provided for responses were far too small. The contact number was not a free phone number. The person I spoke to at the public exhibition on Wednesday 16th November 2011 was from Bath. This is not someone who cares about what happens in Plymouth. *(L. Miller)*

- See question 15. (*C Ward*)
- Thanks for asking my opinion. (*Feedback Form ID: 695*)
- This consultation was poorly advertised and hence poorly attended in Plymouth and the one unplanned day in Salataash Guildhall. There was minimal signage on the first day of consultation in the Guildhall in Plymouth. The choice of St Mellion Hotel as the site for consulting Saltash was ridiculous as it is isolated, hard to get to and no where near Saltash. In my mind this consultation in the Plymouth area is invalid. (*R Plageron*)
- This form is very hard to use so very alienating. I have 2 degrees but found this hard work! There is not enough space for feedback which makes this look ingenuine. There should be a Freephone telephone number. Also at the public exhibition I spoke to someone from Bath-not a local person. (*Feedback Form ID: 698*)
- All information was clearly given. (*Feedback Form ID: 704*)

February Responses:

- The consultation asks for comments on sites already chosen by the MOD! Many local people seem unaware of the proposals or the consultation. The signage at Plymouth Guildhall on the first day of the exhibition was extremely poor, making it likely that no-one would visit the exhibition, unless previously aware of it. Holding the event at St Mellion, in the middle of nowhere, also seemed an extraordinarily poor way of involving the public! (*G Davies*)
- I believe the consultation has been conducted in line with the aims expressed in Annex C, and has been conducted at an early enough stage for consultation comments to influence the future direction of the project. My two principal comments in relation to the consultation are:
 1. I believe comprehensive radiological characterisation data will need to be obtained to support robust future decision making.
 2. I would like to see clearer evidence of the involvement of a radioactive waste management expert with practical experience of the issues associated with managing wastes of this nature. (*V Cane*)
- The consultation documents seem very clear and easy to read. The consultation process seems very thorough. (*R. Ellington*)
- Good facilities and representatives at Dunfermline venue. (*Feedback Form ID: 724*)
- Most of the community of Plymouth and the surrounding area are in ignorance about how this consultation has been consulted. (*C. McCarthy*)
- Consultation ? Many people in Plymouth know nothing about the Submarine Dismantling. (*Feedback Form ID: 685*)
- There is probably too much information for the lay-respondent to take on board. At the same time, there is not enough information on the total range of credible and less credible options available to MOD. Therefore the lay respondent is likely only to comment at a fairly superficial level. This should be addressed at the next stage by transparently explain the option down-selection rationale. The fact that there have been two previous consultations is not really relevant - people not directly involved cannot be expected to hold all the issues over periods of many years. (*P Davis*)

- Information was plentiful and seems to be in line with the code of practice. The seminar I attended was well run, but it was clear many non-technical members of the audience were confused by the complexity of the options. Doubtless the project team thought the whole thing was "dumbed-down", but it could have been explained better; of course more time had been needed. Perhaps sticking to the planned format of a presentation followed by a discussion would have been better. Instead a discussion started in the middle of the presentation, which was distracting ... (*Feedback Form ID: 735*)
- I consider this consultation a sham. 1. The consultation takes place after a long period of internal and confidential predetermination resulting in very restricted choices offered to the public. This has been termed "initial assessment work" but is, in fact, an authoritarian top-down approach to public consultation resulting too narrow a scope for public access, understanding and debate. 2. The footprint of any fallout of a serious wind-blown nuclear accident or escape of radioactive material, such as a terrorist bomb at the proposed Plymouth nuclear waste storage facility (nuclear dump) covers much of the South West, and therefore every household should have direct correspondence detailing the issues and assured of a voice. As such, the scale of the implication of this consultation are so great that it is worthy of a political plebiscite, not a few (a very few) public exhibition days in centralised locations away from local neighbourhoods. It did not enable as many people as possible to take part, as the statistics show only too well. 3. The scope of the decisions to be made are so limited and restricted as to nullify the entire exercise, as shown by the low attendance at centralised locations and the gap between attendees and the actual written responses. This should be evidence enough that the exercise has been a failure, progress should be halted and a better, wider consultation planned. 4. A sufficiently informed understanding of the implications of submarine dismantling and related matters has not been offered in the consultation, and the options restricted to such a degree, and offered in such a technical rather economic/socio-political context to a point of obscurity and inaccessibility. And who, exactly, determined the criteria for "those people who have an interest in the project"? Isn't that everybody, and, by the way, the future generations who will be penalised by a nuclear dump in Plymouth who can have no voice. 5. The technical nature of this consultation represents a burden for all but the most committed - the documentation is technical, the terminology technical and the process for written feedback technical. This is not acceptable. As an example, the neighbourhood and community closest to the proposed site for the nuclear storage facility (Nuclear waste dump) is Barne Barton, the demography of which details one of the poorest and socially deprived areas of England, and where 50% of adults are known to have significant literacy and numeracy difficulties. Now take a look at your documents and consider the validity of the exercise's "accessibility" and "targeting". 6. The poorest 20% of the population has no or extremely limited access to the Internet, and yet the exercise boasts that feedback will only be available in the form of a written Post Consultation report posted on the project website. This is preposterous and unacceptable, given the gravity of the proposals and the demography of those most affected, many of whom are stigmatised as within the poorest 20% of the population. How dare you patronise us like this? 7. The consultants hired by the SDP to conduct the exercise boast on

their website not that they are independent but that they deliver effective public consultation exercises to the benefit of those who hire them - "assisting developers". This is not a consultation for the benefit of the general population of Plymouth, but to "tick-box" basic legal requirements for public consultation ahead of decisions, as quickly as possible and without any fuss. I have not met anyone who believes in the impartiality of the process or outcome. I therefore determine the whole exercise to be invalid. (*T. Staunton*)

- Difficult to find access to consultation. (*Feedback Form ID: 742*)
- See above . (*Feedback Form ID: 744*)
- Deliberately held so called consultation, out of the way of the whole citizens of Plymouth a families working 5pm and children's tea times. (*Sandey*)
- Yes, No, Not when there has been no adequate full Health Impact Assessment Plan submitted prior and post of the potential risk of decommissioning here. (*R. Rees*)
- The consultation does not include the fundamental issue of trying to handle nuclear materials in densely populated areas or at all. Nor does it deal with extraction of spent fuel rods from vessels in service, which is reportedly far more hazardous than the decommissioning of redundant vessels. (*Feedback Form ID: 747*)
- Well explained, well set out, good level of detail. Appreciated questions being put in main text as well as here, so that they could be considered as we were reading supporting information. (*V. Nesbitt*)
- Some information I was given at consultation was wrong. (*Feedback Form ID: 755*)
- One sided. (*R Spettigue*)
- This has been a stitch up! The document gives a scientific view, only available for certain personnel to understand. (*L. Crawford*)
- For whatever reasons (such as complex process) it did not attract participation from a large percentage of people who reside near Devonport. It does not feel as if it has engaged affected parties. (*E. Knight*)
- No Not widely advertised. Little awareness in the city. Much too late giving this shocking information. No. (*Feedback Form ID: 759*)
- No there was not enough clear information on the risks and health implications for the 250,000 people of Plymouth and area. It should have been communicated in language that people understated and broadcast widely. (*C Giarchi*)
- As indicated above there is insufficient information about radioactive discharges and insufficient information about the possible risks associated with moving decommissioned submarines. NFLA would like to see a parallel, open, transparent and thorough public consultation process take place following the discussions MoD is having with the Department of Energy and Climate Change and the NDA over likely nominated sites for intermediate level radioactive waste arising from the dismantling of redundant nuclear submarines. NFLA welcomes the opportunity that was made to it to take a full involvement in the SDP Advisory Group and sub-groups and encourages this interactive process to continue following this consultation. (*Nuclear Free Local Authorities*)
- Hard work. Questions not laymen friendly. Had to seek out paper copy on line not OK for everyone. Consultation has failed to reach majority of ordinary people who may be affected by these decisions. Consultation not really in public domain. Not

enough advertising of local consultation events. Needed to be on TV, local radio and more transparent. Perhaps viable in local libraries, shopping centres, doctors surgeries etc. (*Feedback Form ID: 763*)

- It has received very little press in Plymouth. Dockyard an emotive factor a long term employer, thus previous beliefs could affect how people understand the option. (*Feedback Form ID: 764*)
- The consultation was fine within the parameters laid down but we disagree with those parameters. The information provided was OK within the limitations of the parameters. It does meet the criteria of the Code of Practice. (*P Towey*)
- The public information, leaflets and opportunities for face to face discussion were excellent and we welcomed the local consultation events for the public. We would want to see continuation of this model as the project continues. (*B O'Neill*)
- In general, the consultation has been well designed and conducted. The workshops have aided clarification and were well structured and facilitated to deliver a useful outcome, at least to our participants. It is difficult to strike a optimum balance between too little and too much information. However, as noted in some of our earlier responses, there were information areas where we felt the information should have been available, given the maturity of the project. These areas include:
 1. An indicative project programme. This was striking by its absence, given the corresponding material on option effectiveness and option through-life cost. It is impossible for us to judge whether the project-preferred option, or even the one preferred by ourselves as in our view representing industry best practice can be implemented without undue risk of requiring additional berthing capacity for laid-up submarines.
 2. Information on the radiological condition of each submarine, both in terms of the spread and level of activity outside the RPV, and the amount of each RPV that would have to be sentenced at minimum as ILW.
 - a. An indication of the possible range in conditions across the submarines would give confidence whether the 'one size fits all' feel to the preferred project option for removing radioactive material is likely to be reasonably practicable for all 27 submarines, or whether significant process adaptation may be required for at least some of them.
 - b. It is noted in the SEA that the ILW content of each submarine could vary between 15 and 58 tonnes. Clearly where the majority lie within this large spread would affect whether packaging the ILW waste would actually give rise to a greater or lesser storage volume than storing the RPVs whole. We understand from the Glasgow workshop that the project assumption to size and cost each option was an average of 50 tonnes of ILW per submarine. This was acknowledged to be conservatively high. While the RPV storage option will be relatively insensitive to this assumption (in terms of storage space and ultimate cost), the packaged waste option is likely to be more sensitive. A more realistic average figure per submarine may well show the packaged waste options are favoured on both ILW storage footprint and through life cost grounds. In terms of compliance with the seven consultation criteria in the Government Code of Practice, in general we would accept that this consultation has complied with them so far.

The one area we would highlight is in terms of clarity of scope and impact is in respect of ILW storage site options. Clearly it would have benefitted the consultation if the feasibility study with the NDA had been completed and a clearer way forward proposed. We recognise that the timing of this consultation, as others, has to strike an appropriate balance given that all areas of consideration may not have reached the same level of maturity.

We note 'so far' because compliance with some of the seven consultation criteria depends on the responsiveness of the project to the consultation exercise.

(Nuclear Institute)

- This consultation is, sadly, a clear failure. Any consultation which produces such a tiny response is obviously deeply flawed. *(S Tame)*
- The day I attended was well staffed and the information provided and the response to questions was open. *(P Shingler)*
- Consultation should have been MUCH more widely publicised. *(Feedback Form ID: 776)*
- Lots of detail, but not well publicised, in spite of working in the local library just 10 miles away from Rosyth I was not aware of the consultation until today (15th February 2012). *(S Douglas)*
- We consider that the major critical decision, to dismantle thus solving the MOD's storage problem, has already been taken, following which further decisions are intended to fall like dominoes. *(T Milburn)*
- As explained in the response to Q5 above, we think that there would have been value in:
 - engaging a wider range of stakeholders in criteria weighting as part of the MCDA;
 - engaging stakeholders to review and comment on MOD's initial thinking in the 'Other Contributory Factors' paper; and
 - explaining more clearly how the tables of advantages and disadvantages are derived from and link to the findings of the MCDA .

Notwithstanding these comments, we welcome the amount of information published as consultation support documents, which was essential for us to be able to reach the views articulated above. We recognise that MOD has strived to meet the consultation criteria, but have reservations regarding its accessibility (criterion 4) and level of burden (criterion 5). These reservations relate to the complexity and detail of the assessments informing the consultation. These have required a considerable investment of our time and effort to get to grips with the key documentation that sits beneath and informs the consultation document. It is not yet possible to judge whether MOD will meet criteria 6 (responsiveness to consultation). *(NuLeAF comments)*

- No comments. *(Feedback Form ID: 783)*
- We still don't know how much each option will cost. *(D Hoadley)*
- The timing of workshops has not been very well co-ordinated to allow for meaningful response to what is an extensive consultation document.
- Furthermore the initial consultation document is very simplified with none of the evidence base included. The supporting documents are provided on the internet but there are so many that it becomes a very convoluted process trying to find the evidence or rationale behind any of the decisions made in the overarching SDP document. The consultation is incomplete as it does not cover the process from

start to finish from dismantling to storage as the information provided is incomplete it makes it very difficult to make a full response. Due to the gaps in knowledge and lack of transparency around the final storage of ILW we feel that it fails to meet the government code of practice. *(D. Gallen)*

- The consultation has been conducted in good faith but did not attract the interest of the general public as it was too limited. The failure of the Consultation to include defueling of submarines and the high-risk strategy of deploying SSBNs is a lost opportunity and relegates the Consultation to the side-lines of submarine debate. *(D McDonald)*
- This is comprehensive, save the lack of identification of an ILW storage facility. *(Feedback Form ID: 791)*
- Annex C?? Ref items 1 and 3 of the code: again, the sessions were in part noted for their lack of detail or willingness to cover certain topics. This might imply that a) certain decisions have certainly been made or b) after such a long gestation, the lack of progress is a distinct embarrassment. Given that the people of Rosyth and Devonport are likely to bear the brunt of the outcome, will any weighting be given to their wishes? *(M Galley)*
- There should have been a greater amount of publicity and a drive to involve and seek response from a greater proportion of the population. The timing of the consultation also appears to have been inconvenient in that it coincided with the period of consultation for the MVV Devonport Incinerator (perhaps a deliberate move). *(M O'Hara)*
- We welcome consultation by the Ministry of Defence on its submarine dismantling proposals and we hope that in future the department will conduct further consultations on matters of public interest and issues which have the potential to impact significantly on local communities.

However, we feel that a more open and deliberative approach should have been undertaken in decision-making on submarine dismantling. It is not clear what guiding principles and process were used by the submarine dismantling project team in identifying the preferred options presented during the consultation. We would recommend that the submarine dismantling project team study the recommendations of the first Committee on Radioactive Waste Management (CoRWM) and follow the approach to decision-making taken by the Committee in its subsequent work. CoRWM's work is generally considered to have been successful in identifying a way forward for the management of radioactive waste, and the Committee established new standards for public and stakeholder engagement within the nuclear sector which were important in restoring trust in government institutions responsible for managing radioactive waste. In its principal report to the government CoRWM outlined the approach it had taken to its work, based around seven elements which heavily emphasised ethics, public participation, and an open, deliberative approach to the problems it was tackling. The Committee considered that this approach would allow its recommendations to be successfully implemented.

Central to the approach were five principles – statements of fundamental core values - which guided every aspect of the Committee's work and its approach to engagement with the public and stakeholders. These principles are outlined in CoRWM's report to the government¹ and are as follows:

- To be open and transparent.

- To uphold the public interest by taking full account of public and stakeholder views in our decision making.
- To achieve fairness with respect to procedures, communities and future generations.
- To aim for a safe and sustainable environment both now and in the future.
- To ensure an efficient, cost-effective and conclusive process.

Further environmental and radiological protection principles, such as the precautionary principle and management of doses to be as low as reasonably achievable, would also apply in the case of the submarine dismantling project. We recommend that the submarine dismantling project takes the same kind of open and deliberative approach used by CoRWM, which was chosen so as to inspire public confidence in decisions made by CoRWM on the highly complex and emotive issue of radioactive waste management. The risk of not following such a route is that, if it is not clear that project decisions have been made in an open, reasoned, and principled way, the decisions will lack legitimacy and may not be accepted by members of the public in communities which are expected to host controversial dismantling and waste storage facilities. In particular, there may be concerns that decisions have been driven by costs and the vested interests of the industry partners who will undertake dismantling, rather than the best interests of the communities themselves.

It is somewhat regrettable that the Ministry of Defence presented its own preferred options as part of the consultation process. If these options are the ones eventually adopted by the submarine dismantling project team, it will be harder for the team to claim that the key decisions had not already been taken before the consultation exercise took place and that consultation was genuine and open-minded with no hidden agenda. On the other hand, it is encouraging that a strong group with independent advisors have been scrutinising and informing the work of the project team.

We appreciate that the Ministry of Defence has worked hard to undertake this consultation in an equitable way and follow the seven consultation criteria in the Government Code of Practice on Consultation. However, the technical approach underpinning the process (in particularly the assessment methodology) is not particularly accessible to lay members of the public who may be affected by the project and information which is in our view essential to informed decision making is unavailable (criterion 4). The burden of consultation is also high (criterion 5). At this stage it is not possible to comment on whether criterion 6 (responsiveness to consultation) has been met as feedback is not yet available and final decisions have yet to be made.

We would also remind the Ministry of Defence that a highly transparent and open approach to submarine dismantling issues will need to be taken beyond the current consultation and decision-making phase of the project, and indeed throughout the entire cycle of the project. (*Nuclear Information Service*)

- Good facilities and representatives at . (*R Creagh*)
- *Inconveniently coincided with PCC & EA consultation for EfW CHP facility at North Yard.* (*S O'Hara*)
- Yes. (*West Kilbride Community Council*)
- No additional comment. (*The Highland Council*)

- The consultation was flawed. Hardly anyone went to your exhibitions and only one side of the argument was presented. (*Feedback Form ID: 798*)
- While SCCORS recognises and welcomes the considerable effort MOD have applied to the consultation to date SCCORS is of the opinion that it must defer final judgement on how MOD have conducted this consultation until it can be seen how MOD has responded to the comments received. (*SCCORS*)
- As usual with such consultations: all very pleasant, qualified personnel to answer questions etc, but: not enough publicity, no time to absorb enough information to make adequate responses, especially for those of us attending on the first week of February. If you don't have a PC at home you can't just look something up when you feel like it - library PCs aren't always available. As members of the public, with a very wide variation in knowledge of the topics dealt with, will our response really carry any weight? Or has this just been a paper exercise, a sop, a justification to be able to claim that a valid Public Consultation has taken place? If so, it is a cynical ploy.

The numbers of people attending up to the end of the year are surprisingly small and the numbers of response forms proportionately smaller. I cannot believe that if Edinburgh citizens had been properly informed about the events on the 9th to 14th December the turn-out would have been as low as 62. Edinburgh reaches as far as South Queensferry and Crammond.

Why was Linlithgow not on the original list? Did the public push for it and were there other extra Events. The fact that no Events were planned for any further up nor down the Forth than Dunfermline and Edinburgh is significant.

So, it's easy to see why people can't or don't come to these events (poor publicity and bad planning) and when they do come - many feel inadequate, overawed by professional information and (very plush and attractive) "booklets", and questions that may be misleading. Why not ask the straight questions first and keep the "have we missed"/"do you agree with"/"do you think any significant options have been left out" ones to another part of the form in a section of their own? This would give people time to think about the main questions for themselves - without being side-tracked, "examined" and "shepherded" through the arguments that are meant to lead to the preferred options. (*Feedback Form ID: 799*)

- I think that the decision has already been made and the consultation is window-dressing. (*G Wheeler*)
- The consultation events were poorly publicised & not easy for those affected to access personally. (*Feedback Form ID: 800*)
- This one consultation has been better than any others done by MOD. Unfortunately, the MOD has decided not to accept the Isolus favoured Option 1. (*R Holmes*)
- Very poorly advertised, too few consultation days. (*Feedback Form ID: 803*)
- We recognise that MOD has sought to undertake a comprehensive engagement with the public and stakeholders. The public information, leaflets and opportunities for face to face discussion were informative to the general public and we welcomed the local consultation events for the public. We would want to see continuation of this model and consideration of any lessons learned as the project continues.
- We note the complexity and detail of the assessments informing the

consultation. These have required a considerable investment of our time and effort to get to grips with the key documentation that sits beneath and informs the consultation document. We wonder if this has excluded the wider public from full engagement with the consultation.

We think that there would have been value in:

- explaining to the public and stakeholders, at the beginning of the consultation, how and with what weight, their views will influence the decision making process. The Council had recommended this approach to the MOD as best practice method of engaging the public and generating confidence on the project.
- engaging a wider range of stakeholders in criteria weighting as part of the MCDA;
- including the consideration of interim storage sites within the consultation.
- engaging stakeholders to review and comment on MOD's initial thinking in the 'Other Contributory Factors' paper; and
- explaining more clearly how the tables of advantages and disadvantages are derived from and link to the findings of the MCDA .

(Plymouth City Council)

- The consultation was a sham and a disgrace. The patronising and misleading materials were bad enough but to be deliberately lied to by MOD personnel was shameful. I was told that the deaths at Chernobyl were attributable to 'unhealthy lifestyles, alcohol and smoking' this kind of blatant lie brings shame on the pretence of consultation or safety. *(Feedback Form ID: 806)*
- We still cannot know how much each option will cost. *(K Tabernacle)*
- The timing of the consultation over the Christmas/holiday period and the lack of publicity especially in the city and surrounding communities has been deeply concerning. It has been presented as if a decision has already been made. *(Feedback Form ID: 808)*
- We have no specific comments regarding the conduct of the consultation. We have been party to the MoD developing its consultation material and consider that we have enough information to reach our views and to respond to the consultation. We agree that the consultation has met the criteria of the Government Code of Practice. *(The Environment Agency)*
- Yes. *(DNSC comment)*
- As indicated above there is insufficient information about radioactive discharges and insufficient information about the possible risks associated with moving decommissioned submarines.

However in general the Code of Practice criteria appear to have been met. The numbers responding in the Rosyth area are low, we will await the feedback in the form of the Post Consultation Report and the comments from the independent experts and advisors drawn from the Advisory Group before making any value judgement on the process. *(Fife Council)*

11. Do you think that the environmental report has captured the significant environmental effects of the SDP options? If not, what effects do you think we have missed, and why?

November Responses:

- Yes. (*Feedback Form ID: 216*)
- A very dangerous option. (*Feedback Form ID: 217*)
- You need to acknowledge in detail any safety concerns expressed by the nuclear environment and safety board. (*Feedback Form ID: 218*)
- Yes. (*Feedback Form ID: 219*)
- Yes (*R Harper*)
- A well-presented case has been made (to support SDP assessment thus far) and the pictorial presentation methods - i.e. choice of colour +/- symbology provided a simple yet effective comparison method. (*A. Jones*)
- Yes. (*Feedback Form ID: 225*)
- Yes. Logical. (*R. Harper*)
- Yes - no significant effect. (*Feedback Form ID: 350*)
- Covered all. (*Feedback Form ID: 351*)
- Yes. (*A. Osborne*)

December Responses:

- Yes. (*Feedback Form ID: 375*)
- Environmental report not provided with consultation document. I can not tell by reading the SEA as there is significant use of Enviro speak and aggregation of information. The SEA is to high level for general comment, though access to more detailed information would take a lot of time to assimilate and understand. (*Feedback Form ID: 376*)
- No, the danger to local populations. (*Feedback Form ID: 377*)
- Yes. (*Feedback Form ID: 399*)
- I think that the environmental requirements for the long term have been glossed over as the facility and site where it is located will dominate the issue in reality. (*N. Fyfe*)
- It is hard to know but I suspect minimisation of risk. (*Feedback Form ID: 477*)
- Yes – fully, all environmental areas have been tackled and explored in great depth. (*A. Walker*)
- Again, yes but what's a "routine permitted discharge" its a meaningless phrase. Also, you're about to dump a major nuclear site on us, I know its considerate of you but do you really think "light pollution" is a major factor in the equation? (*I. Hunter*)
- Yes. (*I. Currie*)
- Yes, all covered. (*S. McQueen*)
- Yes. (*M. Rich*)
- Yes. (*R. Furse*)
- I cannot see how dismantling and storing a nuclear submarine reactor differs in environmental protection from what is already in place for existing nuclear work on weapons ships and power stations. (*A. Williams*)

- Yes. (*Feedback Form ID: 509*)
- I do. (*Feedback Form ID: 535*)
- Yes. (*Feedback Form ID: 536*)
- Yes. (*Feedback Form ID: 538*)
- Yes. (*P. Lister*)
- It appears to yes. (*Feedback Form ID: 543*)
- Yes. (*Feedback Form ID: 544*)
- Yes. (*J. Cook*)
- Yes. (*Feedback Form ID: 548*)

January Responses:

- The representative from the Environment Agency that I spoke to at the consultation agreed that Devonport had a poor safety record, but that they were going to make them tighten up on their procedures. I believe it is not possible to legislate to prevent accidents. (*M Harris*)
- No. The environmental effects and the safety concerns have not been taken seriously by the report and this consultation. (*C. Hunter*)
- Public health ignored, public concern ignored, no real security. Should not happen close to an incinerator North Yard. (*K Johnson*)
- Yes. (*B Pym*)
- Yes. (*Feedback Form ID: 683*)
- Yes. (*Feedback Form ID: 687*)
- Yes – Very comprehensive. (*Feedback Form ID: 688*)
- No, no consideration of environment or excessive risks to people. (*C. Martin*)
- The language used is not very reassuring e.g. 'Dismantling activities are not expected to create radioactivity that could harm the environment or health of the community.' This is very loose and uncertain. I expect a stronger guarantee for my safety and the environment. As Rosyth performs better environmentally than Devonport 'due to the proximity of growing residential areas and protected wildlife habitats at Devonport', Devonport should not even be considered. (*L. Miller*)
- The representative from the Environment Agency that I spoke to at the consultation agreed that Devonport had a poor safety record, but that they were going to make them tighten up on their procedures. I believe it is not possible to legislate to prevent accidents. (*R Plageron*)
- Language is not reassuring- 'dismantling activities are not expected to create radioactivity that could harm the environment or health of the community.' I am not prepared to accept this level of risk it cannot be justified! I want a stronger guarantee for my family's safety and that of the environment. Devonport should not be considered when Rosyth performs better environmentally as it is not in a growing residential area. (*Feedback Form ID: 698*)
- Yes. (*Feedback Form ID: 704*)

February Responses:

- I do not seem to have an Environmental Report or Non-Technical Summary. (*G Davies*)
- I think it has captured the significant environmental effects. (*R. Ellington*)

- There is space and expertise at Rosyth. As long as ILW transported away to a existing facility away from Rosyth do not see any environmental factors -social, natural, human that can be within limited damage. *(Feedback Form ID: 724)*
- No. Nature. Cause & effect! *(C. McCarthy)*
- The environmental effects and safety concerns have not been taken seriously. *(Feedback Form ID: 685)*
- Yes. *(Feedback Form ID: 735)*
- No, it under-states the threat to humans, flora and fauna from low-level as well as Intermediate and High Level nuclear waste, and obscures the current as well as future threat to health in the City. *(T. Staunton)*
- Yes. *(Feedback Form ID: 742)*
- Yes. *(Feedback Form ID: 744)*
- Derisory, late health reports submitted, conveniently late of a post full impact assessment to environment Officer. *(Sandey)*
- Where do our Ministers stand on these multi national agreements on investments by foreign companies. *(R. Rees)*
- See responses 1,2 & 7 above. *(Feedback Form ID: 747)*
- Not available to me – Sorry! *(V. Nesbitt)*
- No – Radiation can cause cancer and birth defects. it is not fair to the workers or the environment. *(Feedback Form ID: 751)*
- No estimate of loss of investment in to City due to being seen as a nuclear waste dump. *(Feedback Form ID: 755)*
- No nuclear dump in Plymouth. *(R Spettigue)*
- Environmentally, a nuclear dump in the city would affect all aspects in the city and surrounding area. *(L. Crawford)*
- As before – issues of siting of incinerator not included. *(E. Knight)*
- No. Not detailed enough. Little research done. Not a true and real picture of full effects and environmental impact. *(Feedback Form ID: 759)*
- No. There should be far more specific and detailed information about the impact on the people of Plymouth. We already have HLW, ILW, LLW stored in the middle of our city. Immoral! To add to this is unacceptable. *(C Giarchi)*
- See answer to Question 10 above. *(Nuclear Free Local Authorities)*
- Environmental Questions - The Strategic Environmental assessment (SEA), Non-Technical summary appears to analyse and compare each outlined option and site location in a straight forward and common sense manner; however, without the full Technical Report it is difficult to comment in detail on the findings. And regrettably, I suspect that the full Technical Report would be way beyond the comprehension abilities of the average layman. But can we really compare the possible visual and aural impact and the impact of land use by storage units with the potential increase in adverse human health and the increased risk of death and misery from an associated 'acceptable' and possibly underestimated rise in cancers? Also, I note the report predicts a positive effect on employment but fails to take into account, as far as I can see, of the negative impact to tourism. Tourism is an important industry here in Plymouth and the South West. If Plymouth becomes labelled 'the Sellafield of the South West' as many predict, jobs will be lost in this industry and others, with a net loss, not gain, in employment opportunities. In more detail, the conclusion of SEA appears

to be that RC separation is the safest option as it allows for, "maximum radioactive decay to take place" (p11 SEA) and has the , "lowest expected radiological" (p11 SEA) emissions. But, it seems that the worry here is the required storage facilities and what to do with the remaining front and rear sections of the dismantled submarine. If heavy 'lift ships' are required it is claimed" additional dredging might be needed at Devonport" with problematic environmental impacts on " The Plymouth Sound and Estuaries Special Area of Conservation" (p17 SEA). However, if it is decided to undertake RC removal at Devonport, why not then process the remaining front and rear sections of the submarine here too? Why try to move them? Why not save time and costs? And why has this not been considered in the documents? If Devonport is considered 'good enough' for the 'dirty' work then why not let Devonport do this work as well? However, the question remains, should any of this work be allowed to take place at Devonport? (please see Question 1 and SEA conclusion p 18.)

With a proximal population of 270,000 vulnerable human beings, which is growing, are we really sure that this is really safe? The SEA relies heavily in its findings on the belief that any discharges will be within the current 'believed' safe Statuary dose limit. Experts disagree and understandings and opinions change over time. How do we know exactly what really is 'safe'. And what about the impact on nearby populations by 'unplanned' discharges?

Both documents confirm that there are still many unknowns. SEA p 12 states, "Delaying the point of final dismantling also gives more time for size reduction technologies and techniques to be developed." It is admitted that Ground Disposal Facility (GDF) is unlikely until 2040 and the crucial details of GDF remain unknown. Do we really believe it is 'safe' to start something, something potentially so dangerous, when we do not have the knowledge, technologies or facilities to finish it? (*Feedback Form ID: 763*)

- You have not mentioned the danger of radioactive waste and the effect it has on children, women and men. (*Feedback Form ID: 764*)
- No. The report has missed the effects such a development would have on the public perception of Plymouth as a safe and pleasant place to live or move to. (*P Towey*)
- From the information provided the Environmental Report appears to have captured the significant environmental effects of the SDP options. It is noted that section 6.8.2 of the Environmental Report deals with the potential effects of SDP with other plans and proposals in Devonport including the Devonport landing craft co-location project and the energy from waste combined heat and power facility which has now gained planning approval. (*B O'Neill*)
- Yes. We believe that the Environmental Report has captured the significant environmental effects of the SDP options? We have not identified any significant omissions.

We note that flood risk in coastal areas is a potentially significant problem, which the SEA recognises would be highly expensive to mitigate against. Greater attention may be required on this issue, particularly with respect to possible sites for ILW storage.

The public aspects of the proposed mitigation measures are good, implying that the sites will engage with local communities via existing structures. This should be as pro-active as possible and avoid specific public meetings (rather, integrate into existing ones).

The use of local workers and suppliers is commendable, and will make demonstrating public benefit easier (to balance perceived risk) but this will be constrained by European legislation on competition. Care will need to be taken to ensure promises aren't made to local communities which can't be kept. (*Nuclear Institute*)

- It concerns me that (a) visual impact and (b) reclassification of submarines from 'not waste' into 'waste' are given undue prominence. These seem to me to be trivial matters in comparison with more substantial environmental impacts, and leave me wondering as to how robust and thorough the process leading to this report has been. (*S Tame*)
- I'm aware that there have already been leakages of coolant into the River Tamar but I'm not certain that the Environment Agency has the full information about these incidents. My sense is that the Environment Agency has not been kept fully informed by the MOD. (*P Shingler*)
- No comment. (*Feedback Form ID: 776*)
- No. The risks of accidents or criminal activities leading to discharge of radioactive material have been ignored. There is a bland assumption throughout that the regulatory apparatus is utterly sound and that regulatory requirements will always be adhered to. (*T Milburn*)
- There are a number of places where the scores shown in the tables do not seem to be consistent with the discussion given in the accompanying text. For example:
 - The text discussing the options considered in Table 4.2 makes the "RPV removal" option (Option 2) seem much better than the "RC Separation" option (Option 1). However, this is not reflected by the scores in Table 4.2, which do not indicate such a big difference.
 - Section 4.4 does not refer to the fact that the use of Rosyth Dockyard alone would require the transport of 20 submarines, while the use of Devonport Dockyard alone only require seven submarines to be transported. Given this difference, it is not clear why both sites score equally under the transport column (column J) of Table 4.4.
 - The text for Option 1 and Option 2 in Section 4.4 simply says that any additional discharges would have to remain well within the legal limits set by the regulators for work to proceed. Without some assessment of predicted doses it is difficult to say if the assessment for Health and Wellbeing (column C of Table 4.4) correctly reflects the radiological impact of initial dismantling at Devonport or Rosyth dockyards. (*Feedback Form ID: 783*)
- Environmental benefits can only come in terms of reducing risk and stopping all discharges. (*D Hoadley*)
- In section 2.3 of the Strategic Environmental Assessment (SEA) Non -technical summary it states that the MoD had identified the sites of Devonport Dockyard and Rosyth Dockyard as potential sites and the document then goes on to assess the environmental impacts in relation to these 2 sites only.

However it is considered that doing an assessment of only the 2 sites is very limited and does not get an overall assessment. In order to give a full indication of the advantages and disadvantages it would be more insightful to have done an assessment of the sites shortlisted. It is recognised that to do an assessment of all 8 sights identified would be time consuming but it is reasonable to expect that an assessment of the 4 sites that were identified through the second stage of the process should have been carried out. (*D. Gallen*)

- The SEA does not address the overwhelming problem of defueling submarines currently laid up in Plymouth awaiting dismantling. (*D McDonald*).
- Yes. (*Feedback Form ID: 791*)
- Please see response to question 5. (*Nuclear Information Service*)
- There is space and expertise at Rosyth. As long as ILW transported away to a existing facility away from Rosyth do not see any environmental factors -social, natural, human that can be within limited damage. (*R Creagh*)
- Yes, but it is obvious that the MOD in the past had not addressed the problem at Devonport and Rosyth. (*West Kilbride Community Council*)
- No comment. (*The Highland Council*)
- You overlook the potentially disastrous effects of a nuclear leak. (*Feedback Form ID: 798*)
- SCCORS recognises and welcomes the considerable amount of work MOD have carried out in conducting the SEA and preparing the environmental report. The consultation document associated with the SEA Environmental Report has focused on the aspects of the activity which differ from established practice - principally how ILW will be dealt with. This would suggest that some focus should also be placed on considering the radiological aspects of proposals. However in section 4.2 of the SEA non-technical summary and elsewhere reliance seems to be placed on exposures to ionising radiation being expected to be below statutory limits and on regulation of these activities. While this may indeed be the anticipated situation it provides little basis for comparison of options from a radiological impact perspective.

It is noted that in section 4.5 that at this stage only a generic assessment of the potential environmental effects of building an interim ILW store have been assessed as candidate sites have not been named. It is noted that once candidate ILW storage sites have been identified, further environmental assessment may be needed, which would then be used to inform subsequent siting decisions on the interim ILW storage element of the SDP. SCCORS is of the view that such further consideration will indeed be necessary once candidate sites are identified.

SCCORS notes that table 4.3 in the SEA non-technical summary appears to aggregate the assessed impact of initial dismantling activities and of interim storage facilities at green-field, brown-field and existing nuclear site locations. The Environmental Report itself deals with the impact of these two processes separately, which by their nature would seem more appropriate. The presentation of aggregated impact in this way would seem somewhat questionable as it produces a complex matrix which does not appear to correspond exactly with either of the two matrices upon which it is based. (*SCCORS*)

- No it would have been more informative to have a table showing the expected increases or otherwise of individual radioisotopes from the 3

different options. Also an indication of likely discharges to air and water for each option. (*R Holmes*)

- Secondary contaminated / radioactive waste generated – not associated with the submarine itself. (*Feedback Form ID: 802*)
- No, Plymouth will be known as a radioactive dump. What impact will that have on tourism and development. (*Feedback Form ID: 803*)

- Our concerns are not that significant issues or factors have been excluded, but that it is not clear that all the relevant issues or factors have been robustly taken into account in the assessment.

Whilst we accept this is a high level 'strategic' assessment there is insufficient understanding of the baseline or likely impacts to conclude that there will be little or no significant impact on complex issues about how the proposals affect 'the positive self image and attractiveness of Plymouth and its hinterland as a place to live, work and invest in.

The Strategic Environmental Assessment (SEA) looks at local economic impact in terms of

'full-time equivalent' jobs created but fails to adequately consider in the same depth the more difficult issues around associated with public confidence linked to the protection of the "Plymouth Brand" and the City's growing reputation as a destination of choice.

The SEA recognises (para 7.2.1; Appendix A pg 130, 133, 163) that the scale of impact caused by the project on the attractiveness of the local area will be down to local perception and will be highly subjective. Given the shortage of information about local perception and local circumstances presented within the SEA, it is difficult to understand how any conclusion can be reached on this issue without further analysis. (*Plymouth City Council*)

- No. low level radiation is known to increase cancers especially childhood cancers. Devonport is close to several schools. (*Feedback Form ID: 806*)
- Environmental benefits can only come in terms of reducing risk and stopping all discharges. As radiation exposure is cumulative our preferred level for discharges is as close to zero as possible. We already live with the effects of atmospheric nuclear testing, nuclear weapons production, military waste reprocessing and civilian nuclear power. The SDP should reduce as far as possible further harm to the environment and to the public, rather than accept discharges below permitted levels. We think that the bar should be raised and that this is an opportunity to have the ambition to improve things for future generations rather than accept current standards. Sustaining jobs should not be a factor in the decision. Properly managed disarmament and decommissioning in a nuclear weapons and nuclear power free future will create significant employment, however, we do not believe that it is right to damage the planet and the people on it in order to sustain the jobs required to clean it up, given that much of the damage will be irreparable. AWE have been criticised by the NII for their attitude toward risk which is one of assessing risks as highly improbable rather than taking active steps to reduce risk. This document seems to fall into that same pattern of talking the risks away rather than making concrete proposals to both reduce the risks and put in place systems to minimise the

impact of any accident should it occur. As far as taking advantage of opportunities to improve the environment, submarine dismantling should be carried out in a responsible way, but damage to the environment is not ameliorated by, for example, planting trees or using recycled steel. Of course those things should be done, but not set against the irreversible negative impacts. *(K Tabernacle)*

- No. The river Tamar is an area of outstanding natural beauty. The area is also supports a wealth of cultural and natural heritage. The necessity to deep dredge The Sound and the Tamar frequently to enable the proposed activity to take place is only briefly mentioned and is considered to be of little significance or impact. It will have a massive impact. It will be irreplaceable. Nuclear leakage or accident. Effect on resident population. National and International Tourism. Local economy. *(Feedback Form ID: 808)*
- The Environmental Report appears to have thoroughly addressed the environmental impacts that could impact on the main phases of the SDP – the options for initial dismantling. The most significant impacts might arise if the MoD selected the option to cut out intact reactor compartments (Option 1). The impact, primarily during construction of a large ILW store, most likely on site at Devonport (and Rosyth) might be managed during the planning and construction phases. The impact of removing, managing and transporting the two separated sections of the submarine hulls for final dismantling does not appear to be have been addressed to the same level as that of managing radioactive wastes, nor does the impact of dredging. The most significant impact of SDP on the environment would arise from an ongoing requirement to undertake dredging in a sensitive riverine and marine environment to allow access by heavy lift ships. This work would need to be scheduled to allow for the transportation of submarine sections to conventional ship dismantling facilities. The detailed short and long-term effects on marine and inter-tidal environments and on water quality will need to be determined if Option 1 is selected. Section 6.3.1 of the Environment Report provides some clarity on how the MoD would proceed including further assessment in line with the Habitat Regulations requirements. Should Option 1 be required, we advocate early engagement between the MoD and ourselves in determining the more detailed impact. *(The Environment Agency)*
- The Committee has not studied the Environmental Report. *(DNSC comment)*
- There is insufficient information about radioactive discharges and insufficient information about the possible risks associated with moving decommissioned submarines. *(Fife Council)*

12. Is there any other baseline environmental information, relevant to the SEA, that we have not included? If so, please provide details.

November Responses:

- Yes. (*Feedback Form ID: 216*)
- A very dangerous options. (*Feedback Form ID: 217*)
- You should also explain the other more expensive and safer options. (*Feedback Form ID: 218*)
- No. (*Feedback Form ID: 219*)
- Potentially under the population category? An old chestnut this retention of necessary industrial skills and mobility of same during SDP planning phases - baby boomers all now/about to be retired? (*A. Jones*)
- No. (*Feedback Form ID: 225*)
- No (*A. Osborne*)
- Not to my Knowledge. (*R. Harper*)
- No. (*Feedback Form ID: 350*)
- No. (*Feedback Form ID: 351*)
- No. (*A. Osborne*)

December Responses:

- See Question 11. (*Feedback Form ID: 376*)
- None Known. (*Feedback Form ID: 399*)
- Who is going to be responsible for maintaining the material in the long term and how is this to be achieved as there are very few Environmental resources who will be sufficiently knowledgeable with practical experience for the role. (*N Fyfe*)
- Table 3.1 – has covered in-depth environmental issues, that has an impact on a wide range of potential issues. (*A. Walker*)
- Yes, how has years as an operating nuclear base effected background radiation levels? (*I. Hunter*)
- No. (*I. Currie*)
- Not that I can think of. (*S. McQueen*)
- No. (*R. Furse*)
- I have no questions. (*A. Williams*)
- No Aware. (*Feedback Form ID: 509*)
- No. (*Feedback Form ID: 535*)
- No. (*Feedback Form ID: 536*)
- None. (*Feedback Form ID: 538*)
- Not that I know of. (*P. Lister*)
- Not that I consider a problem. (*Feedback Form ID: 543*)

January Responses:

- No. (*M Harris*)
- The effects of low level radiation has not been included, despite increasing scientific concerns about its effects on the body and what safe limits really are. (*C. Hunter*)

- Yes the incinerator MVV will build at Devonport. Too dangerous to have both at same site so close. *(K Johnson)*
- None Known. *(B Pym)*
- Not that I away of. *(Feedback Form ID: 683)*
- No. *(Feedback Form ID: 687)*
- None Known. *(Feedback Form ID: 688)*
- Radiation levels have been misrepresented as not dangerous. *(C. Martin)*
- I don't know but I don't think a few jobs for local people compensates for the potential harm to the area and negative image portrayed to outsiders. *(L. Miller)*
- Impact on food for example the impact on fish, and water supplies. There is a chance that local water supplies could be contaminated with radioactive water. *(Feedback Form ID: 695)*
- The number of jobs that this work could create in Plymouth does not validate the risk. 'Expectations' of risk are not concrete enough or well enough explored to justify the risk. *(Feedback Form ID: 698)*

February Responses:

- I think that the SEA has been undertaken in a professional manner in the conventional way that such things are done. It is unfortunate that this SEA procedure was probably not designed to consider activities involving radioactivity. So the results are 'correct' in the terms of the SEA but 'Stupid' in that obvious outcomes are ignored. Jobs are identified as a benefit, no matter how optimistic that might be, but no account is made of the disbenefit arising from a heightened public awareness nationally of an enhanced future role for Devonport as a nuclear scrapyards. So that one might consider that there is at least a potential impact in the future on tourism to the city, recruitment to Plymouth University and re-location of businesses here. Furthermore there may be a 'dread' factor or plain sense of fear that arises in the population that leads to a gradual migration away from the city. *(C. Trier)*
- Not of level of expertise for me to make judgement. *(Feedback Form ID: 724)*
- Don't know. *(C. McCarthy)*
- No. *(Feedback Form ID: 735)*
- Yes. There is no environmental impact assessment on the threat to local flora and for a, for example at Balckie Wood situated adjacent to the proposed site for the nuclear waste storage facility (Nuclear Dump) which contains protected bat species and is a site of special environmental interest. There is also no Health Impact assessment or Equality Impact Assessment which would identify environmental issues for the human population. *(T. Staunton)*
- Affect of deprivation on the area by delays in awarding the contract. *(Feedback Form ID: 742)*
- I do not think so. *(Feedback Form ID: 744)*
- An inadequate (two pages A4) full health impact assessment analysis plan by the Director or local health. *(Sandey)*
- A post full Health Impact Assessment Plan drawn up prior to the Environment Officers decision. *(R. Rees)*
- See responses 1,2 & 7 above. *(Feedback Form ID: 747)*
- No nuclear dump in Plymouth. *(R Spettigue)*

- Nuclear waste is not safe and could have a very detrimental effect on the environment in the long term. (*L. Crawford*)
- Need to listen to environmental campaign groups and their advisors and membership and supporters. (*Feedback Form ID: 759*)
- Yes, before taking these proposals further, the very first question the MOD and [name removed]* should ask is, 'Is it safe and appropriate to cut up nuclear submarines and store radioactive waste in the heart of Plymouth. People are far more important than well equipped docks. (*C Giarchi*)
- Given that Rosyth and Devonport are unusual for nuclear licensed sites in that they are in the middle of urban areas, for consultation respondents from outside these areas it would have been useful to have more information about the proximity of residential areas, and the location of other buildings such as schools and offices in the vicinity. (*Nuclear Free Local Authorities*)
- See Question 11. (*Feedback Form ID: 763*)
- How long the waste has to be stored before safe. Can you guarantee it will be disposed of in the long term? (*Feedback Form ID: 764*)
- See above. (*P Towey*)
- From the information provided there does not appear to be any further baseline environmental information relevant to the SEA that has not been included. (*B O'Neill*)
- It is unclear from the SEA whether the availability of the Studsvik LLW Metal Recycling Facility at Lillyhall has been taken into account. We note that the amount of LLW which will actually need to go for disposal is very much reduced from that anticipated in each submarine (by up to 95%), but not whether this takes this facility's availability and performance into account. Site restoration (stage 7) assumes that the site will be returned to the original state or enhanced state – this should be in consultation with the community at the time, and a site end state may identify local demand for an alternative land use to mutual benefit of both parties. This would also address the issue raised in relation to the impact on landscape character in the demolition phase, if as the document suggests, the facilities become part of the landscape. (*Nuclear Institute*)
- Has there been any study of the impact of leakages on the water quality and sediment in the Tamar, some of which is dumped off Rame head near Whitsand bay, a popular beach, bathing and surfing spot? (*P Shingler*)
- No comment. (*Feedback Form ID: 776*)
- No comment. (*T Milburn*)
- The text for Option 1 and Option 2 in Section 4.4 refers to the total annual doses to the public due to current discharges of radioactivity from Devonport and Rosyth being less than 0.5% of the dose limit. It should also mention that there is also a requirement to keep doses as low as reasonably achievable. (*Feedback Form ID: 783*)
- The SEA does not address environmental protection actions that might limit or stop MOD activity. (*D Hoadley*)
- Table 3.1 outlines 14 issues of baseline information. We are pleased to see that transport has been included as one of the baseline issues. The table, while useful as a summary does not provide any depth as to what is assessed within each baseline. A greater explanation of what each of the

baseline headings assessed would be useful. Also how much weight was attributed to each criterion if they were weighted.

An additional criterion of potential to facilitate a storage building to store ILW at point of generation is necessary especially if the NDA option proves not to be credible. We consider that the sections 4.2 & 4.3 do not fully investigate the feasibility of developing a building to store ILW at the source of generation and further investigation is needed to explore this option. *(D. Gallen)*

- The SEA does not address the overwhelming problem of defueling submarines currently laid up in Plymouth awaiting dismantling. *(D McDonald)*
- No. *(Feedback Form ID: 791)*
- We would have liked to have seen a deeper consideration of socio-economic impacts, going beyond looking principally at short to medium term economic impacts of the submarine dismantling project and also looking at long-term potential implications of the project for community structure and resilience and at the impacts on different sections of the community based on age, gender, ethnicity, and similar factors. As the two proposed dismantling facilities are both close to urban areas with significant populations, this is a relatively important factor. *(Nuclear Information Service)*
- Not of level of expertise for me to make judgement *(R Creagh)*
- Cost must not be the overruling factor in the decision making process. *(West Kilbride Community Council)*
- No comment at this stage. *(The Highland Council)*
- See above. *(Feedback Form ID: 798)*
- SCCORS is of the view that individual local authorities will have information relevant to considerations of developments proposed within their areas and that this should be taken into account. Thus where some sites have been identified in the proposals to date this information should be elicited. Where there is uncertainty in relation to the location of proposed facilities and also to transport routes and transport proposals such information may be more difficult to elicit at the moment. *(SCCORS)*
- No. *(R Holmes)*
- What, if anything, does the submarine disposal process intend to burn in the incinerator. *(MVV Umwelt) (Feedback Form ID: 802)*
- I think you underestimate the risk to worker health. *(Feedback Form ID: 803)*
- No reference is made to the City's vision and growth agenda, and Strategic Objectives for the City contained in Plymouth's Core Strategy. Population statistics and projections are inaccurate, out of date or taken from the wrong source. The latest population figures should be taken from the Office for National Statistics (ONS), mid-year estimates for 2010 which indicate that Plymouth has a population of 258,700. The population projections for Plymouth should also be taken from the Office for National Statistics 2008 based projections (as is the case with the source for the national projections). These 'trend based' projections indicate a projected population for the City of 292,200 by 2025 and not the 263,900 alluded to in the SEA. The baseline information on school pupil numbers cited in the SEA has now been superseded and the latest intelligence suggests a continuing increase in pupil numbers. The latest position with regard to pupil numbers and capacity can be found in the following report: Services for Children

and young people Basic Need programme Cabinet decision October 2011. The latest dataset (2010, published December 2011) on Regional, sub-regional and local measure of growth GVA, (Gross Value Added), has now been published on the ONS website. (*Plymouth City Council*)

- The SEA does not address environmental protection actions that might limit or stop MOD activity. (*K Tabernacle*)
- Please contact the Marine Biologists at The University of Plymouth and the Marine Institute for their research. (*Feedback Form ID: 808*)
- There does not appear to be any baseline information that would require inclusion other than consideration of in-combination and cumulative effects from the SDP and any other project(s) occurring, where known, over the life of the SDP. (*The Environment Agency*)
- See the response to Q11. (*DNESC comment*)
- Rosyth and Devonport are unusual for nuclear licensed sites in that they are in the middle of urban areas, for consultation respondents from outside these areas it would have been useful to have more information about the proximity of residential areas, and the location of other buildings such as schools and offices in the vicinity. (*Fife Council*)

13. Do you agree with the proposed arrangements for monitoring significant effects of the SDP options, detailed in the environmental report? If not, what measures do you propose?

November Responses:

- Yes. (*Feedback Form ID: 216*)
- Don't do this in Plymouth. (*Feedback Form ID: 217*)
- Independent nuclear experts need to be given space to lay out all the facts. (*Feedback Form ID: 218*)
- Yes. (*Feedback Form ID: 219*)
- Content as read. (*A. Jones*)
- Yes. (*Feedback Form ID: 225*)
- Yes. (*R Harper*)
- Yes. (*Feedback Form ID: 290*)
- Yes. (*Feedback Form ID: 350*)
- Yes. (*Feedback Form ID: 351*)
- Yes, I agree (*A. Osborne*)

December Responses:

- See Question 11. (*Feedback Form ID: 376*)
- Agree. (*Feedback Form ID: 399*)
- Not enough detail and the monitoring is reactive so is considered too late. (*N. Fyfe*)
- Yes. (*Feedback Form ID: 477*)
- Continued on-going assessment would be required at all stages. (*A. Walker*)
- I don't know, I think I've just given up the will to live. How do you do this day after day? You must be bored sick. Come down and saw up a few RPV's its good for your lungs. (*I. Hunter*)
- Yes. (*I. Currie*)
- Yes. (*S. McQueen*)
- Yes. (*R. Furse*)
- Yes. (*A. Williams*)
- Yes. (*Feedback Form ID: 509*)
- I do agree. (*Feedback Form ID: 535*)
- Yes. (*Feedback Form ID: 536*)
- Yes. (*Feedback Form ID: 538*)
- Yes. (*P Lister*)
- Yes I agree. (*Feedback Form ID: 543*)
- Indications of how monitoring of pollution at the chosen site would be conducted i.e noise and radiation. (*Feedback Form ID: 544*)
- Yes. (*Feedback Form ID: 548*)

January Responses:

- No. (*M Harris*)
- No. You cannot legislate to prevent accidents and poor practice. (*C Hunter*)

- More public involvement, better sirens all over city, more openness, previous spills hushed up, River Tamar already polluted with Radiation. *(K Johnson)*
- Yes. *(B Pym)*
- Yes. *(Feedback Form ID: 683)*
- Yes. *(Feedback Form ID: 687)*
- Satisfied with proposed measures. *(Feedback Form ID: 688)*
- No; what happens when there is an accident as there has been in the past at Sellafield but is more isolated place. *(C Martin)*
- Yes. *(G Cooke)*
- I don't have confidence in the proposed arrangements for monitoring significant effects of the SDP options. They will not be rigorous enough nor completely honest. *(L. Miller)*
- Taking the submarines away from Devonport and the closure of the radioactive licenced site in Plymouth due to the risk of giving people in Plymouth cancer through contaminating the water. *(Feedback Form ID: 695)*
- No. *(R Plagerson)*
- I do not think the proposed arrangements are rigorous enough nor completely honest. All relevant viewpoints need to be considered. *(Feedback Form ID: 698)*
- Yes. *(Feedback Form ID: 704)*

February Responses:

- I agree with the proposed arrangements. *(R Ellington)*
- Yes. *(Feedback Form ID: 724)*
- It can never be enough. *(C. McCarthy)*
- No. *(Feedback Form ID: 685)*
- Yes. *(Feedback Form ID: 735)*
- No. The proposal does not ensure independence and monitoring of long-term impact of low-level radiation, nor the psychological impact of hosting a nuclear waste storage facility (Nuclear Dump) on the local population. *(T. Staunton)*
- Yes. *(Feedback Form ID: 742)*
- Yes. *(Feedback Form ID: 744)*
- Bit late in the day to do any assessment, post date to health assessment with incinerator plant! *(Sandey)*
- A post analysis on health to compare data on the effects of radiation release over our populated city. *(R. Rees)*
- I do not agree. All radioactive materials & vessels should be sent away never to return until safe. *(Feedback Form ID: 747)*
- Not in Devonport. *(Feedback Form ID: 751)*
- No nuclear dump in Plymouth. *(R Spettigue)*
- No. I do not think monitoring will ever give us full and honest answers that will only be told after an incident. *(L. Crawford)*
- Recognise Plymouth has high density of population with current poor health outcomes. *(E. Knight)*
- I would like to know who was involved in SEA. I feel it is biased and incomplete. *(Feedback Form ID: 759)*
- SEA has already written off the people of Plymouth and area in this report by listing the generic category of land and authorised sites where approved nuclear

activates already take place. No nuclear license should have been given to a dockyard in the heart of the 14th largest city in the country. *(C Giarchi)*

- Section 7.3 of the Environmental Report gives very little indication of the radiation monitoring measures which will; be implemented if any of these proposals go ahead at Rosyth. Simply mentioning the Annual Radiation in Food and Environment (RIFE) Report produced by SEPA and others is inadequate. Given the recent experience with the MoD's inadequate monitoring at Dalgety Bay in Fife the MoD must say exactly what it is proposing to do; what monitoring will be carried out and who will be responsible for it. *(Nuclear Free Local Authorities)*
- See Question 11. *(Feedback Form ID: 763)*
- Not sure. *(Feedback Form ID: 764)*
- We agree. *(P Towey)*
- From the information provided the proposed arrangements for monitoring significant effects of the SDP options, detailed in the Environmental Report appear to be appropriate. These should compliment the existing environmental monitoring at the licensed sites to provide a complete picture and be regularly published via the existing websites which are accessible by the public. *(B O'Neill)*
- We note that there are not anticipated to be significant environmental effects for the option selected, nor for the other options. Therefore, the monitoring is primarily required to identify that unanticipated significant environmental effects are not resulting from SDP implementation. In this regard, it is appropriate to consider the proportionality of such monitoring (in terms of resource and expense) against the likelihood of such unanticipated effects occurring. To the maximum extent practicable, the data collected should be aligned with data collection requirements for other purposes, but the periodicity of data collection and assessment should be defined as that required for this purpose. The proposed monitoring arrangements appear comprehensive, and we would not propose any additional measures. *(Nuclear Institute)*
- Not really as I have no faith that the Environment Agencies views will not be overridden by the MOD. *(P Shingler)*
- No comment. *(Feedback Form ID: 776)*
- These should have been outlined in the Non-Technical Summary. *(T Milburn)*
- No comments. *(Feedback Form ID: 783)*
- A good deal more detail is needed. Practice should be Best Possible rather than the Best Practicable. Cost should be given. *(D Hoadley)*
- Provided the potential environmental monitoring measures as outlined in Table 7.3 of the Environmental report are applied to all stages of the process including storage and the impacts of storing the ILW on that community. *(D. Gallen)*
- The SEA must address the overwhelming SEA problems of defueling submarines currently laid up in Plymouth awaiting dismantling. *(D McDonald)*
- Yes. *(Feedback Form ID: 791)*
- Monitoring arrangements should go beyond the legal baseline specified by government regulators and the needs of site operators and should address the potential concerns of local residents. The Local Liaison Committees for the Devonport and Rosyth Dockyards should be reviewed and strengthened by including representation from local environmental and community groups. Monitoring protocols for each site should be agreed in consultation with the new Local Liaison Committee and other stakeholders with an interest in health and

environmental concerns. The local knowledge of Liaison Committee members and local stakeholders should be used to help identify sensitive receptors where monitoring would be desirable. As well as monitoring environmental and health-related determinands, socio-economic changes should also be tracked. (*Nuclear Information Service*)

- These should have been outlined in the Non-Technical Summary. (*R Creagh*)
- Yes. (*West Kilbride Community Council*)
- No comment. (*The Highland Council*)
- See above. (*Feedback Form ID: 798*)
- SCCORS notes that the proposals for monitoring are set out in section 7.3 of the full environment report and details are not given in the non-technical summary though reference is made to the relevant environmental report section. Given that the main focus of the consultation to which the SEA relates is the non-established practices involved in the SDP - i.e. the aspects relating to ILW radioactive waste it would seem appropriate to give more attention to the assessment of radiological impacts of proposals and to their monitoring. The environment report makes reference to use of the annual report 'Radioactivity in Food and the Environment' as a source of information and, while this may provide useful information, considers that it is likely to provide only a high level overview of the impact of aspects of the SDP and additional information will be required to monitor the impact of the project. (*SCCORS*)
- Your statements on this are more reassuring than accurate. Regulatory control of discharges and worker exposure do not automatically mean there will be no ill effects. (*R Holmes*)
- Yes – See Q12. (*Feedback Form ID: 802*)
- It will be envisaged that more detailed monitoring arrangements would be needed as part of any project specific Environmental Impact Assessment (EIA), should the SDP come to Devonport. See response to Q11. We would also wish to see a commitment to provide direct public access to live monitoring data through publication on relevant websites. (*Plymouth City Council*)
- For reasons explained above and the terrible record of MOD of covering up major accidents and reckless disregard for the environment or population I have no trust in MOD or EA to monitor. (*Feedback Form ID: 806*)
- A good deal more detail is needed. Practice should be Best Possible rather than the Best Practicable. Costs should be given. In addition we suggest that the safety lapses at the AWE sites caused by the management of sub-contractors are examined so those mistakes are not repeated. (*K Tabernacle*)
- As above. (*Feedback Form ID: 808*)
- We agree with the MoD's proposed arrangements for monitoring the significant effects of SDP options. It is possible that some of these arrangements may need to be further developed in light of any information that may arise during the consultation and as more detailed planning takes place post consultation when a particular dismantling (and future ILW storage option) option is taken forward. The most significant external impact on SDP could well arise as a result of climate change. SDP spans some 60 years and the impacts from potential coastal erosion, sea level change and flood risk around Devonport will need to be carefully monitored. If the SDP takes place at Devonport, it will be one of a

number of activities that MOD will be undertaking there. Long-term management of a strategic defence asset at the site for maintaining Continuous At Sea Deterrence will also be linked to maintaining any facility for the SDP.

We welcome the recognition that monitoring will be required to understand the environmental impacts of the project before, during and after its completion. We suggest that continued monitoring of the risk to the project and any necessary development from flooding and coastal change should be included, alongside monitoring of any impacts caused by the project and development on flood risk and coastal change locally and elsewhere.

Flood and coastal change monitoring could possibly be linked to existing coastal monitoring mechanisms and the shoreline management planning process.

Monitoring would need to be timely, effective and focussed, setting a pre-project baseline and including monitoring during delivery and post project phases. (*The Environment Agency*)

- See the response to Q11. (*DNSC comment*)
- Section 7.3 of the Environmental Report gives very little indication of the radiation monitoring measures which will be implemented if any of these proposals go ahead at Rosyth. Given Fife Council' s recent experience with the MoD's response to monitoring at Dalgety Bay we would want to know exactly what the MoD plan to do; what monitoring will be carried out and who will be responsible for it. (*Fife Council*)

14. Do you agree with the conclusions of the Report and the recommendations for avoiding, reducing or off-setting significant effects of the SDP options? If not, what do you think should be the key recommendations and why?

November Responses:

- Yes. (*Feedback Form ID: 216*)
- No keep out of Plymouth. (*Feedback Form ID: 217*)
- No. (*Feedback Form ID: 218*)
- Yes. (*Feedback Form ID: 219*)
- With the lions share of the assessment/analysis/conclusive workload now completed perhaps a fresh look at all of the 'evidence' to see if any 'fast-track/quick wins' might have emerged since all of the 'eyes down' phases of the project were undertaken? (*A. Jones*)
- Yes. (*Feedback Form ID: 225*)
- Yes. (*R. Harper*)
- Yes. (*Feedback Form ID: 290*)
- Yes. (*Feedback Form ID: 350*)
- Yes. (*Feedback Form ID: 351*)
- N/A. (*A. Osborne*)

December Responses:

- I agree with the conclusions of the report. (*Feedback Form ID: 375*)
- See Question 11. (*Feedback Form ID: 376*)
- Agree. (*Feedback Form ID: 399*)
- I think the report is complete within a defined set of parameters but misses out the real practical aspects of carrying out the work and then managing the resulting waste when in storage. (*N. Fyfe*)
- Yes. (*A. Walker*)
- Yes. (*I. Hunter*)
- Yes. (*I. Currie*)
- Yes I agree. (*S. McQueen*)
- ISOLUS produced 65 recommendations, most were accepted, some were not. At every meeting 'no new build' was recommended only to be informed this Rec was not in the ISOLUS remit!!! It would be useful to list what cannot be recommended and why. Under why are we consulting (p12) you state "that there is keen public interest" in the subject of N-sub decommissioning; I would dispute this assertion based on my experience in this area, but may I congratulate your team on their professionalism. (*G. Anderson*)
- I agree with the conclusions as stated on pages 12, 14 and 18. (*Feedback Form ID: 505*)
- Yes. (*M. Rich*)
- Yes. (*R. Furse*)
- My thoughts on off setting the affects of SDP option perhaps differs from yours but I have briefly outlined my thoughts in Q10. (*A. Williams*)
- Yes. (*Feedback Form ID: 509*)
- I do agree. (*Feedback Form ID: 535*)

- Yes. (*Feedback Form ID: 536*)
- Yes. (*Feedback Form ID: 538*)
- No Comment. (*P. Lister*)
- Yes, I agree. (*Feedback Form ID: 543*)
- Yes. (*J. Cook*)
- Yes. (*Feedback Form ID: 548*)

January Responses:

- No. Submarine dismantling, if it is to take place at all, should not be in the middle of a city of a quarter of a million people. The effects of the procedure and associated effects on humans and the environment cannot be 'off-set'. Other sites must be considered. (*M Harris*)
- NO its the wrong site ate Devonport, too risky to local people 263,000 – what happens if it goes wrong – how do we get out. (*K Johnson*)
- I agree with the conclusions of the Environmental Assessment/Non-Technical Summary. The road transport environmental effects at Devonport will be difficult to manage. (*B Pym*)
- I disagree with the option chosen for the ILW and the two site scenario. As previously stated the best should be in the removal of the ILW and only Devonport should be used to dismantle the submarines. (*Feedback Form ID: 683*)
- Yes. (*Feedback Form ID: 687*)
- Agree. (*Feedback Form ID: 688*)
- No; the facts and options along with the risks should be made more easily understood by the general public, not just assume that the MOD knows best; they won't be living with nuclear waster on their doorsteps for decades. (*C.Martin*)
- Yes. (*G Cooke*)
- How can it be claimed that there will be 'no likely significant environmental effects' when the Lib Dems and SNP in Scotland are totally opposed to SDP at Rosyth. (*L. Miller*)
- No. Submarine dismantling, if it is to take place at all, should not be in the middle of a city of a quarter of a million people. The effects of the procedure and associated effects on humans and the environment cannot be 'off-set'. Other sites must be considered. (*R Plagerson*)
- If the SNP and Lib Dems in Scotland are totally opposed to SDP at Rosyth then it should be opposed in Plymouth also for the same significant environmental effects. (*Feedback Form ID: 698*)
- Yes. (*Feedback Form ID: 704*)

February Responses:

- I agree. (*R. Ellington*)
- N/a. (*Feedback Form ID: 724*)
- It is negative to destroy natural wild life & dredging of the sea bed off Plymouth and destroying Devonport with a large building. (*C. McCarthy*)
- Public must know more about the dangers of the radioactive effect. (*Feedback Form ID: 685*)
- Yes. (*Feedback Form ID: 735*)

- No. Off-setting significant effects can only be undertaken by not undertaking any of the three options offered. (*T. Staunton*)
- Yes. (*Feedback Form ID: 742*)
- Yes. (*Feedback Form ID: 744*)
- Yes, because when we eventually have the health effects data on the high cancer rates (like Sellafield Cumbria) in Plymouth Ports, the Ministers of Destruction will put it down to the effects of MVV German incineration plant now being sited conveniently so when your long gone! (*Sandey*)
- Health and not wealth, is a priority of our families here in Plymouth. (*R. Rees*)
- See responses 1,2 & 7 above. (*Feedback Form ID: 747*).
- It should be in a very isolated and remote area far away from any population. (*Feedback Form ID: 751*)
- No nuclear dump in Plymouth. (*R Spettigue*)
- This is an across agency operation, designed to serve the status quo and does not take into account the wishes / views of ordinary people! (*L. Crawford*)
- The GDF has not been suggested or investigated thoroughly enough. Therefore, risk to environment and people remain high. (*Feedback Form ID: 759*)
- The key to recommendations should be to undertake a proper study of the geographical location with the emphasis on human geography and centres of population. No nuclear work or storage of radioactive waste should take place in a large centre of population. (*C Giarchi*)
- NFLA agrees that indefinite afloat storage is not an acceptable option. However it notes in particular from the Environment Report conclusions that deferring the dismantling of the Reactor Compartments or Reactor Pressure Vessels would allow the radioisotopes to decay naturally over time. A significant reduction could be expected in gamma emissions from the decay in the short-lived isotopes within the RPV, such as Cobalt 60. This in turn would reduce the amount of shielding needed in the size reduction facility. However, the activity of longer lived isotopes such as Iron 55 and Nickel 63 will only fall slightly, so the quantities of ILW would remain largely unaffected for many decades.

The Environment Report states that: *"...no evidence of likely impact on either the environment or peoples' health from the planned activities. Current estimates indicate that radiological doses to 'critical' group (i.e. those people with the highest feasible exposure) would be significantly less than 0.3% of the statutory limit of 1 mSv per year."* (or 0.003mSv)

This should be viewed in the context of a target mentioned in the UK strategy for radioactive discharges 2001 – 2020 of achieving a mean dose of no more than 0.02mSv a year as a result of authorised radioactive discharges. This shows there is not as much margin for error as first seems.

The Environment Report notes that the RC Separation Option *"is associated with the lowest radiological dose to workers"*.

It also says *"There are no anticipated effects on the public from radiological discharges as a result of any planned dismantling activities, and the risk of significant discharge into the environment in the event of an accident is considered to be remote."*

The evidence to support this is thin and unconvincing. Without more details about the scenarios considered and the mitigation measures planned it is difficult to agree with this last conclusion.

The Environment Report argues that the RPV storage option, which defers the majority of the size reduction activities for 30-plus years, presents a number of potential benefits or opportunities:

- the short lived isotope Co60 in the activated steel would have more time to decay naturally, thus reducing the main source of occupational dose to workers; [This implies that RPV Removal – whether for storage or cutting up – threatens to mobilise Co60 under various possible scenarios in contrast to the RC Separation option.]
- delay may also allow size reduction and segregation technologies to develop, and potentially reduce radiological and non-radiological emissions;
- delay may allow for clarification and direction on the final form of ILW container that would be acceptable to the proposed GDF, which may affect technologies employed and the extent to which size reduction is needed; and
- delay may allow for the increased use of low carbon technologies, reducing the carbon footprint of the dismantling process. (*Nuclear Free Local Authorities*)
- See Question 11. (*Feedback Form ID: 763*)
- How can you prove MOD storage solution best option? Why not build the NDA facilities now, which will provide much needed jobs. (*Feedback Form ID: 764*)
- See above. We think that the Environmental Report was too quick to reject the Do Minimum option. This could be a temporary option until the Government comes up with storage and disposal option. Also we do not accept that developing a new dismantling and temporary storage site would have the biggest effect on the environment. This is only so if you artificially ignore the eventual need for a storage and disposal site. Also you have not taken into account the potential economic effect of using Devonport on Plymouth (though you do put on the debit side of the Do Minimum option, the visual effect of the berthed submarines!). (*P Towey*)
- From the information provided the conclusions of the Environmental Report appear to be appropriate. (*B O'Neill*)
- We agree with the conclusions of the report and the recommendations for avoiding, reducing or off-setting significant effects of the SDP options, to the extent that they are reasonably practicable to implement.
We note there is reference to the issue of local anxiety due to perceived health risks, but then only a consideration of the actual risk. Perceived risk and actual risk aren't comparable in this way, and greater attention needs to be taken to ameliorating the perception of risk among local residents. (*Nuclear Institute*)
- To me, I'm afraid to say, it reads as if the report was written after the decision to recommend against RC removal was made, rather than before. (*S Tame*)
- See above. (*P Shingler*)
- No comment. (*Feedback Form ID: 776*)
- No. The key recommendations should be that
 - (i) The Nuclear Option is not viable for a small, densely populated island.
 - (ii) As the MOD has painted itself into a corner by creating more radioactive waste, in the form of large submarines, than it can accommodate then the Nuclear Option should be abandoned and nuclear facilities in less populated areas should be devoted to dealing with our nuclear legacy. (*T Milburn*)
- The HPA broadly agrees with the recommendations. However, it is noted that the conclusion given on page 18 of the SEA Non-Technical Summary

that, regarding the removal of radioactive materials from the submarines, Rosyth performs better than Devonport is contrary to the conclusion in section 8.5.1 of the main Consultation Document. (*Feedback Form ID: 783*)

- SDP is only acceptable if it is accompanied by a change in government policy and no new submarines are built. Otherwise it opens the door to perpetuating this MOD waste problem. (*D Hoadley*)
- In table 7.2 proposed mitigation measures for submarine dismantling and storage, there is no consideration or mention of the transport of the submarines from the dismantling site to the storage / final disposal destination. In order to ensure sustainability there should be a link between the sites chosen to dismantle the submarines and the location of proposed storage, recycling and disposal as transporting 100s of miles may not be the most environmentally friendly option. (*D. Gallen*)
- The SEA Report has made a start on the problem. It should be revised to include the overwhelming problems of defueling submarines currently laid up in Plymouth awaiting dismantling. (*D McDonald*)
- Yes. (*Feedback Form ID: 791*)
- The Environmental Report makes a number of assertions about radiological doses, the impact of radiological discharges, and risks of discharges resulting from an accident which downplay the importance of these issues. Little serious evidence is presented to support these assertions. As discussed in our answer to question 8a, further evidence about potential risks, accident scenarios, and planned safeguards is required to allow informed discussion of the potential impacts of the submarine dismantling project. (*Nuclear Information Service*)
- N/a (*R Creagh*)
- Yes, however I have to reiterate that COST should not be a negative factor in decision making. (*West Kilbride Community Council*)
- No comment. (*The Highland Council*)
- See above. (*Feedback Form ID: 798*)
- SCCORS notes that a range of mitigating measures are proposed and welcomes the attention given to considering these. As already mentioned some discussion of how radiation exposures will be kept as low as reasonably achievable would seem appropriate also. (*SCCORS*)
- On the whole they appear sound. However, words like "not significant" are meaningless. How bad do things have to get before they are deemed significant? These are impossible to accurately assess. (*R Holmes*)
- With regard to the conclusions of the Environmental Report see response to Q11. Plymouth City Council believes that interim storage of ILW is integral to SDP and options for storage should have formed part of this consultation. Given that this consultation has, not included storage as part of the choice of site, our response has had to consider the possibility that storage could occur at Devonport Dockyard. Plymouth City Council wishes to be at the forefront in delivering the Government's Localism and Growth agendas and we are well placed to deliver them. We are aware of what our City offers to the national interest for example in relation to its strategic defence capabilities and our ability to accommodate the dismantling of nuclear submarines. However, there is insufficient understanding of the baseline or likely impacts for the SEA to conclude that there is little or no

significant impact on the 'population' of the city and the positive self image and attractiveness of the surrounding areas as a place to live work and invest in. We are not convinced that there is sufficient evidence or understanding of local circumstances in the SEA to accord socio economic impacts "low significance". This City is moving to become one of Europe's finest most vibrant waterfront Cities. We have already demonstrated our ability to deliver the Government's Growth and Localism agenda. Consequently we wish to ensure that SDP will positively support the overall wellbeing of the area and help us achieve our aims of being the destination of choice for those that wish to invest in or visit our City. There is a shortage of information about local perception and local circumstances presented within the SEA We suggest further consideration needs to be given to the importance of generating a positive benefit to the overall wellbeing of Plymouth and the surrounding area. Any future planning application for SDP at either site is likely to require a greater analysis and understanding of how an overall positive benefit to the locality from this project is to be generated. Perhaps a significant community benefits package along the lines agreed elsewhere as well as mitigation for any impacts on the City's designated sites may be appropriate.

We therefore seek acknowledgement from the Government that if it asks Plymouth to host this nationally important project, it will be delivered in the context of a genuine, long term, strategic partnership approach to ensure the future prosperity of the Dockyard, the City and its sub region. Key recommendations that we believe will support the viability of SDP and consequently would wish to see could include:

- Reinforcement of the statements the Government has made about its long term commitment to Devonport's Naval Base, which contributes 18% of the City's GVA,
- Giving priority to the City to enable it to re-balance its economy, with support through funding and barrier-busting programmes that support business growth and the creation of the conditions for growth.
- Recognition of Plymouth's strategic importance to the Country through enhancement of it's connectivity on the strategic transport networks by including Plymouth within the UK's network of Strategic National Corridors.
- Support for the Council in the regeneration of our waterfront area communities in the vicinity of the Dockyard. (*Plymouth City Council*)
- Storage of whole reactor compartments while a proper long term storage facility is developed is the only safe option. (*Feedback Form ID: 806*)
- SDP is only acceptable if it is accompanied by a change in government policy and no new submarines are built. Otherwise it opens the door to perpetuating this MOD waste problem which this consultation could be seen as legitimising. (*K Tabernacle*)
- We agree with the conclusions of the report and we support the MoD's intention to determine an early solution to submarine dismantling. We do not believe that a programme of indefinite afloat storage is a sustainable, long-term management option.

There are a number of potentially adverse environmental effects from undertaking the SDP: construction and dredging from Option 1 (removal of intact reactor compartment and storage) being the most significant. By adapting and using existing facilities we believe that the impact from construction can be reduced (e.g. by developing an existing dry-dock). The impact on dredging and construction of the large store required if Option 1 were chosen could be avoided by the MoD selecting an option whereby Reactor Pressure Vessels (RPVs) are removed for cutting up or, if agreed by NDA, disposed of as intact vessels at the GDF. Any additional dredging required would need to have an appropriate assessment to analyse any adverse impact to sediment flow interruption and wider coastal processes.

Option 2 (RPV cut-out and future cut-up) and Option 3 (RPV cut-out and immediate cut-up) appear to have the least environmental impact. We believe that any environmental impact from these options can be managed and minimised through early and ongoing regulatory engagement between the MoD, a future contractor and ourselves. *(The Environment Agency)*

- See the response to Q11. *(DNSC comment)*
- From the information provided the conclusions of the Environmental Report appear to be appropriate. *(Fife Council)*

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

November Responses:

- Do not allow anti-nuclear lobby affect the common sense approach. All safety issues and limits are in place. Just get the task started. (Feedback Form ID: 216)
- Not in my Back yard. (Feedback Form ID: 217)
- I am extremely concerned that it is proposed to undertake this work in an area where the local population could be at risk and where a profit making company may well cut corners. If you had acknowledged the safety concerns of the nuclear environment and safety board about previous lax safety on nuclear issues I would have more confidence in your proposals. I am very concerned that if these proposals go ahead there will be a nuclear accident. (Feedback Form ID: 218)
- I consider that it is consistent with national policy that redundant submarines are dismantled and the resultant radioactive waste processed as soon as reasonably practicable. Delaying the dismantling further is not consistent with principles of sustainability i.e. don't leave it for future generations to deal with. I consider Rosyth and Devonport are the most appropriate locations for completing submarine dismantling. (Feedback Form ID: 219)
- Again grateful thanks for time and interest shown to me at Carnegie exhibition. (A. Jones)
- No. (Feedback Form ID: 225)
- Needs more aggressive PR. (Feedback Form ID: 350)
- Overall a good work shop, shame there wasn't more people there, but I believe everything was done to entice more people in. (Feedback Form ID: 351)
- No. (A. Osborne)
- What is the minimal environmental work.. (Feedback Form ID: 353)
- I am happy with the process and procedures outlined in the public Consultation document. (Feedback Form ID: 355)

December Responses:

- All round a useful consultation, I hope my observations are useful for the on going planning of the SDP. (Feedback Form ID: 376)
- It does feel as though the decisions are already taken and that the consultation exercise is just an exercise in reaching a predetermined decision and trying to make it look as though there has been some democratic input. (Feedback Form ID: 377)
- No. (Feedback Form ID: 399)
- The industry has very little in terms of a strategy for long term waste and must also cater for Astute and the vanguard successor in their design and for disposal. (N Fyfe)
- If you didn't replace Trident we wouldn't re-create this problem. (Feedback Form ID: 477)
- Not here. (Feedback Form ID: 479)
- I strongly object to this happening here. (Feedback Form ID: 479)
- Would the general public be involved in any further topics in relation to the on-going consultation and project as an on-going basis? (A. Walker)

- No. (*I. Hunter*)
- No Comments. (*I. Currie*)
- What is going to happen to Courageous, available asset. (*S. McQueen*)
- I could see no reference to the possible use of robotics in chapters 5 & 6. (*G. Anderson*)
- No. (*M. Rich*)
- Totally irrelevant, but we did think the art work was wonderful, and encouraged us to keep focused on the documents. (*R. Furse*)
- The final resting place, very deep underground? If an early decision could be made on location, perhaps a new breakers yard could be built now, near this location. (*A. Williams*)
- No. (*Feedback Form ID: 509*)
- I was unaware before and I am horrified to find out that it is permissible to discharge small quantities of radioactive materials into the Tamar. Also appalled to read that it is accepted that no nuclear activity is risk free, although 'reasonable measures' are put in place to prevent accidents from occurring and to minimise THEIR IMPACT IF THEY DO OCCUR! I think it is totally unacceptable that people living near the Tamar river are exposed to these possible risks already, and could be exposed more if the dismantling, and storage of subs before dismantling takes place here. (*Feedback Form ID: 530*)
- None, apart from this is a job, which has to done – sooner than later. (*Feedback Form ID: 535*)
- No. (*Feedback Form ID: 536*)
- None. (*Feedback Form ID: 538*)
- No Comment. (*P Lister*)
- A very interesting booklet and I support the recommendations you are proposing. (*Feedback Form ID: 543*)
- After removal of R.C. section could submarines be re-joined to make towing practical. i.e Remove the need to dredge Plymouth. (*Feedback Form ID: 544*)
- Why do we continue to make and use nuclear powered submarines? (*J. Cook*)

January Responses:

- There have been many radioactive spillages into the river Tamar from Plymouth dockyard over the past years, most recently in June, 2011. It is not possible to legislate to protect the environment from these accidents. Hence, I am not in favour of using Plymouth as one of the sites. (*M Harris*)
- Yes if you do it at Devonport, first the airport must be kept open, M5 motorway all the way to Plymouth and a better rail service – so we have an escape means if it all goes wrong. (*K Johnson*)
- No. (*B Pym*)
- When all RPV have been removed and stored together as one mass will the Radioactivity be acceptable. (*Feedback Form ID: 687*)
- No. (*Feedback Form ID: 688*)
- Stop treating ordinary people like expendable cannon fodder for cheap waste disposal; why do we need nuclear subs anyway. (*C Martin*)

- I dislike making any decision based on cost. Safety more important to me. No American and Russian method seems more suitable but geographically impracticable. (*G Cooke*)
- This is a ridiculously difficult questionnaire it should be simplified so that ordinary people are not excluded from the consultation process. (*L. Miller*)
- Having been made aware of the Consultation only very recently, I obtained the documentation from MOD, and was most impressed at the efficiency and courtesy extended by the staff there.

The SDP documents have been perused, and I accept that there is a real and intractable problem associated with the dismantling of nuclear submarines, but to place the solution only at Plymouth is both morally and politically unsound. I am very concerned that the whole premise therein is based on the present UK situation. Should the referendum in Scotland support separation from the remainder of the UK, the existence of submarine bases in Scotland could be threatened, thus all decommissioned submarines would be dumped in Plymouth, relegating it to glorified scrapyards status. Every additional vessel lying there inevitably increases the risk of accidental damage, and hence radioactive contamination.

This scrapyard is in the very centre of Plymouth, a regional city which is situated on a river estuary surrounded by hills on three sides, thus exacerbating the effects of any radioactive leaks. Storage of radioactive material within the city bounds would be a heaven-sent opportunity for '9/11'-style international terrorism attempts by the likes of AlQuaida, which, successful or not, would have a profound and lasting impact on the civil population. Given the present serious unemployment situation in the Southwest, the implied reduction or closure of the present naval facilities will by no means redress the balance by virtue of a minor increase in employment of semi-skilled scrapyard operatives & a few storemen. Indeed, if the Scottish submarine bases become barred or unsafe following independence, there is a good case to be made for enhancement of the naval, including submarine, installation at Plymouth, rather than focussing only on Portsmouth, a strategy itself not without risk. In the security interests of England, Northern Ireland & Wales I therefore urge a complete review of our submarine deployment, both 'live' and 'dead'. in comparison with which these SDP proposals are akin to rearranging the deckchairs on the *Titanic* - or should it now be the *Costa Concordia*?

The SDP consultation documents appear to provide a balanced assessment of the minutiae of the exercise, but they fail to address the fundamental security problems facing the nation, neither do they meet what should be the concerns of the urban population of Plymouth and its environs in the present world-wide political climate. (*C Ward*)

- I'm unsure of modern tactics in warfare but wish we did not need a nuclear deterrent, I wonder whether using a submarine as a launch site for nuclear missiles is a good idea. I also wonder whether or not we have fully mastered nuclear warfare in the UK. I think that certainly the traditional approach of basing weapons at Plymouth is out of date. I would like to see nuclear devices serviced away from humans, particularly my daughter because of health concerns about cancer. (*Feedback Form ID: 695*)
- There have been many radioactive spillages into the river Tamar from Plymouth dockyard over the past years, most recently in June, 2011. It is not possible to legislate to protect the environment from these accidents. Hence, I am not in favour of using Plymouth as one of the sites. (*R Plagerson*)

- This questionnaire needs to be simplified and sent to every household in Plymouth. You should not exempt people from forming an opinion by making this form so difficult. The info needs to be simplified also. *(Feedback Form ID: 698)*
- I remember when we did not know how dangerous asbestos was going to be. My fear is the unknown quantities that will come to the fore in the future. *(Feedback Form ID: 704)*

February Responses:

- I would regard the activities of submarine dismantling as being trivial in relation to the activities conducted in support of the operational submarine programme, in particular with regard to defueling. The naval dockyards possess significant skills in relation to this work and if submarine dismantling is conducted in the dockyards I am very confident that the safety and environmental aspects of the project will be well managed with minimal impact. Consequently I did not feel any need to make specific responses to the environmental questions. *(V Cane)*
- No. *(R. Ellington)*
- In light of the political agenda of Scottish independence or devo-max -whichever way increased Scottish responsibility for Scotland and decision thereby - I do not see any possibility that Rosyth is anymore than a 7 year site for dismantling the 7 submarines currently 'in situ' at Rosyth. There is no will of people or politicians to see any increased nuclear like industry or facilities in Scotland -- to the contrary, in fact. *(Feedback Form ID: 724)*
- Not only would it destroy Plymouth and it has communities. It will also affect Cornwall's communities and tourist trade to both Devon and Cornwall. *(C. McCarthy)*
- I feel this is all about someone's making money out of dismantling submarines. *(Feedback Form ID: 685)*
- MOD fielded a good team of helpful people for this consultation; the facilitator was diplomatic. The project manager's strong southern accent and slightly arrogant attitude was unfortunate in a Scots audience, some of whom had considerable knowledge of the nuclear industry. *(Feedback Form ID: 735)*
- I have no faith in this flawed consultation which I evidence as invalid. *(T. Staunton)*
- No. *(Feedback Form ID: 742)*
- Dismantling has to take place and is best done within the confines of a place fully monitored and regulated and with the established expertise in dealing with nuclear waste. *(Feedback Form ID: 744)*
- Jobs worths dumbing down to us! You should know! What its like to leak in to the wind ! *(R. Rees)*
- Don't make Plymouth or any other town a nuclear dustbin. Stop producing any more nuclear waste. See responses 1,2 & 7 above. *(Feedback Form ID: 747)*
- No estimate of loss of investment in to City due to being seen as a nuclear waste dump. *(Feedback Form ID: 755)*
- No nuclear dump in Plymouth. *(R Spettigue)*
- I do not want a nuclear dump on Plymouth. I am Plymouth born and bred and feel this will do a great disservice to the city. *(L. Crawford)*

- We have been told this disposal is far less dangerous than the refuelling for refit done in Devonport. This magnifies concern about the continuation of refits in Plymouth. *(E. Knight)*
- I am appalled at the suggestions made in the document. The dangers of this project are grossly underestimated. I am against nuclear development simply because ways of disposing of waste products safely have not been developed yet! Let's prevent future problems not blindly persevere at ridiculously high costs. *(Feedback Form ID: 759)*
- Following on all of my above comments, no nuclear submarines should be cut up and nuclear waste stored in the densely populated city of Plymouth either at Devonport dockyard, Ernesettle or on the River Tamar. *(C Giarchi)*
- In conclusion, NFLA asserts that reference to environmental principles is lacking throughout the consultation document, and is disappointed that this is the case. The weightings used in the MCDA skew the results against those options which are more likely to meet environmental principles. Rather than providing more complete evidence the consultation argues that all options will be able to keep discharges of radioactivity into the environment and radiation doses to workers within legal limits. This fails to meet the principle of using the Best Available Techniques and keeping doses As Low As Reasonably Achievable. By applying a series of environmental principles to the problem of what to do with decommissioned submarines the option of storing the intact reactor compartments above ground at the sites where the submarines are currently either stored afloat or defueled appears to be the best option. The NFLA welcomes the MoD's willingness to discuss these matters over recent years. The NFLA was pleased that it has been invited to attend all meetings of the SDP Advisory Group, and that the NFLA Secretary was invited to attend and contribute to sub-groups on the consultation process and the Strategic Environment Assessment. The recent national stakeholder dialogue and local events were also useful events to discuss the key issues in this detailed consultation with MoD staff and other interested organisations. The NFLA hope this spirit of openness will continue with the next steps in this policy process. The NFLA strongly encourages the MoD to continue with this openness and transparency – in a manner much less in evidence with the way that the MoD is dealing with radioactive contamination issues at Dalgety Bay in Fife – and to actively consider reconvening the SDP Advisory Group to consider the steps forward following consideration of all consultation responses. *(Nuclear Free Local Authorities)*
- See Question 11. *(Feedback Form ID: 763)*
- Economic and convenience is taking precedence over people and their lives this is disgraceful in this day and age. Other benign jobs could be created if Plymouth is to become a world class city. *(Feedback Form ID: 764)*
- No. *(P Towey)*
- In support of this project we firmly endorse the use of existing structures and experience, sites and skills to undertake this work in a safe, sensitive and sustainable manner. This supports the use of existing licensed sites, existing skilled workforce, existing transport methods and existing storage facilities. One of the project benefits is to inspire public confidence and therefore it will be important that further public engagement and information remains a priority

throughout, including when the project passes over to the private sector once a contract has been issued. In addition, it is recognised that at this stage not all detailed information is available and further work will be undertaken. The following are important areas for further public engagement and information:

- The final site for the storage of intermediate level radioactive waste
- Transport arrangements; rail is preferred but it is noted the RPV Transport Feasibility Report indicates that the larger RPV2 may not be suitable for rail.
- Dose assessment calculations have been made on one candidate submarine and extended for the 23 PWR1s. No assessment is shown for the 4 PWR2s.
- The final site for the dismantling of the non radioactive parts of the submarine.
- The use of the facilities for future classes of submarines.
- Direct disposal of the RPVs to the GDF.
- The outcome of the demonstration phase and its impact upon the proposals or risk as previously released to the public.
- The outcome of further work on decontamination of the reactor primary coolant circuits during dismantling.
- Details of the procedures and results of sampling for radioactivity outside the reactor compartment. (*B O'Neill*)

There is one general point we want to emphasise and a couple of related comments of more detail we wish to make in addition:

In the last 8 years since the previous submarine dismantling consultation, there has been a transformation in the progress made on decommissioning ashore nuclear facilities, and packaging the arising waste in stable forms suitable for a GDF and minimising and disposing of non-recyclable low level and very low level waste. This has partly followed the formation of the NDA with its primary mission to resolve the legacy of the previous 60 years of nuclear operations in the UK. The importance of tackling this legacy urgently and effectively was re-iterated in the Government's Energy Reviews in 2006 and 2007 where the public confidence in New Nuclear Build was shown to be conditional on the industry demonstrating that it can and is dealing with the waste legacy. Although the statement 'No waste solution, no new nuclear' is overly simplistic, it has a resonance that all parts of the UK nuclear industry must recognise, and reflect in their priorities.

The NDA with support from the site licence companies and the nuclear supply chain have made significant progress across the various sites in reducing the waste hazard, putting it into a long term stable form, and dismantling major legacy facilities. A particular example is the Windscale AGR (WAGR) at Sellafield where all that is left is the building shell and ILW processed and stored in 3m³ boxes in a long term stable state suitable for placement in the GDF when it is available.

This is the context within which progress on submarine dismantling is now measured (The international benchmark in terms of dismantling nuclear submarines is even more stark, with the USA having already dismantled over 100 submarines and Russia nearly 200 submarines). In the corresponding 8 years, the project has moved from one public consultation on options (CIOP) to this

public consultation. It is essential, if the MOD is to continue to be recognised as a responsible nuclear operator (in terms of purchasing and operating the next generation of nuclear submarines) that it shows equivalent progress in submarine dismantling over the next 8 years as the NDA (and others) have achieved over the last 8 years.

1. We note the SDP's intention to carry out a demonstrator dismantling of one submarine to prove the adopted approach. We support this initiative. To get the best value out of this exercise it is important to determine what the key steps are which the demonstrator is aimed at proving. In our view, this is the area of physical removal of the radioactive material from the submarine reactor compartment to a separate facility.

2. In advance of such a 'hard' demonstration, we recommend that the Project develops a 'virtual' walk-through of their preferred dismantling process as soon as is practicable, and makes this publicly available. (A good example of this is the NDA RWMD GDF 'virtual tour') We believe developing this, at relatively modest cost, will go a long way to derisking project implementation and gaining public acceptance of the approach.

Finally, we recommend that the MOD publishes an integrated approach to future defueling, long-term layup and subsequent dismantling of submarines. For example, we would hope to see that the project considers not only the best solution to dismantle the submarines based on the current long-term layup strategy, but also how the long-term layup of future decommissioned submarines can complement the dismantling process.

An integrated strategy to achieve the optimum end of life plant configuration may significantly reduce risk for future submarines and achieve a better overall safety justification for the defueling, layup and dismantling stage. There is potential for even more substantial gains if the proposed dismantling solution could be integrated with the design of future submarine classes, such as the future SSBN successor design that is taking place at present. Such a complete through-life design strategy from the outset would offer future risk reduction and cost benefits at the dismantling stage.

We recognise that strictly speaking much of this is out with the SDP scope, but we believe it is an important point for the MOD to consider. (*Nuclear Institute*)

- The text on page 16 of the report seems to suggest that locating the dismantling work in Devonport will, in itself, produce the benefit of the submarines in Devonport being dismantled. This is a nonsense - the suggested benefit is generated by the work being undertaken wherever it happens, and not by the location it takes place in. Yet again, the credibility of the report is undermined. (*S Tame*)
- None. (*Feedback Form ID: 776*)
- See below. (*T Milburn*)
- None. (*Feedback Form ID: 783*)
- A Public Inquiry will probably be necessary to find out why defueling is excluded from the Consultation and SDP process. (*D Hoadley*)
- The key issue within the consultation is around the storage/disposal of the intermediate level waste (dismantling itself could be seen as a large recycling project!) - but the overall value of the consultation is undermined by the scope of

the consultation being limited to discuss types of storage/disposal sites rather than location

The consultation in its current scope potentially confuses and misleads recipients through not fully defining the economic/environmental benefits of dismantling with the costs/disbenefits of storage/disposal - the analysis needs to comprehensively analyse the costs and benefits of dismantling/storage/disposal to ensure the economic benefits of dismantling are not accrued by one community and the costs/burden of storage/disposal felt by another

Lack of a clear Scottish policy on submarine dismantling and the disposal of ILW has undermined the value of the consultation exercise, which would have been more appropriately/beneficially held once the Scottish Government has clarified its position particularly in relation to dismantling around Rosyth

Lack of a significant input from the NDA on their views on types of site and potential locations for storage/disposal renders the consultation and subsequent analysis incomplete and results in further consultation being required going forward around potential locations for storage/disposal

There are a lot of documents which cover different aspects of this project, which given the size of the project is understandable. However having the information stored in a number of different documents through many different layers has made accessing the information and reasoning process very long and cumbersome. In order to make the process more transparent it would have been useful to highlight the most relevant supporting documents and possibly having a link to them at level 1 alongside the consultation document. *(D. Gallen)*

- Congratulations to whoever ensured that SDP was the subject of a Public Consultation. Its limitations are disappointing. Nuclear safety depends on vision and courage to stop it at source. Please take SDP a step higher to ensure progress towards a nuclear free world. This is your opportunity, we urge you to take it. *(D McDonald)*
- No. *(Feedback Form ID: 791)*
- In the concluding summary session, some of the issues listed by the presenters as 'answered and closed' obviously were not. This would apply particularly to the question of why the consultation stopped short at the Astutes and beyond since the associated problems are likely to continue? *(M Galley)*
- I would like to hear your thoughts and explanation as to why Dalgety Bay, which is down river from Rosyth dockyard, has recently been the site of increased radioactive pollution? - <http://www.bbc.co.uk/news/uk-scotland-edinburgh-east-fife-15845729>. Are we to expect to find similar increased radioactive pollution down river of Devonport dockyard following this dismantling work? *(M O'Hara)*
- We would like to make the following comments on issues which we consider to be critical to the success of the submarine dismantling project.

Defuelling - Removal of spent fuel from submarine reactors is clearly the most risky part of the overall submarine dismantling process. We appreciate that the boundary for the Submarine Dismantling Project needs to be drawn somewhere, and that a decision has been taken to exclude reactor defueling from the scope of the project. However, defueling is a significant area of public concern as evidenced by discussion on the point at submarine dismantling project consultation workshops. This concern should be acknowledged and acted on by the Ministry of Defence.

Particular issues are as follows:

- Defueling operations for six out of service submarines which still contain spent fuel (and presumably all submarines which subsequently leave service) are planned to take place at the Devonport Dockyard at Plymouth – a significant centre of population. Spent fuel removal poses significant tangible risks to the public and the environment. On 10 August 1985 control rods were incorrectly removed from a Soviet 'Victor' class submarine during defueling at Chazma Bay naval yard outside Vladivostok, resulting in an explosion, the release of large amounts of radioactivity, and ten deaths². As far as we are aware, Devonport is the only location in the world where nuclear reactor fuelling and defueling is permitted to take place in close proximity to an urban area, posing unnecessary risks to the population. This is a legacy of a historic approach to nuclear safety by the Royal Navy and Ministry of Defence which, although adopted in the past, is unacceptable nowadays. Arrangements for managing safety and regulation of the defueling process are opaque and unclear to the public.

- The UK currently has no capability to remove reactor fuel from fleet submarines, although there are plans to upgrade the Devonport Dockyard to be able to undertake defueling operations by 2014. There has been minimal public consultation and debate on this decision locally. Although submarine defueling operations have been

undertaken at Devonport in the recent past, this does not absolve the Ministry of Defence of the duty to engage in discussion with local communities on proposals which could potentially have a significant impact on public safety.

- The location of the dockyard in an urban area raises issues relating to emergency planning. The Office for Nuclear Regulation has taken the following view on this point: “The practicability of implementing off-site countermeasures is inextricably linked to the density and distribution of people around the nuclear site. A site that was acceptable for emergency planning purposes when it was first established may not continue to be acceptable unless planning controls limit population growth in the site’s locality, or action can be taken to ensure the off-site emergency countermeasures can cope with the changed demographic. In making decisions on planning consent for developments near to nuclear sites, it is therefore vital that ONR’s expert advice on these matters continues to be given full consideration by the relevant planning authorities. In light of the events at Fukushima, we consider that it is timely for the relevant Government departments in the UK to examine the existing system of planning controls for development in the vicinity of nuclear sites and consider the need for improvements.”

Depending on the nature of the risks posed by defueling and other operations at Devonport Dockyard, the Ministry of Defence and local authorities may need to consider implementing controls on development around the dockyard to minimise the risk to the public.

- Spent fuel will not only be removed from reactors at the Devonport Dockyard – it will also be stored there, at least for an interim period, before being transported to Sellafield for indefinite long term storage. This raises questions about the safety of the fuel cycle and the lack of a long term strategy for management of spent submarine reactor fuel. Despite being the component of out-of-service submarines which poses the greatest safety and security risks, there has as yet been no public consultation on spent fuel management through the mechanisms

of the submarine dismantling project, the Ministry of Defence Nuclear Liabilities Strategy, or any other route.

Nuclear Information Service advocates that:

- The Ministry of Defence should provide greater transparency over submarine defueling operations and potential risks, and place defueling within the civil regulatory regime.
- Out of service submarines which still contain spent fuel should be defueled as soon as possible after the necessary capacity has been installed at Devonport and spent fuel should immediately be removed from the Plymouth urban area.
- Spent fuel should be categorised as waste and a strategy for its management should be developed as soon as possible.

The Ministry of Defence should give consideration to the proposal made at the Birmingham national workshop for giving advance notice to the public before a submarine is defueled at Devonport. This would allow those members of the public who are concerned about such issues to take their own measures to protect themselves and their families.

Construction of new submarines - A major factor behind the difficulties the Ministry of Defence is now facing in disposing of out of service submarines is the lack of consideration given to legacy and ethical issues at the time when the submarines were designed and built. It would be the worst kind of folly, to make the same mistakes again. The Committee on Radioactive Waste Management has taken the view that "the political and ethical issues raised by the creation of more wastes are quite different from those relating to committed - and therefore, unavoidable - wastes" and we consider it would be irresponsible and unethical for the government to build any new nuclear powered submarines before a proven solution has been found for how to manage the radioactive waste that they would generate. We do not consider that it is necessary for the Royal Navy to operate nuclear powered submarines in the current defence environment.

Other navies are able to operate effectively with diesel electric submarines, including the Israeli navy, which is widely believed to use them as a platform for the launch of nuclear weapons. Ministers and Parliament should be made fully aware of legacy and ethical issues when making decisions on whether or not there is a need to procure more nuclear powered submarines in the future, and, in the words of the Committee on Radioactive Waste Management, "will need to consider a range of issues including the social, political and ethical issues of a deliberate decision to create new nuclear wastes".

In a similar vein, the submarine dismantling project must not be used as opportunity to conduct investigations which would be used to obtain information to assist in the future development and design of submarine reactors. (*Nuclear Information Service*)

Further Comments

- (*R Creagh*)
- No. (*S O'Hara*)
- Has the SDP addressed the reduction in local objection to the dismantling and storage options at Rosyth and Devonport by the long term application of significant 'Community Benefit' to these areas. (*West Kilbride Community Council*)

- No comment. (*The Highland Council*)
- SCCORS has made response to this consultation at a broad, strategic level and is an organisation which has members who will have specific and more detailed input to make on the SDP proposals, particularly if facilities are located within or adjacent to their area or where transport or disposal or storage of radioactive and non-radioactive substances may involve their area. As such SCCORS is of the view that continued and extensive local engagement is necessary. SCCORS notes, from Factsheet 9 of the SDP, that other countries (France, United States and Russia) have taken the technical option of separating the Reactor Compartment from redundant submarines rather than the Reactor Pressure Vessels. Presumably this leads to lack of opportunity to learn about RPV separation from examination of international activities. SCCORS does note that the proposed timeline for the SDP involves a 'demonstrator' before more 'routine' dismantling would commence. Further description of what is intended to be achieved in the demonstrator activity and how this might modify subsequent activities would be welcomed. (SCCORS)
- Accidents have happened in the past & it is arrogant and foolish to say they will not happen again. Devonport is entirely wrong location. (*Feedback Form ID: 800*)
- Thank you for the opportunity to respond. (*R Holmes*)
- "Hurry up and throw it away" Does not make sense. Spend some money on education and convincing not just consultation. (*Feedback Form ID: 802*)
- An objective for SDP should be to assure public confidence and it will be important that further public engagement and the publication of appropriate and timely information remains a priority for the duration of the project. The following issues are matters for further consideration, public engagement and consultation.
 - The site for the interim storage of ILW from SDP
 - The disposal of whole RPV in the GDF.
 - Bringing Astute class and other future submarines into the scope of the project so that facilities and expertise developed for SDP can be used effectively for future classes of submarines.
 - Transport arrangements; rail is preferred but it is noted that the RPV Transport Feasibility Report indicates that larger RPV may not be suitable for rail.
 - Dose assessment calculations have been made on one candidate submarine and extended for the 23 PWR 1s. No assessment is shown for the 4 PWR2s.
 - The final site for the dismantling of the non radioactive parts of the submarine.
 - Direct disposal of RPVs to the GDF.
 - The outcome of the demonstration phase and its impact upon the proposals or risk as previously released to the public.
 - The outcome of the further work on decontamination of the reactor primary coolant circuits during dismantling.
 - Details of the procedures and results of sampling for radioactivity outside the reactor compartment.
 - The inclusion of a minimum positive socio economic benefit attributable to the local community as an objective of SDP.
 - The inclusion of "public confidence" as an objective of SDP.

Plymouth City Council acknowledges that in Devonport Naval Base and Dockyard has a unique asset of great value to the nation, and that it is appropriate for this asset to be utilised in a way which optimises its support for the national interest. However, the Government too must recognise that the nature of that use has to deliver genuine long-term benefit for the local community and for the economic prosperity of the city and its sub region. It is therefore imperative to the Council that a project as important and controversial as the Submarine Dismantling Programme is delivered (and is seen to be delivered) as part of a wider package which delivers long term economic and social benefits within the city region. *(Plymouth City Council)*

- A Public Inquiry will probably be necessary to find out why defueling is excluded from the Consultation and SDP process. *(K Tabernacle)*
- Please do not rush into this. Be mindful. Do not cut corners for convenience or cost. Take no decision lightly, our future wellbeing depends on you. *(Feedback Form ID: 808)*
- We provide the following general comments:
In Table 7.2, we recommend that the first bullet is amended to reflect the fact that dredging outside the designated area may also impact on the site and its features.

Also in Table 7.2, the 5th bullet, requiring flood risk assessments, we suggest mentioning the possible need for coastal erosion vulnerability assessments to be carried out. Alternatively, confirmation that these will not be required because the area is not subject to erosion risk should be provided by the MoD.

Any additional impact through new development and scale of development would need appropriate assessment for flood risk at the site and consideration of effects elsewhere. Vulnerability assessments for coastal change risk to the site and as a result of development at the site may also be needed.

Section 5.9 and Table 5.9 suggest that there would be a neutral environmental impact on a greenfield site in terms of coastal flood and erosion risk from decommissioning and returning such a site to a green field state. We would like MoD to provide some clarity on how this conclusion was reached. We believe that converting a green field site into a developed site may require substantial works and changes to physical features which may be impossible to undo and revert to their original state. For example, it would not be possible to recreate a cliff or rocky foreshore removed for development, nor to correct interrupted coastal processes. Therefore, although it may be possible to create high value habitats and biodiversity following decommissioning, we suggest that these would still constitute a change to the original position and should be considered to have significant negative impact.

The final paragraph of Section 5.9.7 appears to be slightly contradictory in relation to a green field site. Reinstating a site to greenfield use with no long-term detrimental effects could discount the retention of any flood defences built to manage flood risk throughout the operational phase at any site. *(The Environment Agency)*

- See the response to Q11. *(DNSC comment)*
- The ongoing issue of historical radioactive contamination at Dalgety Bay has undoubtedly figured in respondent's thoughts on this issue when considered against the objectives of safety, security and sustainability indicated in Chapter 4,

for some. This ongoing issue has generated a real credibility problem for the MOD. *(Fife Council)*

Further Comments

November Responses:

- I fully support the proposals to dismantle submarines at Devonport and/or Rosyth. I agree with the MODs conclusion that interim storage of whole RPVs is the preferred solution. This option does not foreclose future solutions and takes the benefit of decay storage. I consider that an integrated storage solution is preferable. *(Feedback Form ID: 219)*
- I do feel strongly, after having been to both sites that Rosyth is the best option. It only fails in the current storage of subs. Although issues could be seen with an SNP government the work is desperately needed. The whole Rosyth facility will be vacant after 2020 and the thousands of workers, with great experience would mean the extra pressure would not be put onto Devonport who already have to maintain the whole of the Royal Navy in service fleet. *(A. Wedge)*
- I think the proposals are in keeping with current technologies for handling low level and intermediate level waste. In addition the overall proposal has addressed any reasonable environmental concerns. *(Feedback Form ID: 225)*
- The environmental and safety regulation of the project is not seriously in question. The environmental and safety regulation agencies involved in the project all have the necessary experience to oversee the project. However: There is the wider and more controversial aspect of the effects of Low Level Radiation, The project has doggedly refused to consider anything other than the basic NRPB safe level for external radiation regardless of the growing and numerous voices within scientific world as to the serious harmful health effects of low level radiation in particular of internal radiation. The public are aware of these potential dangers, particularly in the forms of cancers and birth defects. Ignoring these concerns will not make them go away, it only increases the public's basic distrust of the nuclear industry of which the SDP is a part. *(I. Avent)*

December Responses:

- Had you really wanted me to reply you could have made it easy for me to copy and paste your email address. *(Feedback Form ID: 377)*
- One concern is what happens during the trial run when you dismantle the first submarine? You must have come to decisions on methodology and storage by then and presumably built facilities so anything you learn from that initial exercise would be compromised by major decisions already made so there would be no scope to make major policy changes because of cost considerations. Isn't it a bit mealy mouthed to pretend you could change things if initial choices were the wrong ones? *(I. Hunter)*
- A very good presentation but try not to be too technical and blind people with science. Aim it with the thoughts that the audience knows nothing about the subject or have been 'instructed by a local expert'. It might be a good thought to have a session near to HMS Neptune. My thoughts are defuel and remove the RC equipment in Devonport as the SQEP staff exist there, minimise the

components on site and store the arising's at NDA sites. Then send the remains of the submarine to a registered ship breaker. Keep Courageous it is a valuable asset but make it easier to access. When the storage sites have been decided on very careful briefings to the local inhabitants will be required. Remember the word Nuclear frightens people and they are easily led by professional agitators. You may contact me or use any of my comments at any time. *(S. McQueen)*

- It is understood that you are working closely with the NDA, however since the NDA have responsibility for Civil Nuclear Waste, they have the specialist knowledge and expertise to manage the waste generated and will ultimately become the owner when passed to the GDF. *(Feedback Form ID: 509)*

January Responses:

- In not agreeing with the conclusions of the report I think it is important that the public be made aware of the dangers of low level radiation which the SDP would be contributing to. Living quite close to the Tamar upstream from the docks we are in danger from any spills or leaks carried by the tide. That such a beautiful part of the countryside should be polluted in this way is absolutely irresponsible. *(C. Hunter)*
- I would like to minimise the risk of health problems to people in Plymouth by trying to attract ship builders who do not take on nuclear projects. *(Feedback Form ID: 695)*

February Responses:

- I have looked at the responses of others as shown on your website. I do not regard myself as a "professional agitator," but as a very concerned citizen. Please think again about using Devonport and look instead at more remote sites. *(G Davies)*
- Following from above - There is therefore no wish to see Scotland as a site for dismantling future decommissioned subs or indeed any awaiting disposal elsewhere in the UK. Hence Devonport or a new facility on English shores has to be the place for future dismantling and storage of ILW etc.. *(Feedback Form ID: 724)*
- Feedback - The consultation documents are nicely produced, but are very large files and cumbersome to use online. There are big overlaps with the Level 1 document. These issues might put off some consultees. The options appear to have been constrained - I couldn't find any down-selection rationale for the preference for using Rosyth and Devonport for removing the radioactive components, therefore this view could be subject to challenge. Indeed, it is not clear that the MOD process aligns with Environment Agency's excellent Regulation Environmental Principles (REPs <http://publications.environment-agency.gov.uk/PDF/GEHO0709BQSB-E-E.pdf>) with regard to examining Best Available Technology (RDSMP-series) and siting (for example, SEDP1). However, Devonport / Rosyth is a pragmatic solution and probably the best one if it can get local acceptance. The possibility to use decay storage - leaving radioactive components in safe storage (after dismantling) until they are LLW materials - has been mooted elsewhere. It would have been useful to see this discussed. Maybe the materials will be LLW by the time geological disposal of

ILW is available? I have previously engaged with MOD on some of the points in this response. In the course of that I suggested that MOD should consider a separate project body for SDP, taking lessons from how Government set up and runs NDA. There are significant advantages in the NDA model including clear accountability and the opportunity for consultation on the strategy of the accountable body. There is an opportunity to take lessons from NDA experience on the relationship between the customer and the delivery contractor. *(P Davis)*

- Feedback – It is wholly inappropriate to do this work in a city. We must not build anymore of those toxic machines. The rusting hulks of the reactors will stand for generations as a monument to the greed & stupidity of Government. The people of Devonport and Plymouth will pay the costs for decades. I oppose this project for being carried out here. *(Feedback Form ID: 755)*
- Feedback - Members of the Plymouth Civic Society have attended the public consultation meetings and read the documents made public there. The Society is not in favour of the options outlined for the following reasons:
 - 1) Plymouth is one of the largest cities in England with a beautiful coastal setting. It is ideally situated in the centre of Devon & Cornwall but any future as a centre for tourism or economic growth would be ruined by allowing it to be used as a nuclear dump. The Government does have other options. No other country in the western world allows the long-term storage of nuclear waste within a city. How many nuclear power stations are there within UK cities? The Government's main argument in favour of using Devonport or Rosyth appears to be cost and political convenience.
 - 2) This has become a problem because the Government has procrastinated for far too long in providing a disposal site for Intermediate Level Waste. The waste should be stored where it will eventually be disposed of and the submarines' pressure vessels should be removed and stored there too. The discussions with the NDA on the location of the disposal facility should take place first.
 - 3) The Government's only options are not Devonport or Rosyth. Another suitable site near the eventual disposal facility can be found if the planning is done in the correct order. If the MOD is denied access to the NDA disposal facility, then that will be the time to contemplate a separate storage and disposal facility. If berthing space is insufficient then more will have to be found to bridge the gap. *(P Towey)*
- Feedback - Most people locally believe that this proposal is a "done deal" and I believe that this is reflected in the low numbers of responses sent in. There appears to be no other choice than Devonport and we are used to the argument that it will create employment in a region of high unemployment! *(P Shingler)*
- Feedback - 1. The ministerial foreword highlights the view that "We should not leave the problem of disposal for future generations". Yet that is what we are inescapably doing with nuclear waste. It cannot practicably be destroyed so, due to previous folly, we have to leave it as a problem for future generations, who will have to safeguard it while it decays in its own time. Our best contribution in this situation is not to go on creating more waste.
 2. The MOD has been driven to these proposals not by its radioactive waste storage problem but by its submarine storage problem. Hence its requirement to dismantle rather than to store while the radioactivity decays. Part of the answer is to find low population density locations where long term storage is safest. The other part of the answer is to stop adding to the problem. Scrap Trident and its

successor thus freeing up facilities for dealing with the problem we already have.

3. The practise of defueling submarines in Plymouth should cease.

4. We are aware that locating the storage/dismantling function in Scotland would require negotiation with the Scottish Government, particularly if the forthcoming referendum leads to devolution or 'devo-max'. (*T Milburn*)

- Feedback - It would be useful if the report provided information on the radionuclides involved, as without this information it is hard to say how much decay will actually occur if the Reactor Compartments are stored before being cut into pieces. In the full SEA report, when quoting the dose limit for workers, the Ionising Radiations Regulations should be referenced rather than HPA-RPD-001 "Ionising Radiation Exposure of the UK Population: 2005 Review" (*Feedback Form ID: 783*)

- Feedback - The consultation is incomplete, it is considered that further time should have been taken before going to consultation to allow for all information in relation to the storage of ILW to be included in this document. Without this information it has been very difficult to make informed responses on the issues discussed in this document. We would recommend that a full consultation be carried out taken account of the full implications for the process from start to finish from dismantling to storage. Within the document it states in a foot note that the Scottish policy on storage of ILW is for long-term management in near surface, near-site facilities. It is not, however applicable to waste arising from decommissioning out-of-service nuclear submarines. An explanation of why this policy is not applicable to nuclear submarines would be useful?

Within the process there appears to be a lack of recognition of the impacts, real or perceived on all communities affected by this project.

The long term issue over Scottish independence will occur before 2020 date for the dismantling and options for this need to be considered as the Scottish policy would then have a greater impact on the project. (*D. Gallen*)

- If the above comments appear to be more than a little cynical, that is because the session was marked in more than one area by what had not been stated, rather than what had. It would be interesting to learn, for instance, why the Minister chose to visit the Resolution at Rosyth (and deliver such a positive report) rather than the Dreadnought, which has been laid up for 10 years longer and has apparently suffered from this extended inactivity. These omissions did tend to rather stand out and left the overall assumption that the actual objective was not 'technical,' but political. This is not an issue whereby members of the public should be expected to produce reflective, technical advice on a highly specialist industrial problem. The timeline illustrated really begins in 1959 rather than 2000 and by admission, the waste materials are unlikely to enter permanent storage until at least 2050 - that is a century of prevarication. This is, at least for some people, an emotional subject that could have significant impacts upon their perceptions of their futures, hence NIMBYism is, understandably, at a high level in the issue. The eventual outcome will undoubtedly result in a very adverse situation for some groups, but overall acceptance (including general relief on the part of the rest of the population) will depend upon the level of honesty perceived and explained in the result. The outcome is likely to be judged on just how important the government considers the objections raised, rather than the choices offered. It is, in a way, sad that a solution to this long-term waste has

been prompted purely by financial considerations rather than some more ethical basis. Nevertheless, I am pleased that it is finally being addressed. *(M Galley)*

- Feedback – The nuclear submarines should not be dismantled in a city of 250,000 people, its absolute madness. *(Feedback Form ID: 798)*
- Feedback - SCCORS is aware that MOD have carried out extensive public engagement exercises in relation to this SDP consultation exercise. SCCORS is also aware of more detailed involvement with local authorities who will by virtue of the proposals and location of existing laid up submarines necessarily have significant interest in the proposals being made. These activities are to be welcomed however there is considerable uncertainty about the location of certain activities which make the issue also one of more general interest to local authorities and SCCORS would suggest that engagement at the wide strategic level on these issues may also be appropriate in future. *(SCCORS)*
- Feedback – I feel too little consideration is given to safest place to deal with this toxic waste in the long term. Where will it all end up eventually, I think safety is being considered after the cost implications. If it so safe to cut these things up, do it in London!! The dockyard safety record is poor, this process will put people & the environment at risk. *(Feedback Form ID: 803)*
- Feedback - The city and people of Plymouth have made huge sacrifices in the defence of this nation. To make this proud city into a nuclear dump, condemning the area to health risks and economic stagnation for generations is an absolute disgrace for which the authors of this proposal should be deeply ashamed. *(Feedback Form ID: 806)*
- Feedback - The cost of decommissioning submarines, their reactors, infrastructure and warheads should be included in the procurement costs for the whole submarine systems in the first place. If this is done for the proposed replacement to the Vanguard class it may become politically impossible to justify, and in that case it would not add to the decommissioning backlog. The costs of dismantlement and waste management should be born by the MoD and marked down to submarine programmes. *(K Tabernacle)*

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