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MINUTES OF EVIDENCE

TAKEN BEFORE

DEFENCE COMMITTEE

THE FUTURE OF THE UK'S STRATEGIC NUCLEAR DETERRENT:
THE WHITE PAPER

Tuesday 6 February 2007

RT HON DES BROWNE MP, MR DESMOND BOWEN

MR TOM MCKANE, REAR ADMIRAL ANDREW MATHEWS RN

MS MARIOT LESLIE and MR NICK BENNETT

Evidence heard in Public Questions 312 - 410

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Oral Evidence

Taken before the Defence Committee

on Tuesday 6 February 2007

Members present

Mr James Arbuthnot, in the Chair

Mr David S Borrow

Mr David Crausby

Linda Gilroy

Mr David Hamilton

Mr Dai Havard

Mr Brian Jenkins

Mr Kevan Jones

Robert Key

Willie Rennie

John Smith

Memorandum submitted by the Ministry of Defence

Examination of Witnesses

Witnesses: **Rt Hon Des Browne**, a Member of the House, Secretary of State for Defence, **Mr Desmond Bowen**, Policy Director, **Mr Tom McKane**, Director General, Strategic Requirements, **Rear Admiral Andrew Mathews RN**, Director General, Nuclear, and **Mr Nick Bennett**, Director General, Strategic Technology, Ministry of Defence; and **Ms Mariot Leslie**, Director, Strategic Threats, Foreign and Commonwealth Office, gave evidence.

Q312 Chairman: Can I say to everyone, welcome to this session, which is the final session of our inquiry into the UK's strategic nuclear deterrent. This is our third inquiry into that issue and what we intend to do is to conduct an inquiry and produce our report in order to help the public's and Parliament's debate on the Government's proposals and to publish our report at the beginning of March. Secretary of State, welcome. Thank you for the written material you have put in and thank you particularly for producing your response to our second inquiry and speeding up that response in order to allow us to use that for this evidence session, the one into the skills base. I said we will publish our report on this inquiry at the beginning of March, but can you give us an indication as to when the debate is likely to be in the House of Commons?

Des Browne: I am afraid I am not in a position at this stage to give an indication as to when that debate will be, but I have already said, as I think you will recollect in answer to a similar question in the House, that I am anticipating it will be some time

in March.

Q313 Chairman: Would you like to introduce your team very briefly, please.

Des Browne: Thank you very much for your welcome and for the recognition of the response to your report on skills which I was pleased to be able to respond to in time to inform this and your other deliberations. On my far left I have Mariot Leslie who is from the Foreign and Commonwealth Office and she is here today because she has expertise in relation to disarmament and counter-proliferation questions. Immediately to my left is Desmond Bowen who is the MoD Policy Director and, I suspect, not a stranger to the Committee who can deal with detailed questions on deterrent policy and the rationale for retaining a nuclear deterrent and more generally how the deterrent fits in with the rest of our defence policy. On my immediate right is Rear Admiral Andrew Mathews who is Director General on Nuclear in the Ministry of Defence, our expert on the Vanguard-class submarines, the development of the replacement submarines and submarine and submarine industry issues more widely and maybe busier than the rest of us! Then to my far right is Tom McKane, Director General of Strategic Requirements in the Ministry of Defence who will cover deterrent options and costs, should there be any questions requiring detail in relation to those areas. Behind me I also have Nick Bennett who is the Director General of Strategic Technologies who has come along to assist in the event the Committee wishes to go into detail on our warhead programme and at an appropriate time he may come forward to the table.

Q314 Chairman: You are obviously very well supported. May we begin with a comment that was put to us recently by Professor Garwin that the White Paper was "highly premature" because he suggested that the life of the boats could be extended, like the US Ohio-class submarines, to around 45 years and he said that the decision was not needed now and that it was being rushed. How would you respond to that or would you like to respond to that yourself?

Des Browne: I am content to respond to that myself. That is, I think, an accurate summary of some quite extensive evidence that Professor Garwin gave and indeed I have read the paper that he submitted. I think my immediate response is to say that the key point, and I think this is the point that informs fundamentally our recommended decision in the White Paper, is that at the outset we must recognise that this is firstly an issue about maintaining the key national capability that the nuclear deterrent is and the level of risk that we are willing to take with that capability, and you may want at some time later on or even now, if you wish, to go into the comparison with the Ohio boats which was at the heart of Professor Garwin's evidence. Fundamentally, I believe that that comparison is not particularly useful or indeed relevant because the planned life of boats is exactly that, it is planned into them at the outset, and the Ohio class are different submarines, they were designed differently and they were built and maintained for a longer life than our boats were.

Q315 Chairman: I think it would be helpful if you could go into that in some detail because why were we buying short-life assets back in whenever it was we were buying these and what is it about the Ohio class that makes them so much longer-lived in their design?

Des Browne: As with many areas in relation to this issue, there is information which can be put into the public domain and information that cannot be put into the public domain, but we will endeavour, in answering questions, to put into the public domain as much as we can so that people can understand the arguments and we may come to parts of this evidence where we will need to offer some confidential briefing as we will need to recognise the security classification of the information.

Q316 Chairman: Yes, except, Secretary of State, bear in mind that the purpose of this inquiry is to put as much into the public domain as possible so that it can inform the debate. We are not necessarily asking for anything particularly confidential, we are just asking for an explanation that people can understand as to what is the difference.

Des Browne: Can I start by referring you, Chairman, and the Committee members to the letter which I wrote on 1 February and it may be helpful, since this letter is not yet in the public domain and the content of it is not, if I read part of that. This deals with some of the detail of extending the life of our boats beyond the 30-year period which is the time that we say that it is safe and appropriate and the degree of risk that we are prepared to take with maintaining this capability and in terms of the decision-making. It reads, "Life extension much beyond five years", which is the five on the 25 that the original design was intended for, "is likely to require replacement of some of the systems critical to submarine operations, such as external hydraulic systems, elements of the control systems (plane and the rudder), sonar systems, electrical systems (including the main battery) and refurbishment or replacement of elements of the nuclear propulsion system. This would involve some hull penetrations. Replacing these systems would require extended additional maintenance periods, resulting in loss of boat availability", which is at the heart of our decision-making process, "and significant cost, but would not enable significantly increased life. Extension to both component safety justifications and the whole reactor plant safety justification would also be required (and could not be assured). Other systems would need careful assessment and replacement of the turbo generators, secondary propulsion gear and assemblies, deterrent missile hydraulics, hatches and mechanisms might be required. There would also be increasing risks of reliability of other major systems, including potentially the main engine, gearbox shafting and propulsor, all of which could require replacement. As was made clear in the White Paper, we do not at this stage completely rule out further life extension of the Vanguard class. The key point is that on current evidence it is highly likely to represent poor value for money. Moreover, there is also serious concern as to

whether it will be technically feasible. The decision will be kept under review at each key stage of the programme to design and build the replacement submarines, but, given the severe uncertainties associated with life extension beyond the 30-year point, it would be grossly irresponsible not to start concept and assessment work in time to ensure that we can field replacement submarines when the Vanguard class reaches the 30-year point". In summary, such a life extension would entail too much risk to our national security and the evidence that we have suggests that it would be poor value for money. If I may now, I will hand over to the Rear Admiral who, I think, may be able more accurately to draw, where we can, the comparisons with the American Ohio-class boats.

Q317 Chairman: Could you explain at the same time, Rear Admiral, whether the Ohio-class boats are worked more or less hard than the Vanguard-class boats please?

Rear Admiral Mathews: Within the classification, I will do my best.

Q318 Chairman: Yes, within the classification.

Rear Admiral Mathews: The principle we aim to do is to generate one submarine from four at sea on operational patrol and Professor Garwin implied, therefore, that our submarines spend about 25 per cent of their time available to generate that on patrol. Clearly that is not the case because we have to train our people, submarines have to conduct trials, they have to test equipment and they actually have to change over while on patrol, so actually the time that we have our submarines operationally available is in excess of 50 per cent and that is pretty comparable with the US Ohio class. The difference with the Americans is of course that they are generating two or three hulls from 14 and that gives them a considerable amount of flexibility about how they operate their submarines, what decisions they can make through life and the balance of risk they can take. One from four is much tougher. Now, what we know in terms of availability with nuclear submarines from the British operations is that availability reduces through life. Over the first 20 years, it typically reduces by about five to seven per cent across that period. Once we have gone beyond 20 years, the three classes which we have got operating records for, because we have not taken others beyond that yet, show that we lose availability of around ten to 15 per cent over the next ten years, which is in addition to that five to seven per cent, so that is a significant drop in availability and it falls off, as I say, fairly sharply. We know from operating experience that, in getting towards 30 years, four boats becomes very tough in terms of generating one and that is where we are at the moment. We do not believe that the risk equation supports taking Vanguard class beyond 30 years. We have done a lot in terms of managing the Swiftsure class through those last difficult periods and it has not been good in terms of availability. With the Resolution class, if I go back to the early 1990s, we were really struggling to maintain one boat out at sea. We had people working on the safety

justification seven days a week for a very long period of time and we were losing people from some of our industry and support because of the hours we were pressing them to work. We survived that. The point I would make to the Committee is that Resolution, if Professor Garwin was right, would still be operating today. We were struggling in the early 1990s and I do not think it would be conceivable that we would be successfully maintaining the continuous at-sea deterrence with that class of submarines now. In terms of Ohio ---

Q319 Chairman: Are you going to add to what the Secretary of State was referring to in the memo?

Rear Admiral Mathews: Only in detail. As the Secretary of State said, Ohio started off with a more modern design and has made a different use of materials. The Americans designed for a longer-life submarine. For instance, in steam systems they made a decision about up-front investment to generate that life by using a different material from that which we do, and I am being careful about what I say in terms of actual materials. Our steam system, we are confident, will last 30 years and thereafter we would expect to have to change a large amount of it. The Americans are confident that the material they have used will last the extended life of their submarines, so that puts them in a different sort of place in terms of trade-offs through life because they designed in a longer life at the outset. We were driven quite hard in terms of unit production costs at the outset, so we set ourselves a design time-line and built a submarine to meet that. Now, the Americans built in some fat in their design; they can operate their submarines differently, as I have already mentioned, and they do have that ability to take some risks in their programme. The final thing I would say is that they have not got to 42 years yet. It is a plan and they can afford to take some risk against that plan because they will have already been bringing in their new-generation SSBN for about 14 years by the time the last Ohio gets to 42 years, so will have a much bigger mix in terms of new and old.

Q320 Mr Crausby: I just wondered what the original life expectancy of the Ohio was as far as the Americans were concerned.

Rear Admiral Mathews: It was 30 years with a margin on top of that.

Q321 Mr Crausby: So it was a minimum of 30 years?

Rear Admiral Mathews: A minimum of 30 years.

Q322 Mr Borrow: Could I come to our submarines. From reading the White Paper, it implies that the Government proposes to extend the life of our submarines by five years from 25 to 30 years. Is that in fact the case or is that one of those issues still to be resolved?

Des Browne: We have decided to plan extending the life of the Vanguard class by around five years, and the answers to the earlier questions imply that we think it would be imprudent, indeed risky, to plan any greater life extension. It does not mean

that we have fixed the actual date for each submarine for when it leaves service, but it forms the basis upon which we plan the programme to replace them with the new class of submarine.

Q323 Mr Borrow: What are the cost implications of doing that?

Des Browne: Maybe Mr McKane might be able to deal with the specific costs.

Mr McKane: The position is that detailed costings of that life extension will be generated as we get closer to the point where work actually has to be done on the boats, but the work that we have done shows that we are probably talking in round terms of hundreds of millions for the five years for the four boats.

Q324 Mr Borrow: So that is hundreds of millions for each of the four boats?

Mr McKane: No, it is hundreds of millions for all four.

Q325 Mr Borrow: I think we have heard evidence at earlier hearings that to extend the life beyond 30 years is not impossible, but the suggestion has been made that that could cost up to half the cost of a new boat.

Mr McKane: Well, I would say that you then start to talk in terms of billions.

Q326 Mr Borrow: To extend beyond the 30 years?

Mr McKane: To start planning to extend them, say, for another five years or longer.

Q327 Willie Rennie: The White Paper considers the cost of procurement of the new SSBNs to be around £15-20 billion for a fleet of four boats. How did you reach that figure and how does that figure compare with the Vanguard class?

Mr McKane: Well, as the White Paper makes clear, the £15-20 billion is composed of three broad components: the submarines, which we have estimated would cost in the range of £11-14 billion at today's prices; then a warhead programme which might cost another £2-3 billion; and infrastructure for which we have put in an estimate of £2-3 billion. The cost estimates of the submarine, as again the White Paper makes clear, are inevitably initial estimates at this stage and there has not been the level of detailed work with industry that would be necessary to refine them, but they have been built up on the basis of historic costs of previous submarine programmes uprated to today's prices by taking individual components of the submarines and putting it all together, and that is the resultant figure, the £11-14 billion. As for the other two sums that I mentioned, the £2-3 billion for a warhead are figures that again have been subject to some internal study which I cannot really go into too much here, and the infrastructure costs are based on an analysis of the asset registers of existing infrastructure associated with the deterrent infrastructure on the Clyde at Faslane and Coalport infrastructure at Devonport. There is inevitably uncertainty about precisely when such expenditure would have to be incurred and again, as we made

clear in the letter that the Secretary of State referred to, this sum of £2-3 billion for capital investment and infrastructure would be additional to any ongoing maintenance costs associated with existing infrastructure over the period of the life of the boats.

Q328 Willie Rennie: Could you give a stab at what you think the through-life costs will be? You have briefly mentioned it there, but have you got a rough estimate?

Des Browne: We estimate that to be between five to six per cent of the defence budget. I just refer back to the White Paper, that we were perfectly clear in the White Paper that the procurement costs would be refined as the concept and the first assessment phase is taken forward with industry. We also go on, I think, in the White Paper to make it clear that this clearly will need to be more accurate and more transparent in terms of its accuracy before we actually get to the contracting time of 2012/14, but I would just say that the running costs are around five to six per cent of what they presently are, so we estimate that the running costs will be what they presently are. What people do of course in terms of argument is that they aggregate those running costs with £15-20 billion, which is a perfectly legitimate thing to do, but that is when they do to come to these larger figures.

Q329 Willie Rennie: There is great interest in where this sum of money will come from. Will it affect the conventional forces or will it come from outwith the MoD budget? Can you shed any light on that?

Des Browne: I cannot make it any clearer than the Prime Minister does in the foreword to the White Paper itself. He makes it clear that this investment will be maintained not at the expense of the conventional capabilities of our Armed Forces, so I cannot give any clearer reassurance than that; that is the Cabinet's reassurance. Can I just say though, Chairman, on that point that it is important that people should understand that we do not see this strategic deterrent as being an alternative to conventional forces. It presently is additional to our conventional forces and for a different purpose, so that is exactly consistent with, and is nothing new, the way in which governments of this country approach this expenditure.

Q330 Chairman: So have you thought of charging it to the Foreign Office?

Des Browne: I do not think the budget is big enough!

Q331 Mr Jones: Secretary of State, can I just ask a question around this because we are having a debate in March in Parliament about whether or not we should go ahead with this programme, unlike the pro- and anti-nuclear debates in the 1980s where clearly there are some remnants still around and we had some of them before us the other day in the likes of the CND and others, but something which is actually, I think, preying on the minds of a lot of Members of Parliament and politicians is the fact about costs, whether we can actually afford this. Do you not think, in

terms of having an informed debate, that pinning down these costs is going to be very important in that debate? Although it might be reassuring to you that the Prime Minister can say that it is affordable in the future, it is not going to be his problem, is it, after the summer and is his possible successor confident that we can actually afford this within the defence budget?

Des Browne: Well, assuming that his possible successor comes from the Cabinet, then his possible successor was a party to the agreement of the White Paper, and there was no dissension from anyone in the Cabinet about this. What we are seeking to do here in this White Paper and in this debate is inform the country and Parliament to an extent that they have never been before about the issues that underpin this decision at a time in the process that we have been through once before, but was conducted in secret effectively. Now, necessarily there has to be a degree of assessment, so these figures that we are putting in the public domain, I know from the evidence that has come before your Committee, have been supported by a number of experts. They are informed by our own experience and by the discussions that we have had with industry and by the skills and abilities that we have built up over a period of time in this area. They are the best estimates that we can give, but of course they will be refined by the process at the concept and assessment phase and we will have an obligation, or the Government will have an obligation, to keep Parliament and others informed about that development, but at this stage in relation to the work that we need to start now, the decision that we need to take now, then we have put into the public domain the information that we have in as much detail as it is appropriate for us to do and these are honest assessments.

Q332 Mr Jones: But we have not had a good track record of procuring submarines. Have you actually built into these costs a possible contingency for another Astute-type fiasco?

Des Browne: The circumstances of Astute, which have been examined by the Select Committee and others, I know, were very particular and, among others, they were a function of allowing the skills and capabilities for submarine design and build to deteriorate and they needed to replace them. Can I just say that, as a country, we have a very good track record of building these SSBNs and in fact the current class of submarines came in on time and under budget in terms of the estimations. Can I also say that these figures that we have put into the public domain are not just based on our own experience, which is extensive and actually in this area of procurement a good experience, but they are also based on the international experience of a lot of other countries who have built submarines and of what they were likely to cost. It may be that someone with me may want to add to that in terms of detail or confirmation.

Mr McKane: It is worth saying that the costings have been done carefully to ensure that they do include a range. I made it clear a few minutes ago that we were talking about a range of costs and that the range contains contingency, although it is not separately

identified in the White Paper as a contingency.

Rear Admiral Mathews: On Astute, we have learnt hard lessons on Astute.

Q333 Mr Jones: I hope you have!

Rear Admiral Mathews: Well, we have. We had effectively a ten-year gap in the build programme and at a recent review of the Astute programme by what we call a 'red team', effectively a group of people taken outside our own industry, so we have electric boats, some US Navy, et cetera, their conclusion was that we have now re-established the build capability and that has taken us nearly ten years. The lesson for us is to go back to Vanguard, recognise what we did for Vanguard and learn from the Astute experience.

Q334 Mr Hamilton: Secretary of State, you gave the response quite rightly that there will be a decision, there will be a discussion and there will be a vote taken. Effectively, for most of us that will be a once-in-a-lifetime opportunity to make that decision, a one-off decision, if you like. How do you answer the people who put it to you that you have got it the wrong way round and what we should be doing is having the debate about where the UK's role is within the world and indeed about our conventional forces versus Trident and that more money should be put into the conventional forces after we make a decision about where our role is in the world? Are we not just having a debate about one part of the defence budget which in fact puts us into a position where we then restrict our debate at a later stage?

Des Browne: I do not agree with that, and part of the reason for the very specific reference in the foreword and in the Paper itself to the commitment that this expenditure will not be incurred at the expense of conventional capabilities was to reassure people of that. I have to say that, whatever other words I use, that is what that assurance will come to at this stage and people either have to accept that, given that it comes from the whole of the Government, or not accept that, and we cannot be any clearer than that. As far as contextualising this decision is concerned, can I just say that there are those who argue that we do not need to make this decision now, not, with respect, Mr Hamilton, for the reasons you have articulated, but for other reasons. Essentially, the arguments come to, "These are difficult decisions and, if we can put them off, let's put them off". We have sought to set out in the White Paper, and I think this has stood the test of debate and time, although people assert that it is not necessary to do it, but they refer to the previous decision, not recognising that when the decision was made in relation to Vanguard, all of the concept and assessment work was done before the decision was announced at contract time, so they assert that that is the case, but what we have sought to do in this White Paper is to set out the nature of the threat that we think this country is likely to face, or probably will face, in years to come and, in the light of that context, make a decision as to whether we should continue to have a strategic deterrent. The view that we have come to, on balance, is that we should

continue to maintain, and plan for, our future generations needing to have a strategic deterrent and I think that is a coherent argument, I think that it is admittedly 'on balance' and it is the right argument. In my view, once you accept that that threat is there or likely to be there, then you are to a substantial degree committed to having to defend yourself against it. We have to do of course the same thing in the context of the world that we live in in relation to our conventional capabilities and we have to ask ourselves, as the Prime Minister asked the country recently in a very extensive speech, whether we are prepared to make the investment in our conventional capabilities to meet those challenges and our place in the world.

Q335 Willie Rennie: Secretary of State, I think you misrepresent slightly those who argue for a delayed decision. In the White Paper, it says that the detailed construction and design contracts will not be awarded until 2012/14 and you have already mentioned that you do not have all the detailed costs associated with it and you will only know those as time goes on. Rather than trying to wrap up all the decision on Trident now, do you not think it would be more appropriate or better to wait until we are in advance of 2012/14 so that we are more aware of all the facts and, as well as the international situation, the security situation so that we have got all that information together before we make that decision?

Des Browne: Mr Rennie to some degree assumes that there are not other decisions to be made after this decision is made. Of course there are, but the question is whether the Government should carry on with what is necessary to inform that later decision about the contract without any recourse to Parliament and whether the Government should, whether we should incur that expenditure in an extending review period in relation to planning for that decision without any recourse to Parliament or without any public debate. The difference between the Liberal Democrats and us appears right now to be that we are prepared to have a public debate about this part of the decision and have this decision made publicly, whereas the Liberal Democrats want us to plan for a later decision in a secret and quiet way and then surface that decision at the point at which we are contracting. It is very clear.

Q336 Willie Rennie: I think you are misrepresenting again. What I am suggesting is that it should be in a staged process and, rather than trying to make everybody make decisions all at once now, why do we not agree to go ahead perhaps with the initial concept and design work and have another parliamentary vote in advance of 2012/14 when we are aware of all the facts and the international situation?

Des Browne: I am constantly told by people that no Parliament can prevent a later Parliament from making another decision. The beauty of our democracy is that people can address decisions that need to be made when they need to be made. What we are saying here is that looking forward from here, on balance, our view is that the strategic contexts that future generations will face are

likely to be such that they will want to have the benefit of the nuclear deterrent that we have enjoyed the benefit of for the past 50 years and, if we are to offer them that opportunity, we need to make certain decisions now and these are the consequences of those decisions. Now, we are not making all of the decisions, there are aspects of our nuclear deterrent which we will need to make decisions about at some time in the future, for example, the warhead, the replacement of missiles, so we are making the decisions that we have to make now and we are being consistent and open and saying to people, "These are the consequences of those decisions now". Let us not take them as if we are only taking a part of this now and we will stage this through, but let us be honest about what we are doing. I must admit, I am confused about the Liberal Democrat position in relation to this. This is the first time I have heard anybody articulate their position as being, "Yes, we should be making a decision now, but that decision should be restricted to a certain part of this". Now, that is the first time I have ever heard that. As I understood it, the position was that we do not need to make this decision until 2014 and that necessarily, in my view, meant that other things had to be done without any decision being made, but if you have the ability to be able to put together your Party's policy from here in questions, then that is a good position for you to be in.

Q337 Willie Rennie: Just in terms of decommissioning, we have talked about the point that there will be ongoing costs to the decommissioning of Trident, irrespective of whether we replace it. Have you examined those costs and what would the costs be of just doing the SSNs alone in terms of maintenance? You have given us a figure for the combined maintenance, but what would be the costs for just the SSNs alone?

Des Browne: If you do not mind, for the specifics I might refer to officials, but can I just say that you are right to point out that, whatever the decommissioning costs, we will have to decommission these particular boats because that is at the heart of this decision process that we are going through, that we will have to decommission those and we have some estimates, I think, that we may be able to share.

Mr McKane: The memorandum, the Government's response to the fourth report includes some detail on this. It makes clear that the Department has included a provision in its accounts of £1.75 billion which covers the decommissioning of past and current SSNs, that is nuclear-attack submarines, and SSBNs. As to your other question about the £600 million per year, I do not have an exact breakdown of how that splits between the SSNs and the SSBNs.

Q338 Willie Rennie: But can you give me a rough idea of how much the additional cost would be on top of it? What roughly would be the breakdown if you took a stab at it?

Mr McKane: The additional costs of decommissioning?

Q339 Willie Rennie: What would be the costs of just maintaining the SSNs alone and then if you added on to that the maintenance of

the SSBNs? Can you give me that kind of figure? Does that make sense?

Mr Crausby: I am not absolutely sure what you are looking for, I am afraid.

Q340 Linda Gilroy: In the response to our previous report, the cost of £600 million was given in paragraph 17 for supporting both the SSNs and the SSBNs and I think the question was directed at finding out what the cost of maintaining the SSNs alone would be in the unlikely event of a decision being taken not to proceed with a new platform?

Mr McKane: I think I am right in saying that the Committee's own report, the fourth report, acknowledged that in this hypothetical circumstance it would be still necessary to bear the costs of sustaining the SSNs. In practice, a lot of these costs are fixed costs which, by their nature, are quite difficult to attribute in a precise way to one or other of these programmes.

Linda Gilroy: Could we ask for a note giving a little more detail?

Q341 Chairman: In view of what you are saying, Mr McKane, would you be able to give any more detail or are you suggesting it is just arbitrary?

Mr McKane: I am not suggesting it is arbitrary. I am suggesting that there is not a science that one can apply to this.

Chairman: Could you give us as good an estimate on it as you can in a note to us, please.

Q342 Willie Rennie: On D5 missiles, what is going to be the cost of participating in the US Trident D5 missile life extension programme, a rough breakdown of that?

Des Browne: It is about £250 million.

Q343 Willie Rennie: The White Paper allows for £2-3 billion for infrastructure costs. What is the infrastructure money for and does it include Aldermaston within it?

Mr McKane: It does not include Aldermaston within it and it is for the purposes that I described earlier. It is based on an assessment of the asset lives of infrastructure at Faslane, at Coalport, at Devonport and, from that, an assessment of how much might have to be spent over the period between now and the out-of-service date of new submarines.

Mr Borrow: Have you had any indications from BAE Systems, should Parliament decide to adopt the approach to the Liberal Democrats' wishes not to make a decision one way or the other, but wait until all the advance planning work has been done, as to what effect that would have on the price?

Chairman: I think we have done this. We are trying to work out what the Secretary of State's policy is and we are trying to put as much into the open as possible.

Q344 Mr Jones: You said £200 million which is a figure which has been quoted before to us about the access to the programme. Is

that the down payment to actually get into the programme or what are the potential costs that you actually estimate are going to be ongoing?

Mr McKane: That is the cost, that is the estimated cost to the UK taxpayer of participating in the life extension programme.

Q345 Chairman: Secretary of State, you said that the through-life costs of the submarines would be about four to six per cent of the defence budget. I remember the days when it used to be one to two per cent of the defence budget. Is that an indication of a declining defence budget or of an increasing cost of submarines and would it be possible for you to give us the figures as opposed to a percentage of an assumed defence budget?

Des Browne: I am perfectly content, Chairman, to do the best that we can in relation to that, subject to the limitations that we have already had articulated about our ability to be able to identify particularly fixed costs for capability other than the SSBNs. I am content to do that, but I do know that we went through an exercise recently to make sure that we were identifying as accurately as we could the costs that are associated with our nuclear weapons systems and that caused us to revise information that previous governments may have put into the public domain. I just want to say in relation to the £250 million that the White Paper quite specifically deals with this issue at paragraph 5.10. This evidence that we are giving merely confirms what was already in the White Paper, that our contribution to that extension programme we have estimated at £250 million.

Chairman: I think we will now move on to the size and scale of the UK's nuclear deterrent. Linda Gilroy.

Q346 Linda Gilroy: The White Paper says that the UK is committed to retaining a minimum nuclear deterrent. How do you decide what a "minimum deterrent" is? Is it measured in terms of destructive effect, or an ability to hit a set of number of targets, or something else?

Des Browne: If it is a choice between destructive power or the ability to hit the target then it is both. To have a proper deterrent it needs to be not just minimum but credible and operationally independent. Credibility requires that you have to be able to influence a potential enemy wherever they may be in the world, so you have to be able to hit the target, so it is vital that you have to be able to hit the target. The minimum deterrent is the capability that we judge is necessary to provide an effective deterrent posture which is based on an assessment of the decision-making processes of any potential future aggressors and an analysis of the likely future effectiveness of any defensive measures that they might employ, which is based on a range of information, including some that comes from intelligence sources.

Q347 Linda Gilroy: Context is important to defining a minimum deterrent. When I was asking the lawyers who were in front of us last week if anybody else was defining the benchmark of what a minimum deterrent was it seemed there is no international

discussion about that. Do you think there is any prospect there could be such a discussion as to what was an agreed minimum deterrent otherwise it is what we say it is?

Des Browne: Well, I think as far as we are concerned in government we are committed to maintaining the minimum nuclear deterrent but that minimum has to offer a credible threat to any potential aggressors. They have to understand that we can defend ourselves in the circumstances in which we are prepared to say that we would defend ourselves, and that is in the most extreme of circumstances with a threat that matches the nature of the threat that we face. I can only speak for our government but it is instructive that we have, as one of a small number of nuclear weapon states, one per cent of the nuclear warhead capability in the world, so it is very clear that other countries take a different view if they are seeking to achieve a minimalist approach to this. We have set out in the White Paper that we want consistently in the international community to engage others with a view to minimising and seeing through our international commitments collectively. I am not in a position to speak for other people and I do not think I can answer that question for other countries.

Q348 Linda Gilroy: On the nuclear weapons stockpile, in the White Paper that will be cut from 200 to 160 and, given that each submarine will still carry up to 48 warheads, I think some question what the operational significance of that is. Can you put that in context in a way that responds to that scepticism that it does not really mean anything, I suppose?

Des Browne: It means that we will be dismantling around 40 warheads, which is quite a significant reduction in the number of warheads that we presently have. People should not minimise that, nor should they minimise the fact that we have in the time we have had stewardship and government of this deterrent halved the number of warheads.

Q349 Chairman: So when we have received evidence that has already happened ----

Des Browne: That what has already happened, Chairman?

Q350 Chairman: That it has reduced from 200 to 160, that would be wrong, would it?

Des Browne: Yes. In this process we carried out an exercise to review the scale of the capability we required bearing in mind that we are looking forward to the period 2025-2050 in the planning we are making now. This is the first time we have changed the size of our stockpile since the decisions we announced in the *Strategic Defence Review* in 1998 and it is driven by an analysis, a very hard analysis, of the capability that we believe we require. People can assert, and they do in this debate all the time, that there are other reasons other than the reasons that we have put into the public domain as to why we make the decisions, but I can assure the Committee that this process was a difficult and challenging process and we went through it with a view to ensuring that we did have the minimum deterrent which has always

been our policy.

Q351 Linda Gilroy: Looking at the D5 missile, the White Paper says that: "there will be no enhancement of the capability of the missile in terms of its payload, range or accuracy." Do you have that assurance from the United States?

Des Browne: As people know, we have a common stockpile of missiles, we have an ownership of them, and we have an understanding of what the United States plans to do in terms of the extension programme. There are now in the public domain letters of assurance passed between the Prime Minister and the President of the United States agreeing the position, in relation to among other things, these missiles, so we have the assurances that are expressed in the letter from the Prime Minister on 7 December and the letter from the President of the same date. I could read the relevant sections.

Robert Key: We have read it.

Q352 Linda Gilroy: That actually specifically says that there will be no enhancement in taking part in the extension?

Des Browne: The relevant paragraphs are, in the Prime Minister's letter, the second paragraph on page two and I would draw people's attention to the last paragraph on page one of the President's letter which carries on over the page. I will not read them.

Linda Gilroy: Thank you.

Q353 Mr Jenkins: Secretary of State, you must love coming before this Committee, you get such an easy ride! Let us look at this situation with regard to our deterrent. Some people would assume that the only reason we have got a deterrent now is to allow statesmen to stride around the world being members of a rather all-powerful nuclear club. Since the end of the Cold War even you must accept that the fundamental principles of deterrence have changed, if not in nature then in context and at the present time it is bound to have implications for the practice of our defence policy, so how can you sit there pretending there has been no change, our policy has not altered and the utilisation of this deterrent has not been affected?

Des Browne: In the first instance, Mr Jenkins, I do not sit here pretending there has been no change. In fact, quite a substantial part of the White Paper is devoted to explaining just how changed the world has been since the end of the Cold War and how much we think it will change in years to come and how uncertain it will be, which is another way of describing continuing change in years to come. I made the point recently at King's College of going into some detail about this issue in a speech I made there addressing the issue of deterrence. I am sure you have a copy of the speech but it might be helpful for the purposes of the evidence here if I just summarise some of the points that I think I made there recognising that, indeed, there is a change. Accepting that deterrence may have had some relevance in the Cold War, now the Cold War is over and is no longer needed, or the threats to our security have changed and our weapons should change to match them,

or because there is no country presently it is said that has the capacity and intent to threaten us there is nothing for us to deter at the moment so we should scrap all of this, my argument is that the Achilles' heel of that argument is we cannot be sure that such a threat will not emerge over the next 50 years. The important thing is that is what we are making decisions about now and we may well be, as Mr Rennie was saying, at the foothills of those decisions, and I accept that, but it is important that we recognise what the climb is and how high up we need to go in order to be able to maintain this deterrent. It is the timescale that we need to think about and we need to consider the future of our deterrent in that timescale. We cannot just wait until we are nearer that time and have more certainty about the nature of the threat before we make these decisions because history tells us that countries' intentions when they have capabilities can change very, very quickly and all of your investigations and reports have shown in terms of our ability to be able to build and maintain this capability that we need to make decisions to maintain skill bases, we need to make decisions to maintain our ability to be able to service. We are of the view, and I think this view is shared, that we could not do this in such a way that we could create this sort of deterrent if we needed to unless we maintained our ability to be able to do it. We could not do it as quickly as these changes could come about. Could I also just say that I fundamentally do not think that deterrence is an outmoded concept. I said this at King's College, and I repeat it here: I think it is unfortunate that it has become associated only with the issue of nuclear weapons. Our conventional capabilities have a deterrent effect. Deterrence is not that sophisticated a concept, it is the whole basis, for example, of a lot of self-defence in this country. It is your ability to deter a particular act because of the consequences of your likely act of self-defence. I think the concept of deterrence could be understood from the way in which people carry themselves in certain environments in the street to be able to deter potential aggression all the way up. I do not think it is that complicated. I think we have over-sophisticated it because it has always been associated with nuclear weapons but it lies at the heart of quite a lot of our defence policy. I do think that there is a modern analysis of this. There is a 21st Century analysis of this. I have tried, with the Foreign Secretary, to articulate that in this White Paper and to explain it since then. The last thing that I have been doing in this debate is going round saying to people that the status quo that instructed the decisions of the Cold War are still there; that is not the case.

Q354 Mr Jenkins: We are discussing the nuclear deterrent on this occasion, that is the difference. In the White Paper it says that the nuclear deterrent could be employed to defend the UK's "vital interests". This is not the survival of the nation but our "vital interests". What exactly do you mean by "vital interests" because it is not the survival of the nation? Is it the survival of allies or do you mean the UK's trading and economic interests? Where do

you draw the line?

Des Browne: I think you are quite right, Mr Jenkins, to say that we are discussing the nuclear deterrent in this context but it is important that we understand the principles that inform deterrence because my argument is you can only deter nuclear threats with nuclear weapons. If we think, as we do, and believe that the uncertainty of the future world is on balance likely to generate a potential threat to future generations in this country from nuclear weapons then we need to equip them to be able to meet that.

Q355 Mr Jenkins: We are never going to prove that.

Des Browne: Absolutely, and I accept that. Indeed, in that speech I said there is no evidence other than our experience of the last 50 years to rely upon but at least we have that evidence of the last 50 years to rely upon, we have the experiment of that if we are looking at it in terms of scientific proof. You asked me to define our "vital interests" and I am going to decline the invitation to do that for a number of reasons. I think at the outset I should say the White Paper makes it clear, and I repeat here, that we would only consider using nuclear weapons in self-defence. That includes the defence of our NATO allies and in my view I think we are obliged to include the defence of our NATO allies by our Treaty obligations in terms of NATO, and even then we would only do it in extreme circumstances. It is, and always has been, part of our deterrence posture that we retain an ambiguity about precisely when, how and at what scale we would contemplate using our nuclear weapons. I do not think we should do anything that simplifies the calculations of any potential aggressor in the future. Keeping them guessing to a degree and keeping a degree of ambiguity in relation to this is all part of deterrence, it is one of the component elements of it and has informed the doctrine of deterrence ever since we have signed up to this. A precise definition of "vital interests", if we had wanted to put one into the public domain, we would have put one in in terms of the White Paper.

Q356 Mr Jenkins: Now I have managed to extract that one in relation to our allies out of you, we have two allies who have nuclear weapons: on the European mainland we have France and, of course, we would never do anything in the United States of America. Since the implication is they would do the same for us, why do we need a nuclear deterrent if America would look after our interests in the world and France would look after our interests with regard to the European mainland?

Des Browne: I do not believe that we can make a decision now that would require future generations to rely upon not our allies in terms of NATO coming to our defence in terms of the Treaty obligations and of their relationship with us, but rely upon every other potential aggressor making that analysis. This description of an alliance providing for us what we do not need to provide for ourselves depends on any aggressor taking the view that that is exactly how France and/or the United States would act, and I do

not think that is a risk that we should take given that we are presently a nuclear weapon state. It is not just about our confidence in our alliances, and we have confidence in them, but it is about our confidence in any potential aggressor making exactly the same determination that we are prepared to make.

Q357 John Smith: That defence posture, that deterrent posture, depends on the credibility of our weapons system. The White Paper is putting forward a nuclear deterrent solution for the next 30-50 years or whatever and the basis of the Trident system up to now has been its invulnerability. Should technology develop that can track submarines in the next 30-50 years, do you believe our deterrent still remains credible?

Des Browne: I would just say, Mr Smith, and I am sorry I did not bring this with me, somebody provided me the other day with a quotation and I think somebody may be able to find it because it is quite instructive. It was a very direct quotation that anticipates that within 30 years the opaqueness of the sea will be gone and, therefore, the submarine-based system will become vulnerable because of that, which is essentially the point you are making. The fact of the matter is that was a direct quotation as I recollect it, Chairman, from the person who occupied your seat at the time that decisions were being made about the Vanguard class submarine. The conventional wisdom was that the opaqueness of the sea would be gone and we would have to test whether we should make this investment in submarines against the almost certain knowledge that submarines were going to be detected: "It is almost certain, is it not, that within the next 30 years, which is the lifetime of this weapon, all submarines, wherever they may be on the sea bottom, will be detectable and detected and, therefore, very vulnerable". That was from the then Chairman of the Defence Select Committee, Sir John Langford-Hope, who was an ex-practitioner on anti-submarine warfare in October 1980. People are still saying that and in debate people assert this to me as a scientific certainty. I had somebody the other day tell me that it was a reality. What I do know is that in the time we have been operating this system continuously at sea, and this year we will see the 300th patrol of our deterrent, none of our submarines have been detected. I cannot say with certainty for the future that situation will continue but I do say that this particular problem has been identified for some time now and has not become a reality. The physicists whom I have taken advice from suggest to me that it is not expected that it will be tracked, although somebody may. You say if it does, does it still maintain its credibility as a deterrent, and my answer to that is it then becomes comparative because the other mediums - land, air - are definitely not opaque and the question is whether a sea-based deterrent underneath the sea and not on the surface of the sea is better than the guaranteed openness and visibility of the alternatives, and my answer to that is yes. Since we do not have any other medium to put them in then it seems to me that it is still the best.

Q358 Mr Hamilton: The 1998 *Strategic Defence Review*, which was

referred to earlier on, talked about a sub-strategic role for Trident, but the White Paper makes no reference to this on this occasion. Have you abandoned the idea of a sub-strategic role for Trident? How do you define "strategic" as opposed to "sub-strategic"?

Des Browne: Can I just say that our nuclear weapons are not intended, nor are they designed, for military use during conflict. We have deliberately chosen to stop using the term "sub-strategic Trident". It was applied previously to a limited use of our weapons but we would now only consider using nuclear weapons in self-defence and then only in the most extreme of circumstances. We have no plans to develop so-called battlefield nuclear weapons.

Q359 Mr Hamilton: Okay. The White Paper also states that the UK should retain nuclear weapons in order to provide "an independent centre of nuclear decision-making" and that this "enhances the overall deterrent effect of allied nuclear forces". Why does it do that?

Des Browne: Well, that was the explanation I was trying to give earlier about keeping the uncertainty in the mind of the potential aggressor, that is what that means about an independent centre of decision-making. It means it is the centre of decision-making in the mind of the aggressor which is independent of our allies.

Q360 Mr Hamilton: Minister, the last part on that I was going to ask was the White Paper also says that you will not rule out the first use of nuclear weapons. In what circumstances would you see first use being used?

Des Browne: Can I just say I like to be consistent where I can and we have consistently----

Q361 Mr Hamilton: Never said.

Des Browne: ---- in the possession of this deterrent straightforwardly for a longstanding period of time refused to either rule in or rule out first use of nuclear weapons and I will continue to adopt that position because that is all part of our intention to maintain an effective deterrent posture through the policy of deliberate ambiguity.

Q362 Mr Hamilton: You will appreciate that when colleagues discuss this on the floor of the Commons this will be the part of the discussion they will follow. I want to pick out some detail in relation to page 19 on state-sponsored terrorism. The final part of that is "any state that we can hold responsible for assisting a nuclear attack on our vital interests can be expecting that this would lead to a proportionate response". I am trying to think of a proportionate response. For example, if 9/11 had happened with a nuclear deterrent, would that mean we would have wiped out Afghanistan and everybody who was in it?

Des Browne: Unequivocally I can say the answer to that particular question is no, that is not what that means at all. The first point is that the Government has a strategy for dealing with international terrorism which is clearly, and I think accepted,

the most serious risk that this country faces today and one that we need to address. I want to stress again the decision that this White Paper addresses and we are discussing today is whether to invest in order to maintain our nuclear deterrent in the 2020s and beyond and not to deny future generations the safety and stability that we have enjoyed over the last 50 years by a decision not to do that. There are those, I think, who argue that we should abandon this now and concentrate on dealing with international terrorism but, as the Prime Minister says in the foreword to this paper, we are not going to be any better off by giving up nuclear weapons but we do identify among the other threats that we might face the possibility that at some time in the future a rogue state which has that capability may want to use terrorists as proxies as a way of launching weapons against us. That is what that is designed to address. It is designed to address the state of mind of the strategic threat posed by states in possession of nuclear weapons using a delivery mechanism that employs the use of terrorism and deterring that sort of behaviour. I am just making it clear that what we are not doing is we are not saying that we would deploy this as a deterrent or as an answer to what people would generally consider to be the terrorist threat but there is a very specific point made in the White Paper designed to identify a possibility in the future.

Q363 Mr Hamilton: I realise you were a lawyer before you became an MP, but it does raise the question that there is a balance that has got to be reached and it is one of nothing or something. There is a balance that has got to be reached between our conventional forces and what we offer in the nuclear deterrent area. That is a debatable argument and one on which many people on principle would surely agree with. It is not one against the other. You raised the question about conventional forces being a deterrent. If we are stretched within Afghanistan, Iraq and so on, surely it does raise the question of where we spend our money and that is a realistic question that people should ask at this moment.

Des Browne: That is exactly why we are obliged in government to say this will be additional expenditure over and above the settlement that we will announce in relation to the support of our conventional forces.

Q364 Mr Hamilton: One final question. If the decision by the House of Commons, irrespective of the Three Line Whips, was not to proceed with the nuclear deterrent, would that six per cent additional money go into conventional forces in your opinion?

Des Browne: I am not planning to lose this vote in the House of Commons, so all of my focus ---

Q365 Mr Hamilton: I did say you were a lawyer.

Des Browne: All of my focus is on succeeding to persuade a majority of the House of Commons that we should do what is in my view overwhelmingly the sensible and appropriate thing in terms of the defence of this country. I am planning that we will need to look at the Spending Review period to devote resources to the

early stages of this process in terms of that assessment.

Q366 Linda Gilroy: It is argued that deterrence is not only about threatening nuclear retaliation in response to an attack, it can also be about preventing that attack through the use of missile defence. I do not think the White Paper covers that. Why not? Does the Government have a position on missile defence?

Des Browne: I think the answer to that is we did not address the issue of ballistic missile defence because we were considering the future of our existing nuclear deterrent in relation to this. We do play a role in ballistic missile defence and we agreed in February 2003, I think it was from a request from the United States, to upgrade RAF Fylingdale's early-warning radar for use in the US ballistic missile defence system. We are also working with the United States and NATO to understand the political and operational implications of territorial ballistic missile defence and to assess the feasibility of the technology involved. We have made no decision on whether to acquire such a capability but, never mind the paper I am reading to you, the position is that missile defence is exactly what it says on the tin, "defence against missiles". This system is designed to be a deterrent to a nuclear threat however it might be delivered to us.

Q367 Linda Gilroy: So presumably if we did not have that deterrent we would have to consider investing more in missile defence?

Des Browne: It is helpfully pointed out to me that in box 3.1 on page 21 there is a reference to ballistic missile defence in the context of responses to counter-arguments.

Q368 Linda Gilroy: What page is that on?

Des Browne: It is on page 21. To be fair, it is not part of the core of the argument, it is a response to a counter-argument, the sort of counter-argument that you were rehearsing there.

Q369 Linda Gilroy: Presumably if we did not have the deterrent then we would have to think of investing money to a greater extent in missile defence which needs to be put into any equation of working out what we spend on defence capability.

Des Browne: It is undoubtedly the case that if we did not have the deterrent and if we did not have the effect by that deterrent to deter the threat of an attack of the nature that this deterrent is for then we would be in a situation where we would have to either rely upon others to provide that for us or find an alternative system, but by definition a less effective system in my view, to deter such a threat and, of course, significant investment in missile defence may be part of that but, as I have already pointed out, that is only way of delivering a nuclear threat and it would not have the comprehensive deterrent effect that we believe our current system if we invest in it can continue to have.

Q370 Mr Jenkins: Minister, you said we may have to rely upon others to provide this ballistic missile defence. By "others", surely the only country that could provide it is the USA. Are there plans for us to be taken under the shield or umbrella of the

USA for missile defence?

Des Browne: No. I was asked by Ms Gilroy to confirm that if we did not have a nuclear deterrent then we would have to have some other form of defence and of necessity that would involve expenditure, and maybe quite significant expenditure. I was just describing where we would be if we did not have a nuclear deterrent, but as a matter of fact we do have and we are able independently to be able to deter aggressors in the way in which we have successfully been able to do over the last 50 years. Far from relying on others or moving under the wing of others, our plans and, indeed, our recommendation to Parliament in the White Paper, the whole purpose, is to say we should continue to have independent ----

Q371 Mr Jenkins: As regards the umbrella of missile defence, I take it that is a maybe?

Des Browne: I am sorry, Mr Jenkins, could you say that again?

Q372 Mr Jenkins: Are there any plans for us to negotiate with America to be taken under their umbrella for missile defence? You gave a long answer but you did not actually say "yes" or "no", so it is a maybe.

Des Browne: I think everybody knows what our position is. We are working with the US and NATO to understand the political and operational implications of territorial ballistic missile defence and to assess the feasibility of the technology involved but it is early days. When we have done that we will make a decision about where we are going to go in terms of such capability, presumably with a lot of our other NATO partners who are also involved in the same process. It is a perfectly transparent and known process that NATO is doing this work.

Q373 John Smith: Minister, do you believe the recent events in China have any bearing on our deterrent posture or, indeed, our missile defence policy?

Des Browne: If by the recent events in China, Mr Smith, you mean the fact that the Chinese destroyed one of their satellites with a missile, as I understand it, there is a view abroad that we are dependent on satellite navigation systems either for the boats or for the navigation of the missiles, and that is not true, nor indeed to my knowledge are the Americans themselves dependent on such satellites because clearly there is a view that it would make their deterrent vulnerable to that possibility, so to that extent is not of relevance. Of course it is of relevance in that it is another factor to the strategic circumstances of the world, the circumstances we find ourselves in, and the Chinese capability of being able to do that adds to our understanding of the capabilities of other people around the world.

Q374 Mr Hamilton: In answer to my two colleagues on my left you put great store in answering that point on the independent factor. Could you give me an example, apart from the Falklands, where Britain has taken an independent conventional force against any country in the world? Surely the issue is that we depend on each other in alliances and, therefore, alliances become very much

stronger and it is not unreasonable to consider that we should have alliances with other countries that may have a nuclear deterrent.

Des Browne: I think the answer to that is of course it is not unreasonable for us to have alliances with other countries. That is why we are a member of NATO and that is why as a strategic defence alliance we are so supportive of it. The first point about independence in relation to the nuclear deterrent is that it is entirely operationally independent and we jealously guard that operational independence. We go to great lengths to ensure that we will make the decision as to whether or not to use this, and indeed it will be made by our Prime Minister, and there are all sorts of locking devices to ensure that that is the case. We are absolutely certain and reassure everybody consistently that there cannot be interference with that operational independence. As I say, we jealously guard it; we go to great lengths for ever to ensure that it is operationally independent, and, secondly, that it generates this independent centre of decision-making that adds to the ambiguity of our posture in relation to any potential aggressors. Those are the two aspects of independence about the deterrent that are important. I think people have to understand that that is all to be seen in the context that we are in an alliance, and we are in an alliance not just with the United States of America, which is a nuclear weapon state, or France, which is a nuclear weapon state, but also with other countries whose alliance and relationship we value in terms of our commitments to each other to defend each other in the context of the agreement that we have. Of course all of that is there. Indeed, we have in my view an obligation in terms of our membership of that alliance to provide a degree of reassurance and support to others as a nuclear weapon state in that alliance, and indeed that is expressed in the strategic documents of NATO. People say to me, "Why do other countries sleep in their beds safe at night in the knowledge that they do not have a nuclear deterrent?", and substantially that is because we and France and others with whom they do not have an alliance do have, because we have accepted an obligation to provide them with just that assurance.

Mr Hamilton: So there are no examples you can give of our taking that decision for our Armed Forces to go into conflict without discussing with our allies and so on?

Q375 Chairman: Sierra Leone.

Des Browne: Sierra Leone immediately comes to mind but I am sure there are others. Sierra Leone is one that comes to mind but I am sure there are others. I did not prepare myself for that sort of question and that is probably my mistake.

Q376 Mr Hamilton: It is only an answer to the independence point that you continually make.

Des Browne: I understand that, but I do not think that whether or not we have in the past and in the immediate past worked with

coalition partners or have been parts of effective coalitions detracts from the importance of the independence.

Q377 Chairman: Secretary of State, can I ask one small question? Would you accept that Trident has nothing to do with defence but that it is all to do with deterrence? It is not an umbrella or a shield; it is a sword?

Des Browne: That is a small question but it is a very interesting one and I am reluctant to immediately jump to an answer to it until I have thought about it. My instinct is to say to you, Chairman, that it is about deterrence but I think deterrence is a sub-set of defence.

Q378 Chairman: Does anyone want to add anything?

Des Browne: It was a challenging enough question!

Chairman: No? We will move on to continuous-at-sea deterrence.

Q379 Willie Rennie: The White Paper states that "currently no state has both the intent to threaten our vital interests and the capability to do so". Given that that is the case, that there is no immediate or direct threat, why do we have continuous deterrence at sea?

Des Browne: The fundamental answer to that is because continuous-at-sea deterrence is at the heart of having a credible deterrent. It is not just about defending against the threats of the particular day. It is about adopting an operational posture that produces an invulnerable and assured deterrent, which is particularly important to us as we have, uniquely among nuclear weapon states, a single system. This means that we can keep the deterrent minimum, we can keep it cost effective, we can keep it non-provocative, and it also means that we can avoid unnecessary escalation in a crisis should one develop. It ensures, because we keep a boat at sea all the time, that we cannot be prevented from deploying a submarine in a crisis and, as I have already said, our 300th operational deterrent patrol will be completed this year. It is an opportunity for me to pay tribute to the Royal Navy which has maintained that defensive posture for us for some significant period of time now, requiring crew to be away from their families and friends for significant periods of time. To dismantle all that: the combination of those people who are prepared to do it, our ability to be able to consistently test when we are at sea, our ability to be able to do what we need to do, would be a very serious step and I believe that if we did not continue that we could not be certain that we could recreate it, that we could step it up in the timescale that we might need to if the need arose at some time in the future. That is why we continued to do it once we had started to do it, because we are able to do it. It is very demanding and every time we deploy it we deploy it operationally. This is not practice. These people are actually doing the job and they have to maintain a very high level of readiness, a very high level of expertise, a very high level of professionalism. We ask them to do a very difficult job and we should maintain them at that level. I am told by the experts, and the Rear Admiral might

want to confirm this, that if we have to maintain our people-based skills to do that then we have to maintain it at that level.

Q380 Willie Rennie: I am obviously not an expert in these areas but is there not a possibility of doing a kind of random approach to deterrence at sea where you can vary the length of time that we are at sea and not always have a continuous deterrence? Is that not a possible option?

Des Browne: I am no expert either but can I just say to Mr Rennie that I came to this job as the Secretary of State for Defence with a degree of scepticism about continuous-at-sea deterrence. I asked all of those questions in my early days in the department, and some of the people here will remember me asking them, just simple questions like, "Why do we need to keep a boat sea all of the time? Why do we need to do this when we are saying that at the moment there is no capability and intent that amounts to a threat?" I have to say that as I have come to understand the nature of what we are doing and what we are asking people to do, and, importantly, the effect that deploying a submarine into an environment of conflict or potential conflict might have on that, the aspect of this that most persuaded me was the need to be able to maintain these boats at an operational level, which was a very high and demanding thing to do, and our ability to be able to step that up. I have come to the view that it is a key strand of maintaining a credible deterrent in this form. I do not know whether the Rear Admiral wants to add to this but he is among those who have persuaded me of this and I seek to share with you the way in which I was persuaded.

Rear Admiral Mathews: I have little to add to what the Secretary of State has said apart from the fact that it drives a real ethos into the programme and I do not think you can put a value on that. You have to be part of it to understand it. The maintenance of continuous-at-sea deterrence and the demands it places on the system and the tests it places it on the system are of real value. It drives operational preparedness, it drives crew training, it drives the whole way the team operate. I do not know how you value such a thing as ethos but I think it is absolutely pivotal to the way we have run this programme and would wish to continue to run it.

Q381 Willie Rennie: I have to concur with the comments about the submariners. I had the benefit of going up to Faslane and the professionalism was quite impressive, and how they can live in those tight conditions for such long periods of time is beyond me, I have to say. The Prime Minister said that you might go down to three boats in the future, and we might get that decision at a later stage, and still have the continuous-at-sea deterrence. What cost savings would be involved in going down to three boats and roughly what time will you make that decision in?

Des Browne: That is an ambition and it is an ambition we have put in the White Paper as a challenge to those who will be doing the concept and assessment phase of this process, but we are not certain that we can maintain continuous deterrent patrols in the

future with three submarines. I have to say, and the White Paper says this, that from the evidence of Resolution and Vanguard four hulls were required to sustain continuous patrolling but, as the White Paper says, once we are clear about the design, about the operational procedures, the maintenance regimes for the new submarines, we will reach a conclusion about whether we need three or four hulls to sustain continuous patrols. Apart from all the issues that we have already discussed, continuous-at-sea deterrence is important in terms of the invulnerability of our system and I think people accept that now. If all the boats were in port at any one time our deterrent would be vulnerable. It could be attacked in port, as it were, but keeping one boat out there all the time means we can take advantage of the opaqueness of the sea, which we have considered. We certainly will not take risks. At the end of the day this will be a very hard-nosed decision.

Q382 Mr Borrow: Secretary of State, you have dealt with the issue of the UK moving from continuous-at-sea deterrence to basically mothballing submarines and then bringing them back if the situation changed and the risks inherent in doing that, but it has been suggested that if we were not using the submarines round the clock that would extend the life of the existing boats. Is there any truth in that?

Des Browne: Not in my understanding but I will defer to the Rear Admiral on the detail of this. The critical time from the point of view of when we measure the life of a boat is from when the reactors first go critical. My understanding is that you may well be able to bring the boat in but you cannot switch the reactor off and there are other parts of the system which will age no matter whether the boat is at sea or not, but I am sure the Rear Admiral will be able to give you more detail.

Rear Admiral Mathews: There are two parts to the answer. First, there is the crew, and one of the reasons we need to keep operating submarines is to maintain our operational capability to operate them, and so training and operating them is a vital part of that brief. The second thing was about could we just wrap them up in cotton wool and bring them out when we need them. It would help to extend, for instance, the core life. We put a core in these submarines now that will fuel them for around 20-25 years. We planned on 25 years for an SSN and that is what this core was designed to do. For an SSB it will be slightly less because the boat is bigger and we use them in a slightly different way, so we would save fuel. There are other bits of the boat, for instance, the hull, and Professor Garwin mentioned hull fatigue. Hull fatigue is not an issue for the UK. The hull itself is good for as long as we want to operate these submarines, so you are not making savings there. However, there are issues just about the ageing of things like cables, which do not depend on operating; it is a time-related thing. There is still a whole host of things that you would have to do if you just wrapped them up. Other parts of the submarine you would continue to operate very likely, such as, you have to remove heat from the reactor because it continues to

produce heat, so you have to run pumps. You have to maintain the chemistry, so there are things you are doing and there is therefore maintenance you have to do. It is not a straightforward "if you just shut them down for five years you gain five years in their life"; it would not be like that.

Q383 Chairman: Secretary of State, am I right in thinking that you have to get away at quarter to four?

Des Browne: It would certainly be helpful, yes.

Chairman: We will do our utmost to get you away by then.

Mr Jenkins: I expect a note on this then rather than going through all the figures, Secretary of State, but we are told it is 17 years between making the decision and getting one in the water, but that would take us to about 24, yet our first one was out of Suez in 22, so there is a two-year gap, so we would be down to three ageing boats to keep continuous-at-sea service, and then if we do that we would have the three boats but then we would have six years and if we cannot make the decision at the end of six years that takes it a bit further. Can you give us some indication on that timescale of when the existing boats are going to go out, when the new boats are going to come in and when the decision needs to be made to add the fourth boat, and how do you get the experience of running three boats but then make the decision in time, sort of thing? Would you let us know about the thinking on that, please?

Q384 Chairman: Would it be possible for you to send us a note?

Des Browne: I am happy to write about that.

Mr Jenkins: If you would write it would be very helpful.

Q385 Chairman: Although to some extent it is covered in your memorandum.

Des Browne: It is, yes.

Rear Admiral Mathews: It is the same question we virtually answered at the last session.

Q386 Robert Key: Secretary of State, the United Kingdom is a signatory to the Non-Proliferation Treaty and the White Paper says that we are fully compliant with all our NPT obligations, and the White Paper goes on, "Nevertheless, we will continue to press for multilateral negotiations towards mutual balance and verifiable reductions in nuclear weapons". What is the Government currently doing to press for those multilateral negotiations?

Des Browne: Mr Key, we not only say that; we actually set out in some detail in a fact sheet and an annex to the White Paper itself how we address our international legal obligations and particularly the nuclear Non-Proliferation Treaty, so there is no need for me to read that. In summary, and we have set out in the White Paper what we have done over the last ten years in dismantling our maritime tactical nuclear capability and the RAF's WE11-17734 bomb, reduced the maximum number of operational warheads, and our ambition is to reduce that further, and ceased

production of fissile material for nuclear weapons. We have in my view, and I think this has been recognised even in evidence before this Committee, a good record in living up to our international obligations in this regard. For the future, we continue to support and we have made progress in 13 practical steps towards the implementation of Article VI agreed in 2000; we have ratified the Comprehensive Nuclear Test Ban Treaty; we have increased our transparency by publishing historical accounting records of our defence fissile material holdings; we have pursued a widely welcomed programme to develop expertise in methods and technologies that could be used to verify nuclear disarmament; we have produced a series of working papers culminating in a presentation to the 2005 NPT Review Conference and, looking to the future, our priority remains to press for negotiations in the Conference on Disarmament of the Fissile Material Cut-Off Treaty; we welcome the draft text which the United States tabled last year; we are also concerned whether to accept the very broad mandate proposed and agree to open negotiations towards a treaty without delay, and we are also actively engaged in the global initiative to combat nuclear terrorism but we will be playing a key and active role in shaping and contributing to the forward-looking programme of this important new development. That is all to be read in the context of what we have already put into the public domain with the White Paper and in the accompanying fact sheet.

Q387 Robert Key: That is a stunning answer, Chairman. I congratulate the Secretary of State. I think our most cynical witnesses, who have all, interestingly, agreed that you are making steps in the right direction, might argue that they are not big enough steps. Some have argued that they are not being made in good faith, but I think that that is a pretty good catalogue of success, but, of course, we will all wish to hold you to the forward-looking part of it. Could I turn to the deterrent effect of upgrading our deterrent here as regards international terrorism? How will upgrading our deterrent add to the security of the UK in the face of international terrorism?

Des Browne: I sought earlier to answer that question put to me in a slightly different way. We have a very particular strategy which we have invested in quite significantly over the last eight years to deal with international terrorism and it is presently under review, as is known by the Home Secretary. There is in the White Paper a reference to terrorism in a very particular context as part of the explanation of the potentially changing environment that we live in, but we do not seek to deploy this weapon as part of our arsenal, as it were, against terrorism. That is not the purpose it is for. The purpose it is for is to deter threats of the nature that would threaten the strategic integrity of our country.

Q388 Robert Key: I can see, Secretary of State, how that might work for state-sponsored terrorism, but surely, if you are talking about something that is not state-sponsored terrorism, you are beginning to talk about a sub-strategic weapon, are you not?

Des Browne: Quite specifically I am not. I will try and put this even plainer. This is a strategic deterrent which is designed to deter a strategic threat. We recognise that we need to have a strategy to deal with international terrorism. This is not part of that strategy, but we also recognise, I think realistically, that we may in the future live in an environment where a rogue state may seek to use a terrorist or a terrorist organisation as a proxy, and that could be part of the strategic threat.

Q389 Robert Key: So do you agree that a nuclear weapon is a political weapon, not a military weapon?

Des Browne: That is a question of the nature of the question that the Chairman asked me.

Q390 Robert Key: What is the answer though, Secretary of State?

Des Browne: I think the answer is that it is, yes.

Robert Key: Thank you.

Q391 Chairman: Will you not answer my question, Secretary of State?

Des Browne: I thought I did answer your question, Chairman. My view is, as I recollect the answer I gave you, Chairman, was that I thought that deterrence was a sub-set of defence.

Chairman: Ah, right; I see.

Q392 John Smith: Much has been made from some quarters about the impact of the White Paper on our international reputation in the field of disarmament and non-proliferation. I do not know if any of our witnesses can respond to this question, but has there been any response since the White Paper was published on 4 December?

Ms Leslie: I can reply to that if you wish. Only one country has actually issued any public statement about that and that was South Africa, which was indeed critical, but we have had contacts First of all, after the Prime Minister had made his announcement we used our overseas network of Foreign Office posts to brief all countries who would have a legitimate interest in this, all our NATO allies, all the other nuclear weapon states, all other countries who are taking an active role in the Conference on Disarmament in Geneva, in order to explain what the Government was saying in the White Paper and what the basis of that was and to talk to them about any further questions they had. We found a gratifying degree of understanding for the Government's decision on the part in particular of our NATO allies but also a large number of other countries. There were one or two countries, and these were diplomatic exchanges and I would rather not name them but it was only three or four, that were critical and they were people who perhaps we had expected to be critical on the basis of the stance they very often take in the Conference on Disarmament, but we were quite pleased by the degree of understanding for the nature of the decision that the Government was taking. One other point which is perhaps relevant, and also, I think, relevant to the Non-Proliferation Treaty and the 13 practical steps there, is that a number of countries went out of their way to congratulate

the Government on the degree of transparency it had gone in for in the White Paper, which, of course, is one of the practical steps among these 13 practical steps.

Q393 Chairman: Secretary of State, can I ask a question about the number of missiles in the submarine, 16 on a Vanguard? Is there any need to have 16 missile tubes on a successor? Could we make do with perhaps 12? Would it have a reduction in the costs? Would it have any effect on the deterrent capacity of the submarine, or would you like Rear Admiral Mathews to answer that?

Des Browne: I will answer the question. I am sure Rear Admiral Mathews will add to the answer, but I suspect that it will not come to much more than that we are at the very beginning of the design phase and, of course, we will have at the forefront of our mind our policy obligation to have a minimum deterrent. All of these options will need to be explored in depth by the MoD and the industry team but I am not in a position at this stage, and I doubt if the Rear Admiral will be, to be any more specific than that, but I will give him his opportunity.

Rear Admiral Mathews: I think behind part of the question is, is the number of missile tubes a major cost driver to the design of the submarine? It is not a major cost driver. It will make a contribution, but taking four tubes off does not save a quarter of the cost of the submarine, for example.

Q394 Linda Gilroy: The White Paper says that the design of Vanguard's successor will seek to maximise the commonality with the current submarines, but, in fact, if we want to drive through-life affordability is there not a case for a completely new design?

Rear Admiral Mathews: There is a case for a bit of both. What we have to do here is to take the through-life approach. We have to get the support community tied into the build community better, and that is part of our intention for this project should it be approved, and we have to take a proper through-life approach. Clearly some parts of the submarine are obsolete and that means we have to redesign those, and we have to be more reliant on, where we can, commercial, off-the-shelf type technology rather than do what we have done with Astute, which is end up with a submarine that is pretty bespoke. In big handfults, two-thirds of what we put into Astute is made for Astute and Astute only. That makes for a very expensive submarine design and we need to learn from that.

Q395 Linda Gilroy: From that I take it that there might only be reasonably modest changes in the new submarine. No? You are shaking your head.

Rear Admiral Mathews: No.

Q396 Linda Gilroy: I think at the bottom of this question is that a lot of people are very sceptical about why it should take 17 years, why the decision now if there is a degree of commonality, whatever that degree is, with the current submarines? Can you convince those sceptics rather than me that 17 years is necessary?

Rear Admiral Mathews: Let us start with the design. There are a lot of people who say, "Why do you not take Astute, cut it in half and stick your missile compartment in?". If we do that let us just think about what we end up with. We end up with a bigger submarine, so we need bigger ballast tanks. We need more air then to surface the submarine, so we need bigger HB bottles, we need bigger compressors, we need more electrical power to run those compressors. You need more people, so you need more accommodation. You need more air for them to breathe; therefore you need more atmosphere purification equipment. You need a bigger galley to feed them. People produce waste. It comes in liquid, solid and gaseous form, all of which you have to manage. The point I am making is that once you start unpicking a submarine design, because it is so integrated what you have to do is that you unpick one bit and you just open Pandora's Box: you end up redesigning it all whether you really meant to or not. We tried to do it when we went from Valiant. We said, "Right; we will just cut it in half and put a missile section in and call it Resolution". There is very little of a Resolution class, apart from the engine room, that looks like a Valiant class submarine. It was a completely different design in the end. It is not about taking an Astute. It is about taking some of the systems, some of the components, some of the equipments and then designing them where we can into the future and saying, "Can we have common systems across these classes of submarines?", but it is also about taking Astute and using Astute as the vehicle to spiral development into the future classes, and that is what we want to do with the back end of the Astute programme, to de-risk the deterrent programme by doing those changes to the Astutes.

Q397 Linda Gilroy: I understand why you are making the comparison with Astute but the people who are sceptical about it very often tend to make the comparison with the current Vanguard class. Just now you said, I think pretty well, and I am paraphrasing, that the hull could go on for a great deal longer.

Rear Admiral Mathews: Yes.

Q398 Linda Gilroy: As an idea of the relative proportion between what goes into the design of the hull and the stuff that is inside it, I have had the advantage of seeing what goes on at Barrow and Devonport and just how much like rocket science all of that is. It is like putting a spaceship into outer space, which I think many people do not really understand, but therefore why can we not just take Vanguard as it is and, with the things that you said needed to be changed, just slot that into the hull?

Rear Admiral Mathews: But it is back almost to the same arguments we used with Astute. There are things in Vanguard we would not put into Vanguard in the future because we could not afford to operate 50- to 60-year old equipment, as it would be almost when it went into service, let alone when it came out of service, so you again start changing things, and once you start making changes you are into a redesign. I used the analogy last time of building an onion but it is working from the outside of the onion and trying to put

the layers inside the onion to finish it. A submarine is like that, so once you start unpicking it, because it is so integrated it is quite a difficult process, and so why we have argued the 17-years is that it is about two years to get through our concept stage: are we going to unpick a Vanguard design, are we going to unpick the Astute, how many missile tubes, those sorts of decisions; seven years in design to come out of that design with a mature design that we do not want to change once we start construction because change, once you have started building (and that is my onion again), means you have to unpick it all to work out again, so it is about seven years to design, seven years to build, and then the final bit is taking it on sea trials, testing it, proving it, training the crew, putting the missiles in, test-firing the missile and putting it on operational control: total duration about 17 years. How do we compare with the rest of our competitors, so to speak? The same as the Americans, they think about the same time; the same as the French. That 17-year model we are pretty confident about.

Q399 Linda Gilroy: The other million-dollar question is why do we not buy it from the Americans? Would it not just be cheaper just to do that, like we do with the missiles?

Des Browne: In a sense there is a political answer to that: because we do not think they would sell them to us, and in any event people do not sell -----

Q400 Linda Gilroy: Why not? They sell the missiles to us.

Des Browne: People do not sell these systems to each other but part of the reason for that, of course, is that once you have them you have to look after them, and because you need to be able to look after them you need the skill base to look after them, and the technology is very highly secret.

Q401 Robert Key: Secretary of State, in his letter to the President the Prime Minister last December specifically, in that exchange of letters, spoke about increasing collaboration on the construction of submarines, and in his reply of the same date the President agreed and said there should be more collaboration on the construction of submarines, but if they are never going to sell them to us what is the point of that? Why did they say it?

Des Browne: I was asked a very specific question about why do we not just buy them from the Americans and I gave a straightforward answer: I do not think they would sell them to us, but in any event we have a different nuclear regulation system from the United States of America, so we would then be faced with the problem of buying something that was built for a regulation system and then adjusting it to suit our regulation system. The other point is that the indications are that it would probably cost more.

Q402 Robert Key: So why did they bother to exchange letters saying they would do that?

Des Browne: The answer to your specific question is that, of course, we do collaborate with the Americans and have done for 40

years or longer on many aspects of defence capability.

Q403 Robert Key: But not the construction of submarines?

Des Browne: I would need to check precisely if we have ever collaborated with them in relation to submarines.

Q404 Robert Key: I assure you it is in those letters.

Rear Admiral Mathews: If I can assist the Committee here, we effectively bought the Dreadnought design lock, stock and barrel from the Americans. Admiral Rickover, who was the father of the American programme, insisted at that stage that that was the end of collaboration in a sense, because what he was trying to do by that decision was to say to the British that we had to be responsible for this submarine, we had to understand its design, we had to be able to operate it, and we had to be able to maintain it through life, and so the American position was, "You have got to own what we have just given you". That position has not really changed. The Secretary of State is absolutely right about regulatory regime. There are some major implications there. You cannot just take an American design and expect to license it in the UK. There is a cost issue because the American submarines are different and we would be operating mixed fleets as well, so there are not real advantages and at the end of the day, if we go down that route that would, I think, shatter the confidence of the UK submarine building industry, and part of the evidence that you have had before you has been about how to re-establish that confidence and sustain it.

Q405 Mr Borrow: I just want to get absolutely clear that the 17 years is what is actually needed to design and build a new nuclear-powered submarine to put nuclear missiles on, that that cannot be shortened at all and that that 17 years has nothing at all to do with the needs of BAA systems in constructing the Astute submarines and their long-term timetable. I am not arguing that that is wrong if that is part of the decision, but you are saying quite clearly that 17 years is the minimum that we need to do it and that has nothing to do with the industrial base arguments, nothing to do with fitting it in with the Astute programme at Barrow?

Rear Admiral Mathews: The answer to your question is that 17 years is the time we believe is the minimum needed to do this.

Q406 Chairman: The White Paper says the warhead should last until 2020. Will we need a new warhead then?

Des Browne: My answer to that is that we have been as open as we can, I think, in our future warhead plans. We believe it will last until the 2020s but we are not clear on the longer term position and that is why we continue to invest in the facilities at Aldermaston. Once we have a better feel for its life, and this is unlikely to be before the next Parliament, as we say, we will decide whether it is better to refurbish our existing stockpile or develop a new warhead. In the interim we will look at replacement options to ensure that we have a firm basis on which to make our decisions, so we are in an area of consideration.

Mr Bennett: I think that is fine.

Q407 Chairman: So there is no decision that is taken as to whether the warhead is going to be redesigned or designed to the same design?

Des Browne: No decisions have yet been taken and I think it would be an error for me to pre-judge those decisions or to indicate how I think they may come out because I simply do not know.

Q408 Chairman: Do you have a view as to whether, if there is any need for such a redesign, it would fall within our legal obligations under the Non-Proliferation Treaty?

Des Browne: I do not have a mature view in relation to that. That is to some degree speculative in terms of the environment I have been working in and preparing for because we are not having to make that decision.

Q409 Chairman: Fair enough.

Des Browne: If it is absolutely necessary for the Committee to have an answer to that then I will try to get an answer to the Committee.

Q410 Chairman: I think it is, as you suggest, too speculative and I will not pursue it.

Des Browne: Thank you.

Chairman: If there are no further questions I will simply say thank you very much indeed for helping with that final evidence session.