



HOUSE OF COMMONS

Public Accounts Committee

Oral evidence: Re-use of components in the Royal Navy, HC 724

Wednesday 10 January 2018

Ordered by the House of Commons to be published on 10 January 2018.

Watch the meeting

Members present: Meg Hillier (Chair); Nigel Mills; Stephen Morgan; Gareth Snell.

Sir Amyas Morse, Comptroller and Auditor General, Adrian Jenner, Director of Parliamentary Relations, National Audit Office, Jeremy Lonsdale, Director, NAO, and Richard Brown, Treasury Officer of Accounts, HM Treasury, were in attendance.

Questions 1-82

Witnesses

[I](#): Stephen Lovegrove, Permanent Secretary, Ministry of Defence, Rear Admiral Richard Stokes, Assistant Chief of Naval Staff (Support), Colin Evans, Finance Director, Royal Navy, and Sir Simon Bollom, Chief of Materiel (Ships), Defence Equipment and Support.



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Reports by the Comptroller and Auditor General

Delivering Carrier Strike (HC 1057-I)

The Equipment Plan 2016 to 2026 (HC 914)

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Examination of witnesses

Witnesses: Stephen Lovegrove, Rear Admiral Richard Stokes, Colin Evans and Sir Simon Bollom.

Chair: Welcome to our second session of today. We are looking now at the National Audit Office investigation into equipment cannibalisation in the Royal Navy, which the NAO has looked at because of other work it has done on MOD equipment. Cannibalisation is when part of an old boat, ship or piece of equipment is moved to replace something in a new piece of equipment because that is the best way of supplying it in time. It may be in an emergency, but one of the reasons the NAO looked at this is that increasingly and too often it is not in an emergency and there is perhaps not an understanding of the full cost of taking an old bit of kit out and replacing it. I will not go through the detail now, but in some cases it is costing millions of pounds just to do the shift of one piece of equipment to another. It is an interesting issue that we want to question our witnesses on. We have Sir Simon Bollom, who is the Chief of Materiel for ships at Defence Equipment and Support, and Stephen Lovegrove, for the third time this afternoon, who is the permanent secretary. It is a great job you have there, Mr Lovegrove—I don't know if you ever get to run your Department in the middle. We then have Colin Evans, who is the finance director of the Royal Navy. You are not in uniform, though, so you are a civilian.

Colin Evans: Indeed I am.

Q1 **Chair:** Do you have financial qualifications?

Colin Evans: I am CIMA qualified.

Chair: Okay. We like to ask that question. It is something we used to take for granted. We are also delighted to welcome Rear Admiral Richard Stokes, who is the assistant Chief of Naval Staff (Support). Welcome to you all. I am going to ask Gareth Snell to kick off.



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Q2 Gareth Snell: I am going to pick up a question that Sir Geoffrey asked before he left about the stern seal that was on the Queen Elizabeth carrier, which relates to the Report in front of us about equipment availability. Did the contractor have a spare stern seal available for that particular vessel when it was made aware that that particular vessel had a default or problem?

Sir Simon Bollom: No. In that particular case, a new seal has had to be manufactured as a replacement.

Q3 Gareth Snell: What is the timeframe for that?

Sir Simon Bollom: The plan is that the QE will sail at the end of this month.

Q4 Gareth Snell: I am sure it will, but what was the timeframe between realising there was a fault with that seal and that you would need a new one and then having that new seal in place? You were very fortunate that this issue was identified at a sea trial, but obviously seals could go at any point. What is the contingency for future potential seal defaults that need to be fixed when she is operational and out at sea?

Sir Simon Bollom: On your first point, this fault was realised when it was on sea trials. It was the sort of fault that could be comfortably carried safely, in the judgment of the ship's captain and of our senior engineering staff, so there was no particular panic in terms of aborting the sea trials. She was due into Portsmouth and duly arrived. We managed to get the planning in place before that event, and as we speak, they are addressing the problem with a view to getting the carrier out for first-class flight trials towards the end of this month and into next month.

Q5 Chair: Did you have to manufacture the new seal?

Sir Simon Bollom: Yes. It is two abutting plates, and one of them was found to have some surface wear on it, so they have had to manufacture a new one, and it will be replaced.

Q6 Gareth Snell: For the third time, how much time did it take to manufacture that new plate?

Sir Simon Bollom: I don't know how long it took.

Gareth Snell: That was the answer to the question we started off with.

Sir Simon Bollom: I beg your pardon.

Q7 Gareth Snell: Sir Simon, did it not bother or worry you, that there was no slack in the system at all? Should this problem have happened when you were doing flight trials or even, heaven forbid, when the ship was operational, you would have had to take her out of operational service, potentially undermining the entire carrier fleet.

Sir Simon Bollom: I would re-emphasise that this is the sort of defect that can be carried quite comfortably, although I am an airman by background and—

Q8 Gareth Snell: It would have to be fixed at some point, though, wouldn't it?

Sir Simon Bollom: Yes, but as I said, this was the sort of fault that could be carried on the boat.

Chair: She was not going to sink as a result! Even as an airman, you did—

Sir Simon Bollom: It did not interfere with the trials programme. It was a case of looking at when the next most convenient opportunity was to rectify it, which is what



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the ship is going through right now. The important point is that it has not impinged on the trials programme.

Gareth Snell: Which is good.

Q9 **Chair:** The trial picked it up, which is what the trial was supposed to do?

Sir Simon Bollom: Exactly.

Q10 **Gareth Snell:** I was going to start with you, Mr Lovegrove. Given the financial constraint that your Department finds itself under and the various other financial constraints that the services find themselves under, can the Royal Navy really afford to meet its future support and obligations? Does it have the necessary budget to do that?

Stephen Lovegrove: You are, of course, right to say that defence has a financial challenge across the piece. On occasion, the financial challenge manifests itself in the Navy in a more sharp way than it does in some of the other services, because of the size of its platforms. It is a little more difficult to dial up or to dial down the Navy, because of, as I said, the size of the platforms.

Q11 **Chair:** You mean the big ships?

Stephen Lovegrove: Yes. We have recognised that over the last couple of years. We have made reprioritisation decisions in year. Effectively, we have given more money to the Navy from other parts of the defence budget in order to allow the Navy to continue with its tasks. I don't rule out having to do that again. I would say first, though, that that is a very normal process in any Defence Ministry—you are constantly reprioritising—and secondly, the Navy has completed on, and will continue to complete on, all its standing tasks and everything that has been asked of it. Under what the military would call taut circumstances, the continual management of resources, people and activity has meant that the Navy has continued to deliver on its objectives, so I am not troubled that the Navy does not have the money to perform its tasks.

Q12 **Gareth Snell:** When the Department is doing its prioritisations about what it can spend and where it can spend—obviously, I completely understand that there needs to be prioritisation, and you have to deprioritise some things to do that. In terms of the longer-term plan, when you are deprioritising spending, what sort of process do you go through to check that whatever you are deprioritising is not going to have a consequential impact somewhere else on funding? When you are talking about the particular spending arrangements, what is the Department doing to strike the correct balance between buying new equipment and putting in the necessary support packages around existing equipment to give it a longer life in service?

Stephen Lovegrove: I will answer that question slightly in reverse, if I may. The British military, in comparison with any of the other European militaries, spend considerably more money on equipment and on logistical and operational support compared with personnel. As a proportion of the defence budget, we spend less on personnel and more on equipment and getting equipment into theatre than any other military. That means that we are capable of deploying, and do deploy, much more often than other militaries. I believe that our balance of those three things—equipment, people and support, very generally defined—is appropriate and allows us the greatest possible range of action.

In terms of what kind of process we go through when we are making those decisions, they obviously start with political priorities—where Ministers and the Government would



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like us to be active—and they are then taken, principally, to the military advisers and military staff within the Department, who come up with plans as to what is required to be able to fulfil that demand signal. That is then costed, and if there are lower-priority activities or bits of kit that need to be either paused or cancelled, that is what will happen. That is broadly the process through which we go, and that process has been built up over—I was going to say decades—probably hundreds of years.

- Q13 Gareth Snell:** Rear Admiral, are you comfortable with the split between the money that is being spent on the procurement of new equipment and the money that is being spent on supporting existing equipment?

Rear Admiral Richard Stokes: Out of the Navy's £5.6 billion budget this year, £1.8 billion is going on support of ships, submarines, helicopters and the infrastructure necessary to support our operations.

- Q14 Chair:** How much of that is parts? You say "support". Does that include parts and maintenance?

Rear Admiral Richard Stokes: That includes spares—it includes parts. It is about a third of the budget. Although, as the man responsible for support, it would be very easy for me to say I would like to have more of the acquisition budget, in the long run that would be cutting off the future in order to protect today. It is a balance. I have been involved in this game and doing these balance-of-investment decisions for quite a long time. Within Navy command we have individuals—colleagues of mine—who are responsible for ships, for submarines and for helicopters, and they have the authority to trade between new equipment acquisition and support for in-service equipment in order to support the delivery of the operational requirement in both the short term and the medium term. The balance is about right and, more importantly, we have the process right, with the right authorities, to allow us to discharge our responsibility.

- Q15 Gareth Snell:** The NAO Report, in paragraph 3.13, says: "To remain within its budget, the Navy has reduced its maritime support budget by 6% (£271 million) in-year in the past two years. Of these reductions, an estimated £92 million could increase the need to cannibalise parts." Rear Admiral, do you think that is a sustainable strategy for the way in which the Royal Navy now meets its budgetary targets?

Rear Admiral Richard Stokes: The Navy has taken some resource out of the support element of its budget. That is part of wider in-year pressures. We have managed to remain within our budget. Those savings were managed through a rigorous prioritisation process. A very modest amount of that is likely to be against the procurement of spares. Some of it will be against the refit programme—the upkeep programme—and other elements of the infrastructure that we use to support our ships and submarines. It was a method we went through to live within our means, but I do not think the consequence will be a disproportionate impact on the availability of our platforms.

- Q16 Chair:** You talk about the freedom to make decisions about how to do things. The NAO's investigation threw up something that a lot of people were not aware of. There was a lack of awareness about the cost of cannibalisation—not just the cost of physical parts but the cost of doing it. Perhaps Mr Evans can explain. Did anyone put any quantification on that? Did you, at the centre, begin to notice this? Was the NAO investigation a surprise to you, or were you aware that there was money being spent that was not really being properly accounted for?



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Colin Evans: First of all, we absolutely encouraged the Report, and it has shone a light on a really important area for us. I reiterate, though, that decisions are made by the operational commander.

Q17 **Chair:** Does the operational commander know what it costs?

Colin Evans: He or she will make a decision based on operational need. In 71% of cases, they are very low-level decisions that have minimal impact. Where we need to improve—and we will—is on high-value items. We have reiterated—we are doing a refresh of the policy at the moment—that the operational commander needs to record the wider cost implications and, if they are significant, to escalate them to a senior responsible officer or the two-star budget holder. That has been a helpful nudge for us, in terms of reiterating that in our system.

Q18 **Chair:** How junior do you go before you expect people really to watch—when you say “escalate” it?

Colin Evans: I would expect cost-consciousness at every single level. The operational commander, depending on the platform, and Richard will be able to give you an illustration, could be a very junior level in that respect.

Q19 **Chair:** Very junior? What sort of salary level or level in the system? What does junior mean?

Rear Admiral Richard Stokes: The vast majority of the cannibalisations that take place are low-value items: 71% of them are under £5,000. The consequential cost of the move is very small. The really big numbers and the really big consequential cost, as the Report identified, is in the consequences to the build programme, particularly of submarines. There are two figures—

Q20 **Chair:** That’s not very junior people then.

Rear Admiral Richard Stokes: No. That is a very senior decision. My other observation on those particular figures—the £40 million and the £4.9 million—is that in all cases those costs are associated with the delay to the build. That had been finalised in only one of those cases, because as the submarines are still being constructed there is still time to play out and there are still opportunities for some of that time to impact.

Q21 **Chair:** So really, it was a very knowing decision by very senior people, who were very aware of what the costs—

Rear Admiral Richard Stokes: A very conscious decision. There are three separate cases. In all three of those cases the components were taken out of the build line to put on submarines that were either high priority to go to operations—one case—or for submarines that were in upkeep—two cases. They were nuclear deterrent submarines—Vanguard-class submarines—in upkeep in Devonport, so their priority to retain continuous at sea deterrents was higher. In two of the cases, we expected the replacement part to be supplied in a timeline that was not going to delay that programme. We have gone back into these and looked at them in a lot of detail, and in all cases we would not have expected to carry the spare on the shelf. It was the right decision not to carry the spare on the shelf.

Q22 **Chair:** Because it would be too costly—

Rear Admiral Richard Stokes: It was too costly: one of the spares was almost £10 million. We would not have expected to carry the spare, and at the time that we made the decision we did not expect there to be a consequential delay. It is a consequence of



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a delay in the supply chain by a couple of years; it is that action that has caused the consequential cost growth.

Stephen Lovegrove: Stepping back, as the accounting officer, I do not want to see a cannibalisation level of zero.

Q23 **Chair:** I think we get the point from the splitting of the small. It is a screw, isn't it? It is not going to cost very much. But the bigger kit—

Stephen Lovegrove: In order to carry all of the spares in stock it would cost us another £920 million of capital that would be tied up, which does not make sense. It is question of where it makes sense and where it makes less sense.

Q24 **Gareth Snell:** One of the figures that the NAO put in its Report is that 34% of part demands are past their required delivery date with no forecasted date for delivery. While I absolutely accept that you do not want there to be a replica part for every part of every ship, submarine and boat, presumably you do want to have good timing so that you are not cannibalising a part and then seeing the replacement part at an unending time in the future. That is because, as the Rear Admiral rightly points out, that then leads to a delay in the build time that causes a huge cost on the programme. I do not want to ask you to give me a percentage, because I know that permanent secretaries do not like giving numbers out, but what would be an appropriate level of cannibalisation that would be in line with a policy that the Department would be happy with and, from an operational perspective, Rear Admiral, on that is not going to cause you delayed build times that mean you incur costs and we have an issue with the operational levels of our fleet?

Stephen Lovegrove: I am not uncomfortable with the level of cannibalisation across the piece that we have at the moment. I should say that that it is an extremely helpful Report, which has, as Mr Evans said, shone a very helpful light on some of the ways in which we go around managing our maintenance schedules and our stores. I just want to put that on record. I would like the teams to concentrate more on the parts that are repeatedly cannibalised, because that would indicate that we are getting something not quite right in that area, and we could probably make a significant difference to the availability of our platforms if we were to have more spare parts on the shelf. I would like the teams to concentrate on that area. I believe that those are predominantly in the newer, more complex platforms—the Astute submarines and the Type 45s.

Rear Admiral Richard Stokes: Of the cannibalisations that are reported here, 44% are against the Astute class and the Type 45. It is worth us reflecting over the five-year period. At the start of that five-year period, we had three Type 45s operating and one Astute. We only had about a year to a year and a half of experience of the Astute. Over the last five years, we have gained so much experience, which has taught us a lot about what components are likely to fail. The Type 45 had 80% new equipment when it was built. We did not build the prototype. One of many reasons why Type 45 is not as good as it should be is that newness of equipment. Through a combination of greater investment in that platform and better understanding of the platform, we are now starting to see—we expect to see—a reduction in the store robs that are needed.

Q25 **Chair:** Are there lessons there for what spares requirements you might need, particularly for new equipment? Do you have a plan?

Rear Admiral Richard Stokes: The lesson for me has been in QEC. In the Queen Elizabeth class there were 20,000 new items, of which we have already codified 96%, and 70% of the spares are already on the shelf—we expect to have at least 95% by the



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end of this year. We really learned the lessons of Type 45 and Astute and put them in place.

Chair: So you have got them on the shelf? Have you have worked out some algorithms for the ones you will need to replace often?

Sir Simon Bollom: There is a certain amount of alchemy in this, because you have built this equipment, it is new equipment, and you have no performance data on which to base it, so you are very much running on manufacturers' recommendations and then your data on like equipment. When you do an initial provision, you need to be very careful, because if you are extremely comprehensive, you may find that you have bought spares that you never use. This is an iterative process. As Admiral Stokes has pointed out, one has to spot where you get repeat store rob events and make sure that you take urgent provisioning action.

Chair: It is like stock control, as in the retail sector?

Sir Simon Bollom: Yes, it is an iterative process.

Q26 **Chair:** Did you have it so badly wrong before and are you getting it better now?

Sir Simon Bollom: I would not say we had it badly wrong before—this is me reflecting on the issue that I am now dealing with. I think that now we have put in better controls. There is a similar point to that, which Nick Elliott raised earlier, in terms of upskilling the commercial function. We have been upskilling our logistics function as well. We have put more people into it and we are more active in working with the frontline command in identifying those trends and addressing them. The National Audit Office raised a good point: where we have repeat robs, we should have been treating them earlier. Of those repeat robs, we now have 64% on the shelf or ordered.

Q27 **Gareth Snell:** If I may, I will extend the analogy of stock control in the retail sector. If you are cannibalising parts—if we accept the majority are coming in the Astute class and the Type 45s, which is what the NAO Report says—there will be times when there are boats and ships that are not able to be used, because they have parts removed for the purposes of cannibalisation. In the retail sector, you have a rush of people come and buy your goods and you have cleared your stock room—you just sell out. If you have a surge capability requirement or there is an emergency that requires you to be able to put those particular units to operational use in a very short turnaround time, what is the contingency plan to achieve that? What is your relationship with manufacturers and providers to get that equipment quickly, so that we can get those vessels out to sea where we need them?

Rear Admiral Richard Stokes: When a decision is made to store rob, it is done with full consideration of the consequences for the donor platform. You would not normally choose to rob from a donor platform that is only at a very small lower readiness below the platform you are trying to get operational. Generally it is one quite a long way down the readiness profile. Are we in a situation where we have platforms that we would want to put to sea but cannot, simply because we have store robbed components from them? No. That is not a position we get ourselves into.

Q28 **Chair:** How many times have the Astute submarines or the Type 45s been unusable or unavailable due to a lack of spare parts? Do you know? If you do not know now, you can write to us. Is it often? Give us a ballpark, if you can. Has it ever happened?



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Rear Admiral Richard Stokes: I am not aware that we have ever had a Type 45 or Astute not available because we have store robbed a component from it to support a higher-priority platform.

Q29 **Chair:** And the same with the Astute submarines?

Rear Admiral Richard Stokes: Yes. That is correct.

Q30 **Chair:** So you are saying to us categorically that it hasn't? Or you are not sure that you are categorical? To be clear and confirm for the record—

Rear Admiral Richard Stokes: I am not aware that that has happened.

Q31 **Chair:** You are not aware that there has been a time when the British Navy has not been able to send either a Type 45 or an Astute submarine out on deployment?

Rear Admiral Richard Stokes: That we had planned to send on operations, because we had store robbed a component from it?

Gareth Snell: It is good to know, in some ways, that we have not had a crisis yet. Given, though, that cannibalisation is up by about 50% across the fleet, is it now essentially the policy of the Royal Navy to prefer cannibalisation over backfilling supplies of parts that might be needed? Is it now official policy to prefer cannibalisation? If not, what are you doing to bring that level of cannibalisation down?

Rear Admiral Richard Stokes: Cannibalisation is not an excuse not to backfill. Cannibalisation or store robbing is a valid method for protecting the programme of the highest-priority operating units. We always have to backfill behind them. There is not a policy saying that we will use store robs more. There is not a policy that we will use store robs for any purpose other than protecting the operational programme of the highest-priority units. Indeed, the policy, the drive, the intent and the investment at the moment are in making sure that the store system and supply chain meets more of the stores demands by the required-by date so that we do not have to store rob so much.

Q32 **Gareth Snell:** Given that cannibalisation is up by 49%, clearly the policy of backfilling and keeping a ready supply, even if it is judged to be unnecessary, is not working.

Rear Admiral Richard Stokes: We have to go back to the reason why the cannibalisation percentage is up. As we discussed earlier, it is because the introduction of Type 45 and Astute into service and their support solutions have not been as good as we had hoped. We have learned a lot from that. I would expect the proportion of cannibalisation in those two classes to fall over time, which will then drive the average down.

Q33 **Gareth Snell:** I do enjoy it when somebody says they expect something to happen over a time period. I will now ask you: by how much, and by when?

Rear Admiral Richard Stokes: I cannot answer that, other than to say that Navy Command has invested £8 million in Astute-class submarine parts this year and is investing to drive down the level of stores non-availability for these two classes.

Stephen Lovegrove: It is an absolutely standard profile with complex machinery that the likelihood of failure looks like a bathtub over time. It is quite high at the beginning and it is quite high at the end, as the platform reaches the end of its life, and there is a long period in the middle where it is just jogging along and everyone knows how to work it, before the components start to fail toward the end of its life. Admiral Stokes is



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right: we have two very complex platforms in the Astutes and the Type 45s. They are at that part of the bathtub rather than the other part.

Sir Simon Bollom: If I may, I will try to address that and provide some confidence that we are going in the right direction. After recognising that this was an issue, we put in place jointly with Navy command a maritime supply chain improvement programme, which we wanted to bear down on deliveries that were beyond the required delivery date. The stats show that we had 6% of improvements in year 1, which was '15-'16, 6% in year 2, which was '16-'17, and 9% to date in this financial year. We have been addressing items that have not been catalogued, that have not had contracts, that have not had prices, and that have not had required delivery dates. The stats show that we are gradually improving, so the whole supply situation is improving.

In terms of store robbing, there is another factor. When you are an operational commander, the last thing you want to do is store rob because it diverts people. There is also a risk that when you remove the item, it turns out to be unserviceable. There is a real incentive on the frontline command not to store rob unless it is absolutely necessary.

Q34 **Gareth Snell:** I accept what you are saying about the preference for store robbing not being there, but irrespective of the preference and of the fact that it is a complex platform, the level of cannibalisation has increased. Mr Lovegrove, you said earlier that you were happy with the current level of cannibalisation. At what point would you not be happy?

Stephen Lovegrove: I am not troubled that we are at 0.4%. In certain areas, I would be very happy for it to be higher. In certain areas, I would prefer it to be lower. It is an impossible question to answer, I am afraid, in a globalised way. I repeat what I said before: the Report has shone a light on an immensely useful area, particularly where we have cannibalisation happening with great frequency on the same item. I have asked the team to look at that as a matter of urgency so that we can get a better handle on that and ensure that that situation does not happen more than is absolutely necessary, particularly for our most critical platforms. I am sorry that that is a not entirely straightforward answer to a straightforward question, but it is difficult to give one.

Q35 **Gareth Snell:** That is fine—I appreciate that this is a complex area. One of the ways to reduce cannibalisation is to have a rolling programme of planned maintenance, so can I ask you, Rear Admiral and Sir Simon, is the increasing level of cannibalisation an indication of a problem with the rolling maintenance programme? Why does it appear to be so difficult to plan what maintenance ships and boats might need that we have to resort to store robbing for some parts?

Sir Simon Bollom: My perspective—Richard is obviously in the delivery arm of this—is that there is room for improvement in our planning. In terms of our upkeeps, which are the quite intrusive maintenance works that are done from time to time on all our capital ships, you are absolutely right. If we do a really thorough piece of planning at the front end, you can offset the risk of not having the stores there on time. That is one of the focuses of our improvement programme at the moment—making sure that those surveys are done and that the spares are ordered in a timely manner, so that they are ready for the maintenance.

Q36 **Gareth Snell:** Going back to the earlier points about the fact that there are a number of orders, and sometimes there is no guarantee delivery date because of contractors, how dependent are you on the contractors to deliver in good time to meet that



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planned maintenance programme, and how are you working with them to achieve that?

Sir Simon Bollom: That is about identifying the need, and making sure that you have a contractual vehicle in place, that the spares have a price against them, and that you have negotiated a delivery date. That is all part of that supply chain improvement programme that we are trying to put together—or rather, that we have had in place for the last two years.

Rear Admiral Richard Stokes: I just want to echo what Sir Simon said. The maritime supply chain improvement programme has been going for two and a half years, and just since March, since the report was done, it has delivered that 9% improvement in the availability of spares by their first delivery date through these three things. First, improving the contract cover for all the spares. Secondly, better planning for maintenance periods, which was something that we had to better—we are now forcing all the project teams to do a two-year look ahead for every single maintenance period and all the spares that are required, to make sure that we get the spares on the shelf. Thirdly, working with the supply chain to make sure that they deliver to those times.

Stephen Lovegrove: There are many interesting things about this subject, but one new area is beginning to emerge. Our chief scientific adviser is an expert in autonomous systems, and he is initiating a project at the moment working off some of his experiences with the extractive industries, using big data and data analytics which could—revolutionise always sounds like an odd word coming out of a permanent secretary's mouth—certainly radically improve the way in which maintenance is done, because the element of predictive maintenance, against the background of an enormous amount of data, could very seriously improve this process. It is new emerging information technology that I cannot pretend to understand fully, but it is certainly quite—

Chair: You're filling us with excitement that we will be looking at this in a few years' time. Maybe across Government it is time that it is looked at.

Q37 **Nigel Mills:** I am sensing that the conclusion to this is that it is pretty much fine and we are not too worried about it. Is that a fair summary of the session so far?

Stephen Lovegrove: I am not worried about the overall picture. There are aspects of the picture where we can definitely improve, and we must improve.

Q38 **Nigel Mills:** Rear Admiral, is there any impact on staffing and on their morale in this situation? Is that something that you worry about?

Rear Admiral Richard Stokes: When we commissioned the report I really thought that that was an issue. I think the report has helped in showing us that the scale of repeat major equipment cannibalisations is not as great as I thought it was.

Q39 **Chair:** Can we be clear, because I don't think you commissioned the NAO Report. The Comptroller and Auditor General cannot be commissioned by just anybody—unless you're talking about a different report. So when the NAO decided to investigate you were really pleased?

Sir Amyas Morse: We will take that as read.

Rear Admiral Richard Stokes: I was looking for evidence that supported that. What it and the evidence that I have from talking to maintainers on our ships and submarines has shown me, is that, with a few exceptions, as we have discussed,



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particularly in Type 45 and in Astute, the level of cannibalisation is tolerable from their perspective.

- Q40 **Nigel Mills:** So when paragraph 2.13 of the Report comments that “the need to take parts from other vessels on a regular basis was demotivating and seen by personnel as indicative of an under-resourced organisation”, you do not agree with that?

Rear Admiral Richard Stokes: I think there are occasions when that happens, but I think it is occasional, particularly in those two classes of platforms. It is not endemic across the rest of the naval service.

- Q41 **Nigel Mills:** So you think that there is some evidence of that, but it is not widespread?

Rear Admiral Richard Stokes: Yes.

- Q42 **Nigel Mills:** It is interesting, Mr Lovegrove, because your Department signed off a written answer to a parliamentary question in November, presumably shortly after you agreed this report in which you said the opposite—that there was no evidence that this was having a demoralising effect on personnel.

Stephen Lovegrove: Well, I—

Chair: Which is true, Mr Lovegrove?

Stephen Lovegrove: I suspect the difference may be in the precise instances that the Admiral has talked about and an overall picture.

- Q43 **Chair:** Civil service drafting. You signed off this report. Do you agree that this is not great for personnel?

Stephen Lovegrove: Do I think that cannibalisation has the ability to be distracting and demotivating? Of course I do. Do I believe that the evidence is that that is a systemic factor at the moment in the Royal Navy? No, I do not believe that is the case.

- Q44 **Nigel Mills:** But there is some evidence that it is.

Stephen Lovegrove: I defer to colleagues who are actually in the service on that, but if they say that there are isolated instances when this may occur, that is obviously regrettable, but if it is not a systemic—

- Q45 **Chair:** If you are working with a Type 45 or an Astute-class submarine, where it is endemic, you are presumably pretty fed up with the cannibalisation.

Rear Admiral Richard Stokes: It is not systemic and it is not endemic. I don't think they are words that I would use.

Chair: But it has been particularly problematic with those two.

Rear Admiral Richard Stokes: It has been more problematic, so there will be a small number of individuals on some of the platforms who have borne the brunt of this on an occasional basis.

- Q46 **Gareth Snell:** Given that we have accepted and understood that the Type 45s and the Astute-class are the two areas where cannibalisation is most prevalent, when something goes wrong on a Type 45 or an Astute-class submarine, what do you routinely do to go and check that component on other Type 45s or Astute-class submarines to make sure there is not a second cannibalisation problem in another ship or boat waiting to happen? Anyone?

Stephen Lovegrove: I am afraid I cannot answer that question.



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Rear Admiral Richard Stokes: This goes back to how the system works. The reason we cannibalise is that a spare is not available by the required delivery date. We have a rigorous system to prioritise spares purchase and to put in place the right contracts—

Q47 **Gareth Snell:** Let me rephrase the question, because I fear we are going to get sidetracked. If a problem becomes apparent in a Type 45 or an Astute-class submarine, you have to cannibalise a part to fix it. Given that we know that most cannibalisation is taking place because of Type 45s or Astute-class submarines, if something goes wrong on one of those ships, do you then go and check that part on all the other ships so that you can order the part and do not have to resort to cannibalisation if that same part goes wrong on a different vessel?

Rear Admiral Richard Stokes: If a part fails that we were not expecting to fail, we have a standard process called an S2022 process to report that defect, and that is fed straight back to the equipment authority responsible for that equipment and sometimes to the supplier responsible for it, to take action. Very often that will be to increase the spares holding. Sometimes it might be to change a design. There is an established process in place.

Q48 **Stephen Morgan:** My question is for Mr Lovegrove. I am interested in comparisons across the services. I am keen to understand how the rate of cannibalisation in the Navy compares with other frontline commands such as the Army and the Air Force?

Stephen Lovegrove: Cannibalisation does happen in all of the services. I am afraid I don't have the precise details to hand. It would be interesting to know, in the absence of an NAO Report into those two other services, whether we could answer that with the level of precision that I suspect you would like. My guess—I defer particularly to Sir Simon—is that there is quite a lot of cannibalisation in the Air Force and rather less in the Army, but Sir Simon can tell me I am wrong. I may well be.

Chair: I remind you that Mr Morgan represents Portsmouth South, so he has a particular interest in one of the forces.

Sir Simon Bollom: My background is 35 years in the Air Force, and cannibalisation was one of those things we had to do. The dynamics were exactly the same as described in the maritime sector. It is a sensible way of constraining your buy of spares, and having spares on the shelf.

I come back to the earlier point. In terms of monitoring store robs, and this is the same in the Air Force, there is a strategic class authority in this case. Their job is to monitor emerging trends. Part of the power of this Report is that it has highlighted to us that in some areas it is not a one-off but systemic, and we need to take some provisioning action. Exactly the same happens in the air sector as well. And it does with civilian operators.

Q49 **Chair:** So you cannot give a comparison—

Sir Simon Bollom: I don't think we have got any numbers.

Chair: It's just that Mr Morgan is probably interested in knowing whether the Navy has been short-changed.

Q50 **Stephen Morgan:** Is there anything you can provide to us in written evidence following this hearing that might give us a bit more information, or not?

Stephen Lovegrove: We should do absolutely everything that we can to do that, but I would also say that we need to take some of the lessons that have very helpfully emerged from this NAO Report, particularly on the maritime sector, to make sure that



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we are applying the same level of rigour to the others, the land and the air domains, as well. As I say, this has been an extremely helpful exercise, but it is probably not the end of the story. We will certainly write to you with what we—

Chair: Write to us. We are not saying, “Do the first-base research. Go back and count every screw that has been moved”, but if you could give us a ballpark, that would be very helpful as we finalise our report.

Q51 **Stephen Morgan:** I would like to move on and, reading through the Report, to probe you a bit more about costs. It is important to understand, given the increasing trend of cannibalisation, why do we not know how much an average cannibalisation costs?

Colin Evans: We know the cost of the spares, and that was itemised in the Report—so 71% below £5,000—but what we are currently not doing is recording that cost implication much more widely. We have committed to do that for the high-value spares. There isn’t an average and, if I am honest, I don’t think that average would help in terms of decision making.

Q52 **Stephen Morgan:** Given that 71% of cannibalised parts are valued at less than £5,000, as you just said, how can cannibalisation be the best investment decision given the attendant disruption?

Colin Evans: I refer you back to the conversation we have had with both Admiral Richard and Sir Simon. Absolutely, there is a judgment to make between how much stores we hold and how much we tolerate the amount of cannibalisation. As the permanent secretary said, we have estimated that we would spend another £920 million putting a spare on the shelf for every eventuality. That just doesn’t make economic sense.

Q53 **Chair:** This is really looking at the trends and making sure that you are not carrying unnecessary spare parts, but that where there is a spare part that breaks regularly you have got plenty of stock—stock control.

Colin Evans: Absolutely. It is.

Q54 **Chair:** In fact, a few years ago this Committee looked at this in theatre and found that there were a lot of stores that were so badly organised that it was cheaper and easier for the command to order it from the UK to be shipped out, rather than to find it. Is there a wider lesson here, Mr Lovegrove, in terms of parts and equipment?

Stephen Lovegrove: I go back to my previous observation about our chief scientific adviser. I think that there are lots of areas in Defence where our understanding of our management information and our data is not what I would like it to be. This is absolutely, paradigmatically one of them. The analysis of what will probably be very rich streams of data could bear very large amounts of fruit in this area, and that is something that we need to spend a lot of time on.

Q55 **Stephen Morgan:** I would like to move on to managing the challenges ahead. As the Government look to expand the Royal Navy, I would like to understand what impact the future efficiency savings will have on the ability to support the vessels of the Royal Navy. That is a question for you, Mr Lovegrove.

Stephen Lovegrove: A number of Defence tasks are clearly derived from the National Security Council and from the Government’s defence and security priorities. Pretty much all of them require the involvement of each of the three services and many of them require the involvement of the civilians within Defence as well, quite apart from the security agencies and so on. My job is to make sure the appropriate balance of



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resources, personnel, money, equipment and quality development is capable of satisfying the policy objectives put forward by the National Security Council. If the Navy has to take a particularly disproportionate share of some of those objectives, we will make sure it is resourced to do so. It will always be a balancing act, and we will always be driven by the outputs that we are required to deliver by the Government.

Q56 Stephen Morgan: Mr Evans, from your perspective, is support funding growing in line with the aspirations for the Royal Navy?

Colin Evans: I will answer that in two parts. Looking back, as Admiral Richard said, we are spending £1.8 billion a year on support. Looking forward, there are some exciting opportunities coming up. For example, we have just put in the common support model, which is driving efficiency. We also have a future maritime support services contract, so the re-let of the naval base is coming up in two years' time. That is absolutely an opportunity to work with industry and to be far more innovative and efficient in the way we run the two naval bases. Looking forward, I think there are some opportunities to improve support, notwithstanding the fact that we have the Type 26s, the carriers and the Type 31s. It is an exciting time in that respect.

Q57 Stephen Morgan: Given the unpredictability of support needs for new ships and submarines, how can we be sure that the budgets for planned support will be adequate in the future, and that we have got enough contingency in place?

Colin Evans: Indeed. Right from day one, when a ship is being designed—Type 31 is a really good illustration—we design in a support solution. That is really important for us in that respect. We expect that the Type 31 support solution should be more effective and cost-effective than the Type 23, which it is replacing. That is important. I will pause there so you can repeat the question.

Q58 Stephen Morgan: I want to know that the budget for planned support will be adequate in the future and that you have got enough contingency in place.

Colin Evans: Forgive me. I am confident that, going forward, right at the beginning of a project, we will have a cost envelope. What is good about the delegated model and the fact that the First Sea Lord has the ability to flex across the budget is that he can, as we mature our finding, flex money in and out of support and make sure he has got the correct amount of money. That happens on an annual budget cycle and always will. There will always be fluidity to that budget in that respect as we bring on new platforms.

Q59 Chair: That was set a while ago, but there is a big set of demands now on the defence budget, and the headroom is disappearing. When I first joined this Committee in 2011, there were real challenges in the MOD. They have been partly resolved by passing some of the decisions down to command level, but are you getting enough money in the Navy to really provide enough of a fleet to deliver the maritime defence capability of this country?

Colin Evans: A great question, Chair.

Chair: This is your chance, Mr Evans, to bid for some more money. The permanent secretary is sitting right next to you.

Colin Evans: Indeed. From my perspective, those events have to happen. I have to go through those events. The First Sea Lord, the Navy Board and I have to see that the common support model is delivered. We have to have the outcome of the negotiations that Simon will lead on a naval basis. Then I am in a position to be very clear about



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what finances the Royal Navy needs. That is why we have an annual budget cycle and the ability to nudge and negotiate with the centre.

Q60 **Chair:** And, of course, you work very closely with the Royal Marines. Presumably you are not responsible for the Royal Marines' budget.

Colin Evans: I am.

Q61 **Chair:** You are. So that is under you?

Colin Evans: The Commandant General is.

Q62 **Chair:** We had a lot of concern in the previous hearing we did about Carrier Strike and amphibious support. Do you think that there is enough funding to maintain the Royal Marines and their amphibious support to make sure the future capability of the Navy is not compromised?

Colin Evans: I have ample opportunity to demonstrate to the centre—the Treasury—and beyond the money that the Navy requires, and to secure and negotiate that position. Absolutely.

Chair: Very diplomatic. Are you tempted to come in, Mr Snell?

Q63 **Gareth Snell:** That's not really an answer, is it, Mr Evans?

Colin Evans: I tried, though.

Gareth Snell: The Chair is being generous.

Chair: I am. It's the time of day, I think.

Q64 **Gareth Snell:** The question was, is there enough money in the budget to maintain the amphibious force as it is?

Colin Evans: Forgive me. There are so many "depends" in that.

Q65 **Chair:** Or have you made a decision to axe it?

Colin Evans: Clearly not my decision. As it currently stands, in both the manpower budget and the support budget we have the ability to support the Royal Marines.

Gareth Snell: That is a step closer, but it is still not quite there.

Q66 **Chair:** Within the envelope, you have the Queen Elizabeth-class ships, which I am sure Mr Morgan will want to talk about since they are based in Portsmouth. The Queen Elizabeth-class carriers are absorbing a huge amount of naval resource. We won't go back through our previous hearing on this, but they require an awful lot of support to be deployed and they absorb a large chunk of naval time. From your point of view of having to look at the money, I can see that there may be areas you have to reduce in order to maintain what is now a physical commitment that has been built and is in Portsmouth harbour.

Colin Evans: Absolutely. There are always investment and de-investment decisions that happen across the entire portfolio, both at defence level and in Navy command. That is absolutely how it should be. As ships come up to their out-of-service dates, we go through an option process about the best way to replace that capability.

Q67 **Chair:** But the point is that once you are tied into a ship the size of the Queen Elizabeth-class carriers, you are physically tied to that big bit of kit. Isn't it much



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easier to dispense with a few Royal Marines and a few of their amphibious aircraft? They are cheaper and easier to get rid of, to put it provocatively. I speak as the sister of a former Royal Marine—perhaps I should declare my interest.

Colin Evans: At the moment, we have the budget to absorb, take on and deliver the carrier programme as well as our other capabilities. That is absolutely true.

Chair: Okay. We will hold you to that—I am sure Mr Morgan is about to.

Q68 **Stephen Morgan:** Obviously I represent the constituency that is the home of the Royal Navy and the new carriers. I want you to guarantee that you will not cannibalise the Prince of Wales during its production in order to support the Queen Elizabeth. Can you guarantee that, Mr Lovegrove?

Chair: I should say that these are ships—it sounds a bit odd otherwise.

Stephen Lovegrove: Clearly I defer to colleagues who are closer to this, but I would not rule out the chance that there are certain bits of equipment on the Prince of Wales that may find themselves being repurposed for use on the Queen Elizabeth. I think that that would potentially be a perfectly reasonable thing to do if it did not compromise the operational schedules of either ship. I defer to the professionals in this area and the operational professionals at the time, but if it meant one ship being able to stay out, and if it did not affect the deployment pattern of the ship at the dock, then why wouldn't you? That would be my feeling.

Sir Simon Bollom: I have nothing to add.

Chair: Well, there you go. You can go back to the people of Portsmouth, Mr Morgan, and see what they say.

Q69 **Gareth Snell:** If you cannibalise a part of the Prince of Wales aircraft carrier to maintain the longevity of the Queen Elizabeth aircraft carrier, what is the contingency in the budget for replicating the piece you have taken off? Presumably these are bespoke pieces, like the panel on the stern seal, and you do not have a warehouse full of these things. There must be a budget somewhere to replace that part.

Sir Simon Bollom: There is. We have a spares budget, and—

Q70 **Gareth Snell:** For the carriers? Obviously there are several Type 45s and several Astute-class submarines, but only two carriers. If you take a piece off one and put it on the other, you do not have anything else to cannibalise from, so you have to buy new, don't you?

Sir Simon Bollom: Or you put it back into the repair loop, get that piece fixed and put it back on the ship you removed it from.

Q71 **Gareth Snell:** That still comes at a cost.

Sir Simon Bollom: Yes, indeed, and we have a budget for that.

Q72 **Gareth Snell:** Specifically for the carriers? Or is it part of something wider?

Sir Simon Bollom: It is aggregated into something called the common support model. There is a contribution from the carrier programme into that suite of contracts.

Q73 **Chair:** Will the common support model save money?

Sir Simon Bollom: It already has.



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Q74 **Chair:** Can you tell us much? I should know this, probably.

Sir Simon Bollom: Over seven years, it is £140 million.

Q75 **Chair:** Do you think that trajectory will continue?

Sir Simon Bollom: It is absolutely my intent that it should. There is still efficiency to go at, and we have to do that.

Q76 **Chair:** How much more in efficiencies do you think you can achieve?

Sir Simon Bollom: I wouldn't want to be drawn on that one.

Chair: Ah, you're not going to commit. Well, we will call you back at some point in the future to see how much better you have done. As we always say, every pound saved in one area—defence, in this case—is another pound to spend, on defence of the realm or on something else if the Government so decides. It is important that we all remember that it is taxpayers' money.

Thank you very much indeed for your time, gentlemen. It is interesting that it is still all gentlemen, but there we go—some things have moved on, but not the Public Accounts Committee today, sadly. The transcript of all this will be up on the website in the next couple of days. It will be uncorrected—Mr Lovegrove, I am sure your beady-eyed civil servants will be looking at it to make sure that you have not misspoken. We will produce our Report in the next couple of months, probably, and obviously we will give you a draft copy. If there is anything you have said that you wish to correct or that you are not sure about, please get that to us as soon as possible, because we will be discussing the content of our Report very shortly.