Tuesday, 27th July 2010

(10.00 am)

LIEUTENANT GENERAL SIR ROBERT FULTON KBE

LIEUTENANT GENERAL ANDREW FIGGURES CB CBE

SIR JOHN CHILCOT: Good morning.

LT GEN ADREW FIGGURES: Morning.

LT GEN SIR ROBERT FULTON: Morning.

SIR JOHN CHILCOT: Good morning, everyone. In today's session this morning we have two witnesses, Lieutenant General Sir Robert Fulton and Lieutenant General Andrew Figgures.

General Fulton, you were DCDS for Equipment Capability in the Ministry of Defence from August 2003 to 2006.

LT GEN SIR ROBERT FULTON: I think June 2003.

SIR JOHN CHILCOT: General Figgures, you were DCDS for Equipment Capability in succession to General Fulton I think.

LT GEN ADREW FIGGURES: Yes.

SIR JOHN CHILCOT: Of course you appeared before the Inquiry in relation to a quite different appointment when you were SBMR in Iraq from 2003 to 2004.

LT GEN ADREW FIGGURES: Yes.

SIR JOHN CHILCOT: For the information for those present and for the record this afternoon we will be hearing from

Dr Hans Blix, the former United Nations Weapons Inspector and head of UNMOVIC.

I say on each occasion we recognise witnesses give evidence based on their recollection of events and we check what we hear against the papers to which we have access and which we are still receiving. I remind each witness on each occasion they will later be asked to sign a transcript of the evidence to the effect that the evidence given is truthful, fair and accurate.

With those preliminaries out of the way can I start the questioning about the role of DCDS(Equipment Capability).

We have taken evidence from Sir Jock Stirrup, your predecessor, General Fulton, I think, about his time as DCDS(EC) and he described his role as essentially two-fold. Construction of the MoD's ten-year equipment programme and the financial planning that supports it and, second, the construction of UORs or urgent operational requirements when there is an Iraq-type operation going on.

Is that broadly a description of your responsibilities at the time you were DCDS(EC)?

LT GEN SIR ROBERT FULTON: Yes. I think it is a rather bald description.

SIR JOHN CHILCOT: Would you like to elaborate?

LT GEN SIR ROBERT FULTON: Yes, I think I would, because I think also it was designed to be the customer, or to represent the customer, customer one in the jargon of the day, but to be the central customer for the Capital Equipment Programme. So not the totality of equipment in the field. Therefore as the customer, to own the requirement to the extent that you have done the balancing between competing requirements and also, in the context of constructing the ten-year equipment plan, understanding what money was available to meet that requirement and then to balance it out.

I think it is a balance and we might perhaps come later to what those balances are, because clearly there is not a single requirement. There are many competing requirements, and if I were to describe in rather more colloquial terms what the job is, it is actually balancing out the competition, what I would describe as a finite budget, infinite demand and a changing world.

SIR JOHN CHILCOT: Yes. Thank you. General Figgures, do you agree with that?

LT GEN ADREW FIGGURES: I would agree with that and with the advent of the Defence Acquisition Change Programme and through Life Capability Management the responsibility developed to take into account the support for equipment in-service and the oversight of the defence lines of

development, the people, the training and so on, such that they all could be integrated to deliver a capability to the front line.

Just one point of detail there. The first four years of the programme of the equipment support were the responsibility of the front line command. So we had to work very closely with them in order to ensure that it was integrated.

SIR JOHN CHILCOT: Thank you. That's helpful. I have a couple of other questions on the same point, but just as a lead into those, the title of the post you both held is now simply Capability. The word "equipment" has dropped out. Is that significant or is it simply a reflection of a reality that was present in your time when you were in post, both of you?

LT GEN SIR ROBERT FULTON: I think there was before my time, when Smart Acquisition first generated this post, a discussion about whether the post should be called Equipment and Capability.

SIR JOHN CHILCOT: Yes.

LT GEN SIR ROBERT FULTON: And the ampersand was dropped because I think it was felt at the time that Equipment and Capability represented a totality that they were not prepared to give to that post, because clearly the Chiefs of Staff, for example, had responsibility for

capability within their services, and therefore I inherited the notion of equipment capability, bounding it to capital equipment and owning the requirement for that, but I think it then moved on.

LT GEN ADREW FIGGURES: So it became capability in my time. That was not to usurp the position of the Chiefs of Staff. They had to deliver, but we had to create the conditions by which they could deliver such that the changes in the defence plan would enable them to do that.

SIR JOHN CHILCOT: Thinking about the training aspect of some new piece of equipment or equipment programme, does that fall within the capability sphere then, or indeed now? I take it part of training will be in the field, in the operational theatre or in the training thing, but does capability have to embrace the training aspect of forming a new or a different capability?

LT GEN SIR ROBERT FULTON: Then not. I mean in terms of formal responsibility for delivering it the delivering capability was rightly with the single services. However, there is a point at which a piece of -- a new piece of equipment is delivered into service, and it is part of the introduction into service in which the equipment capability customer played a key role to ensure that, once again in the jargon, the lines of

development had all been brought together. That is the training, the support, the doctrine and all the other things that would turn a piece of hardware into a capability.

So it was a question of understanding that all these things which were being delivered by different people were brought together at the moment it was brought into service.

SIR JOHN CHILCOT: Thanks. I have one perhaps rather general question, but I would be interested in what you want to say. We heard from General Sir Kevin O'Donoghue on the procurement side that in terms of acquisition they would only act once a requirement was placed on them by the equipment capability side as the customer, but we had a somewhat more nuanced account from Sir Peter Spencer, who said really there is an active feedback all the time between procurement and equipment capability. What's your own sense of it?

LT GEN SIR ROBERT FULTON: I think I would go for the nuanced, unhesitatingly. Once again I have to go back to the -- because I, as it were, came into the job fairly soon after this idea was established, and one of the principles of it was the engagement of industry at the earliest possible moment. Clearly the link with the Defence Procurement Agency, as it then was, is

absolutely fundamental, because you don't want a customer, whether the frontline commands or us, devilling around in industry without the DPA being involved as the interface.

So there are a number of players. The equipment customer, of course, the frontline commands, the DLO as then was, who would inherit and look after it, industry and the DPA, and the idea of capability working groups was to bring all of those people together, so that actually there would be -- nobody would go off in auto, because otherwise you would get yourself into a real muddle.

SIR JOHN CHILCOT: Thank you. I think, General Figgures, you have seen this from both ends, haven't you?

LT GEN ADREW FIGGURES: I have had that pleasure, yes.

SIR JOHN CHILCOT: Anything to add to that experience?

LT GEN ADREW FIGGURES: I would subscribe to the nuanced view, and I am sure in my workings with General Kevin we actually operated that way. My point would be that, yes, there is a capability requirement, but can you finance it? Is there a means of supply? If there is a means of supply, is there a commercial construct in which that supply can be delivered? Do you have the science and technology base to enable the supply to deliver it and maintain it through life?

So there is quite a complex discussion about this generation of a solution which requires those particular perspectives to be looked at and the customer, or the capability area, does not have sole knowledge on that matter. It is very much dependent upon the Defence Equipment and Support and the science and technology community, plus industry, to provide a solution.

SIR JOHN CHILCOT: Thank you. That's helpful. I would like to turn to the interaction between the equipment programme and defence policy in a broad sense. Starting with the SDR of 98, as we understand it, that SDR said that the armed forces should be prepared or should prepare for, among other things, expeditionary warfare. I wonder what this meant in terms of equipment and additional capabilities, because Jock Stirrup told us that the armed forces still had a fair way to go to be ready for expeditionary warfare. This is 2002 he is speaking about.

You, General Fulton, took over in 2003, in August 2003. Was there a steady rate of progress towards greater capability for expeditionary warfare or did the Iraq operation simply put a hold on it in terms of further development?

LT GEN SIR ROBERT FULTON: I don't think either. My take on it would be that we went to Iraq with our Cold War

capability, that there simply was not time between 1998 and 2002 to re-orientate a Capital Equipment Programme that stretched for 20 years. The tanks, the armoured personnel carriers, the aircraft, the ships that went to Iraq in March 2003 were those that existed in 1997, give or take. I mean, the programme was rolling on, but one or two extra capabilities were delivered in the meantime.

What the SDR asked us to do in a nutshell was to make the armed forces flexible, deployable and sustainable. So that was what we were -- that is what people set out to do in 1998 and going on. Then, of course, 2001 and the new chapter added, I think it would be fair to say, the concept of precision strike and a greater emphasis on that, and so that simply added a question, but I think in terms of, for example, strategic enablers, we were still some way short of being flexible, deployable, sustainable. I think in terms of understanding -- well, I think we probably understood what it meant to shift from, if you like, playing our matches at home and occasionally going away to playing all our matches away. Strategic enablers, strategic communications, the sort of ISTAR we would need, the sort of interaction with allies that was not based on the north German plane, etc, etc. So I think

we were a long way from having the expeditionary capability that was foreseen in 1998.

SIR JOHN CHILCOT: Looking at what was needed to fulfil completely the SDR 1998 requirement plus the new chapter, there were several bits of experience before the Iraq invasion, weren't there? There was exercise Saif Sareea. There was what we had done in Afghanistan. We deployed 3 Commando I think in 2002.

Did these themselves generate either lessons for application through Telic or indeed for future policy towards expeditionary warfare capability?

LT GEN SIR ROBERT FULTON: I think you have heard the effect of Saif Sareea, which was fortuitously a very good -- preparation would be the wrong word, because that wasn't its purpose, but in terms of understanding the requirement for, for example, sand filters, the effect of the environment, the effect of taking a capability abroad and launching it into that sort of -- at that sort of range from the United Kingdom. So yes, I think we learned a lot and yes, I think it would have been much harder if we had not had the experience of Saif Sareea.

SIR JOHN CHILCOT: I have one question about the defence planning assumptions, because we have had a lot of evidence, and it is not contentious, that the defence

planning assumptions out of SDR 98 had to be breached because of Iraq and then Afghanistan, but do the planning assumptions form part of the baseline from which the capability needs are assessed or are they something quite different?

LT GEN SIR ROBERT FULTON: Yes. I mean, in the sense that trying to get MoD approval to spend money on something that falls outside the defence planning assumptions is difficult.

SIR JOHN CHILCOT: Even when one is operating outside the defence planning assumptions?

LT GEN ADREW FIGGURES: Well, you have to get yourself up to the planning assumptions in order to springboard into operating without them.

SIR JOHN CHILCOT: Yes.

LT GEN ADREW FIGGURES: We I think had a very rigorous and I understand the Treasury considered it rigorous audit process, whereby we audited our defence capability against the requirement through a series of scenarios, and every planning round we would assess the priority against the gaps and that would provide the basis for the future capability requirements, which would then form the basis of the planning cycle.

SIR JOHN CHILCOT: I don't know whether it is possible to ask for more clarity and definition as between, on the

one hand, issues of time, how soon you can generate an extra capability, if you are looking at expeditionary warfare in hot climate or high altitude, on the one hand, and money for things not yet in the programme which you can see a need for but need to get it in, because there is a sort of crossover graph, isn't there, between time and money?

LT GEN SIR ROBERT FULTON: Yes. I don't think I can -- I know that I can't put, as it were, a years -- I can't calibrate it, but certainly if something is going to come into the programme something has to go out. A very high proportion of the budget, particularly in the early years, is committed in the sense that it is on contract, and therefore with costs associated with breaking contracts. So, therefore, if you want to bring something in, it is going to have a -- well, it cannot avoid shifting something, and therefore you have to be quite sure. Of course, there is always the temptation to raid the uncommitted, and we might come on to the effect that that has, because the uncommitted will tend to be at the early stages of projects with the consequent effect there.

SIR JOHN CHILCOT: Of pushing forward the time horizon for that --

LT GEN SIR ROBERT FULTON: Either pushing forward the time

horizon -- well, you increase the risk. You either increase the capability risk because you have pushed back the capability or you have increased the technical risk because you have not done the de-risking at the early stage of the programme which was one of the requirements or one of the -- you know, one of the requirements of Smart Acquisition.

SIR JOHN CHILCOT: Do you want to add to that?

LT GEN ADREW FIGGURES: Well, I suppose some evidence on how did this work in practice. I said we had this rigorous capability audit process. In, for instance, the planning round of 07, which was the first one I took part in, we had a list of shortfalls and they ranged from secure information exchange, interoperability with coalition partners, night vision equipment for ground manoeuvre units, and helicopters, organic battlegroup ISTAR, and so on. I could go on. We had a whole list of those. We managed to get air platform survivability and we managed to get those into the core programme, some of them into the core programme.

For instance, we were able to improve the defensive aid suites on Merlin Mark III.

SIR JOHN CHILCOT: Can you slow down a bit?

LT GEN ADREW FIGGURES: This is meat and drink to me. We improved the defensive aid suites on Merlin Mark III.

We extended the life of the CVR(T) operational fleet, so that's part of battlefield ISTAR. We upgraded secure speech. So there was a relationship between that. This was done, as General Fulton has said, on the basis of how we could free up money and where we could free it up, in which years, and when it was sensible to bring these particular capabilities into play.

Meanwhile there was the ability to call upon the Treasury to fund urgent operational requirements. So we would have to demonstrate that we couldn't pull money forward, we didn't have it in the programme, it was a capability that we might not reasonably expected to have foreseen and then we could go to the Treasury and make the case.

SIR JOHN CHILCOT: We will do some more work on UORs through this morning I think, but just closing up my set of questions, General Fulton, you have already said, in effect: we went into the Iraq operation, into Telic, with Cold War equipment on top of which or at the back of which we added things to make it suitable for that particular requirement.

Now Cold War stuff is for high intensity operations. Once the actual invasion stage is past and you are into phase 4, you are either into peacekeeping or counterinsurgency. That generated a lot of UORs we

understand, but was it, as it were, a successful balance, given the reality, to be able to build a set of UORs on top of an essentially Cold War high intensity equipment programme and capability? From your expression it doesn't sound as though it felt like that.

LT GEN ADREW FIGGURES: It is what you mean by successful.

LT GEN SIR ROBERT FULTON: Yes.

LT GEN ADREW FIGGURES: The fact of the matter is if I could turn to a clean sheet of paper and sketch it out, and I do recall asking someone this question, if we had a clean sheet of paper what would we actually have, rather than the legacy and how would we build on it? It was an interesting academic question but it didn't really have much application to the realities of life. So we had to build on the legacy.

I think one could be critical about the speed with which we did that, because you could always -- there is always the perception you can do these things faster, but again it is this balance between requirement and supply. Can you get sufficient money at the right place? Do you have enough people to develop the requirement in order that you can make the case for the money?

So there are a lot of things that have to be done to build upon that legacy piece, but I think you could say

the first part of TELIC was hugely successful, and then we were faced with a developing threat and I think we could ask ourselves: did we anticipate that threat appropriately? I would confess to being surprised at the rate that it did develop.

SIR JOHN CHILCOT: "It" being the threat?

LT GEN ADREW FIGGURES: The threat, yes.

LT GEN SIR ROBERT FULTON: Yes. I think I was just going to say my expression that you commented on wasn't based on doubting success, but that actually, as General Figgures has said, we were almost dealing with two -- although it has been conflated into a single operation, actually we were engaged in a sprint followed by a marathon. We were engaged in a sprint to March whatever it was with a set of UORs and a set of activities and an approach to UORs that actually had its roots in the Falklands, Kosovo, Gulf War I; in other words, things that had a start and a finish and that was it. Then over the course of sort of May 2003 forward we were actually dealing with a -- whether we knew we were starting on a marathon at that stage or whether we were still sprinting and then we found we actually needed to change to a different pace, and I don't mean a pace in terms of our intensity in delivering, but this whole point, which I am sure we will come on to, about how long is the UOR

going to stay in service?

I don't think anybody in December 2002, working on UORs, envisaged that they would be anything other than something that was brought in and would be used for the duration of the operation and would then go out of service.

So the thing sort of developed -- yes, the thing developed on from there, which was why I was slightly frowning about your point about success. As General Figgures has said, the definition of success changed as we went forward.

SIR JOHN CHILCOT: I think, as you suggested, this will come out in the course of the morning. One last point and then I will ask Baroness Prashar to pick up the questions. It is about the agility with which we responded to the change from sprint to marathon and different kinds of commitment in Iraq, particularly in the south-east. Two years of moderately, I will not say gentle peacekeeping but nonetheless it was not high intensity in another sense of that term, and then 2005/6 it becomes quite different, and the response to that, the speed of response in the equipment sense, capability sense I suppose.

LT GEN SIR ROBERT FULTON: My sense is that yes, things were changing and it was apparent that things were changing

and that our approach to them developed, and I think that we with hindsight could we have foreseen that the enemy would react to what we were doing in the way that they did? As General Figgures has said, we may have been surprised at the speed with which they transitioned through what might call an insurgent capability, the speed with which they adopted techniques, but, of course, Sir Lawrence will know that history is a reaction of offence and defence and every time we introduced a defensive measure, then the enemy would find another way to counter it and so we found the counter to the counter and so life went on. That's what it felt like here.

SIR JOHN CHILCOT: I think Baroness Prashar is going to enquire into how rapidly and how cleverly we did that.

BARONESS PRASHAR: I mean, there are two areas I want to cover. One is the affordability of the equipment programme and the agility of. Because Jock Stirrup told us when he took over the job you did, he felt that some of the areas such as strategic mobility and information superiority were not getting sufficient funding within the resources available to the equipment programme.

We have also heard from a number of witnesses, not least from the Treasury, that all spending departments like the MoD would always want more resources.

During your period in office did you have sufficient resources available to fund to the extent you wanted to those items in the programme which were relevant to the current Operations in Iraq? I will start with you first and then I will come back to you.

LT GEN SIR ROBERT FULTON: Well, I think you have to start that question in 1998. I mean, if you want a simple answer to the question, "Was the SDR funded?", the answer in my view in my area is no. It was not possible to do -- it was not possible in the time -- I mean, of course did I not know that Iraq was coming, but it was not possible in the time that I saw it from the time I was first engaged in the equipment area to be able to turn a Cold War-equipped military into a flexible, deployable, sustainable military within the life of the equipment plan. Not least because a lot of the equipment plan contained within it what has become fashionable to call legacy equipment, but equipment that was already there, you know. Astute nuclear submarines, Typhoon and a number of other major programmes, which now -- they were running on.

So no is my short answer. There was not sufficient money to do everything that we wanted to do, and therefore we were left with, as it were, an equipment capability that existed within but did not fill the

defence planning requirement.

BARONESS PRASHAR: Okay. Thank you. How about you?

LT GEN ADREW FIGGURES: You used the expression "you wanted to".

BARONESS PRASHAR: Indeed.

LT GEN ADREW FIGGURES: And I wouldn't have had the job unless I had wanted to meet the requirement. To my mind, looking at it from my particular position, there was insufficient money. Of course, I read the newspapers. I understand the nation can only afford so much, so it is a question of: do we make the case for that particular slice of the national wealth to be devoted to this particular capability? So every waking day I would get up and think about how I could get more money, because someone had to make a judgment, and so I appreciate, as a citizen, that a balance had to be struck, but as a soldier on the defence staff, no, there was insufficient money.

BARONESS PRASHAR: But what are the areas of capability that you were not able to invest in to the extent that you wanted?

LT GEN ADREW FIGGURES: Well, I mean, I could go back to my list, but I think strategic deployment. We talked about expeditionary operations. Yes, we had a considerable uplift. We had certainly uplifted our amphibious

capability but, in terms of strategic lift, we had acquired heavy lift, we were going to acquire the A400M as a medium lift. We had acquired more C-130s. We went through a process both in General Fulton's time and my time of buying further C-17. We equipped them with defensive aid suites. We wanted to put a suppressant foam in the wings of the A400M and so on. We found the money for that. So all strategic deployment required more money than I think we had originally estimated.

I think you could go back to the original planners of SDR and say: did they anticipate a scenario whereby you would have to land heavy transport aircraft in the face of ground to air missiles, surface to air missiles? Possibly they didn't, but you can't anticipate everything and we had to react to that change.

We talked about the expeditionary campaign infrastructure. We had had experience of that in Kosovo, but then we were deploying lots of people and when we developed that initially, did we anticipate that we would have to counter indirect fire? So we had this huge programme in Basra of protecting the base both passively and also with counter indirect fire capability.

ISTAR. Did we anticipate the requirement we would need provide coverage of areas as big as southern Iraq

or as big as Afghanistan? No, we didn't and therefore we had to develop that.

So we had a view possibly in 1998/1999, but, as we discussed, the threat, the nature, the operational context changed and we had to anticipate, or where we had not anticipated, react to it, which required considerable sums of money, and I think that has all been exposed over time.

BARONESS PRASHAR: You have been talking mainly about transport and aircraft.

LT GEN ADREW FIGGURES: But force protection, force protection for ground platforms, force protection for air platforms. About 50% of the money we have spent on UORs has been for force protection for ground platforms, ground manoeuvre.

BARONESS PRASHAR: We are talking about the equipment capability UORs.

LT GEN ADREW FIGGURES: About 50% of the UORs have been spent on force protection of ground manoeuvre capability.

BARONESS PRASHAR: What action did you take to try to ensure such funding went into these areas?

LT GEN ADREW FIGGURES: Well, we had a capability audit. We had the information that came from theatre. We struck a balance between what we could do now, what we could do

in the future, and in the equipment programme we had to strike this balance between the short, medium and long-term. I mean, you can't stop building a submarine once you have set out to build it. Once you have set out to build a class of submarines, you have to build the class, otherwise the sunk cost when you scrap the programme is just money wasted.

So you have this long-term programme, you might say the skeleton, which has to be sustained, but you have to also on the margin work out where you can not spend money and support the operation and, where you do not have sufficient money to support the operation, you then have to go to the Treasury and make the case. We were given considerable sums of money over the period of time that I filled my appointment to make that case. Whether it was helicopters or protective mobility, defensive aid suites, all of those where we made the case were funded, but it was -- they were very rigorous in their scrutiny of the case we put forward, and you could as a taxpayer say, well, yes, they should be. As a soldier it was hard work producing the evidence to get past that scrutiny.

BARONESS PRASHAR: Anything you want to add, General Fulton?

LT GEN SIR ROBERT FULTON: No, I don't think so. I think we found ourselves constantly pushing to try to get to what

the policy had asked to us do, which is to create this expeditionary capability. I think we constantly -- then the new chapter which followed 9/11 emphasised this point about what in the jargon of the day was knowledge superiority, in other words, knowing about -- if we knew more, then wouldn't we be better able to either pre-empt it or deal with it? So we wanted to put money into that and I think Air Chief Marshal Stirrup mentioned that. So we were constantly trying reflect policy without derailing the skeleton of the equipment programme and adding extra cost -- the extra cost or the extra risk that would stem from it.

BARONESS PRASHAR: So you are saying that you were actually putting money into areas -- because of policy reasons into areas which were not directly relevant for operations in Iraq?

LT GEN SIR ROBERT FULTON: Sorry. Could you repeat the question?

BARONESS PRASHAR: You were putting money into those areas because of the policy that had been agreed, but they were not necessarily relevant to what was needed in Iraq?

LT GEN SIR ROBERT FULTON: Well, Iraq had not happened then.

BARONESS PRASHAR: I am talking about your time in --

LT GEN SIR ROBERT FULTON: Oh, sorry. No, no. I think the

balance between -- the balance between current operations -- sorry. I misunderstood your point about timing. No. It was important to provide the capability that we needed for Iraq and General Figgures has described the process by which we had to try to find the money ourselves and if we couldn't find the money then we went to the Treasury for UORs once Iraq had started.

SIR JOHN CHILCOT: But at the same time the skeleton, as you describe it, the main long-term equipment programme, itself has to be adapted to changing policy needs not necessarily at all relevant to a current operation.

LT GEN SIR ROBERT FULTON: And that comes back to General Figgures' point about short, medium and long, and, of course, you know, if you rob tomorrow to pay for today, there will be no tomorrow. So that's a balance, but clearly the importance attached to current operations was paramount then and is paramount today.

SIR JOHN CHILCOT: Right.

BARONESS PRASHAR: Can I move on to the issue of re-prioritisation, because Treasury witnesses have stressed the virtues of re-prioritising to fund the demands for Iraq and Sir Peter Spencer, whom we saw yesterday, told us that there was not an issue with funding of UORs because, he said, and I quote:

"The project team would have told the sponsor how

much it would cost and if they had the money, we went ahead with it. If they didn't, presumably they re-prioritised. I mean, money was not inexhaustible and in any operation there is going to be more ideas than there is going to be money to fund it."

Did you ever reach the limits of re-prioritisation within your existing funds?

LT GEN ADREW FIGGURES: Within the -- I mean, there are two tracks here, and I may be guilty of repeating myself, but within the programme, the equipment programme, there was a limit to how much you could re-prioritise, because we had committed a significant portion to the skeleton. So it was really: were we able to delay a particular programme or descope it? That had implications which again one could come on to of: it does drive cost into the programme later on. So it is another variation of the point that General Fulton made about paying for today by robbing tomorrow.

BARONESS PRASHAR: Uh-huh.

LT GEN ADREW FIGGURES: When it came to the urgent operational requirements, if we could identify the requirement, justify it, have a reasonable idea of what it might cost, deliver it in an acceptable time-frame, then the Treasury would give us the money for it, and we got into a position whereby we were asked could we

estimate what the requirement might be for the next year, and we did that as best we could. Why was that? Because I suspect they needed to manage their cash and so on. It's a perfectly reasonable thing to anticipate.

If we had exceeded our estimate, and I suppose an example would have been later on in 2007/8 the protecting mobility package, they again as a special measure funded that.

So it was a question of making the case, some tough negotiation and then providing the defence equipment and support with the wherewithal to go off and meet the requirement. I wouldn't want you to think it was easy.

BARONESS PRASHAR: No. I wanted to come on to what were the barriers to reorganising priorities?

LT GEN ADREW FIGGURES: Well, the flexibility in the programme, and I suppose an example is -- well, astute is a good example of which we have both had experience. Could you descope the requirement for the astute submarine? There is not a lot of requirement for submarines in Iraq and Afghanistan. Therefore there is a sensible place to go to look to see if there is some scope for re-prioritisation.

For instance, we looked at removing some of the ability to develop the astute capability whilst in service, so there were various things we could do which

would enable us to develop that capability when it was in service, but that would cost money up front, and we removed some of that money which we used to do some of the things that I rather hastily described earlier.

There is a limit to how much you can do there, and I think it has been suggested that various programmes were cancelled. Well, it goes back to you have to be pretty confident you are not going to need those in future and, secondly, how much freedom of action do you have to cancel them? There is a contractual, commercial piece to it, and are you going to soak up more money doing that than you are going to release?

BARONESS PRASHAR: Anything you wish to add?

LT GEN SIR ROBERT FULTON: No.

BARONESS PRASHAR: That brings me to the whole question of the agility of the equipment programme because it has been described as an old tanker that doesn't turn very easily.

I mean, how often was the equipment programme revised to reflect the development of the Iraq campaign?

LT GEN SIR ROBERT FULTON: Every year. I mean, in the programme --

BARONESS PRASHAR: This is something you did automatically every year?

LT GEN SIR ROBERT FULTON: Yes. So there is annual cycle of

re-costing the programme and then, because as we -- going right back to the beginning, the requirement laid on us is to produce an affordable plan and therefore the Treasury want to see an affordable defence programme every year.

So, therefore, we had to balance the books every year. Part of that is -- in addition to UORs part of that is also: what are the new requirements that we are trying to get into the programme, into the core programme, and therefore what are the savings measures that we are going to run? We had a process whereby we identified what the new requirements were, not just for Iraq, but the totality of new requirements, a priority order for them, and then we would we would balance them against the savings measures that would be required. Then we produced a batting order.

In other words, is saving X more or less painful than enhancement A? So we would produce for the defence board every year a prioritised list of, "Add this in, take this out". Then the defence board can decide where they want to take it. So that's in a sense the construction of the core programme.

Meanwhile whilst that big wheel is turning there are 101 little wheels going on which are trying identify -- trying respond to new requirements that come up and: can

we do that? Can we do that quickly? Those would be the urgent operational requirements that are going on in the meantime. Of course in addition to that in-year you can make adjustments but then you have to bring the books back into balance at the end of the year.

BARONESS PRASHAR: But does this annual review mean you were just kind of dealing with the issues in the margins or was this in the light of the Iraqi operation needing some radical restructuring.

LT GEN SIR ROBERT FULTON: Well, did Iraq produce radical restructuring? No, I think for the reasons we have already identified the radical restructuring -- I mean, I can't remember what proportion -- at the start of each year what proportion of the equipment programme was, as it were, contractually committed, but, I mean, it is very high. It is about of the order of sort of 70 per cent, 75 per cent, I would think, and therefore if you say, "Are you therefore playing around with the 30 per cent in the margin," to a certain extent, yes. You know, you have to understand the implications of messing around with the 70 per cent, but you do want to have a look at the totality, not least because during the course of the year that 70 per cent, if 70 it is, will actually have changed either through inflation or because, know, the fact remains that a lot of our, what

I would call the problem children, when re-costed came out at a different cost to that at which they were costed the year before because of risks that had emerged or whatever it may be. It was pretty rare for those costs to go down.

LT GEN ADREW FIGGURES: Yes. I think -- if I may, the first time I set round this cycle the defence board started it with an away day in October. This was 2006. It was quite clear what the priority was. You know, I refer to my notes at the, time that our principal effort in the immediate term, in conjunction with other government departments and the international community is to support Her Majesty's Government in achieving strategic success in Iraq and Afghanistan in the wider context of the global counterterrorism campaign.

Elegantly phrased and so on but it was clear what we had to do. Then we went into the business of what we were going to do about it. From my notes things such as force protection, support helicopters, ISTAR all come out. That's what we have to do and produce proposals for it.

BARONESS PRASHAR: We will come back later, but there are a couple of other questions I want to just ask before I finish.

Why did the Public Accounts Committee question the

balance of investment of MoD's equipment programme and does the lack of agility explain why a large volume of UORs were used?

LT GEN ADREW FIGGURES: If I can return to the question of agility. In the equipment programme say, for instance, we were going to spend 6 billion a year, something of that order, there was something called an adjustment. It is unlikely that you spend 6 billion on the things that you plan to spend it on because you come -- you encounter technical difficulties. For instance, back to our friend astute, which has been well covered by the Public Accounts Committee, the computer-aided design and manufacturing system did not deliver the design such that the manufacture could be delivered to the time-frame we anticipated. So we did not spend the money we had programmed to do that year.

So we add what in the trade is called over-programming. So 6 billion, but let's add 10 per cent to that, because there will be some slippage in the programme.

Well, of course, with the -- yes, it could be attributed to the changes in Smart Acquisition, smart procurement, but actually we got better and industry got better at delivery. So we did not have the slippage, and we had to find a way of taking that 10 per cent out.

So before you could re-prioritise you had to remove this 10 per cent block adjustment.

If you were cynical, you could say we were not particularly disciplined in living to the financial envelope we had been given, and rather than making those difficult decisions, we programmed extra things in for that block adjustment. But there are two ways of looking at that.

BARONESS PRASHAR: Why did the Public Accounts Committee actually question the balance?

LT GEN ADREW FIGGURES: I don't know, because I was not there and I didn't listen to -- I had not heard that piece of it. I mean, I think it is perfectly reasonable to question the balance of investment. It is a respectable question to ask, but there is also a respectable answer. You can't change a balance of investment if you signed up to doing various things without incurring financial penalties which outweigh the benefit you might have of investing the money you freed up.

I mean, we have -- in our personal lives -- had experience of committing to something which in retrospect perhaps we regretted doing but we can't get out of that particular contract.

BARONESS PRASHAR: One final question from me. We will be

talking about Lord Drayson's role later, but elsewhere what role have ministers played in pressing for quicker solutions to operation equipment shortages?

LT GEN SIR ROBERT FULTON: Well, I think they played their part to the full. Certainly the ministers of defence procurement for whom I worked were fully engaged in pushing for delivery. So I would have no qualms on that score.

LT GEN ADREW FIGGURES: I would agree. I think they were hard taskmasters actually. I had to -- and the other members of the team, that's Kevin O'Donoghue, Peter Spencer and so on, we all had to work very hard to persuade them that we were actually doing everything that could possibly be done to deliver the requirement. Lord Drayson was a very good example on defensive aid suites. He said the problem had to be addressed. I think within the space of a week we had to come up with a plan. We had to report on it at a two-weekly basis. He was pretty unforgiving if we didn't make the progress we said we were going to do.

BARONESS PRASHAR: We will come back to that, but I am talking about other ministers.

LT GEN ADREW FIGGURES: All of them were ruthless in pursuing it. I mean, it was hard work satisfying their requirements, but quite rightly they were doing the job.

They were energetic in pursuing these outcomes.

SIR JOHN CHILCOT: Lawrence, over to you.

SIR LAWRENCE FREEDMAN: Just a few brief questions relating to something that has already been mentioned, which is the vivid account you gave, General Fulton, about the measures and countermeasures in the sense of an arms race.

Now during the Cold War, a keen sense of an arms race and we had a technical intelligence capability that would be trying to anticipate the developing threat so we could plan against it.

Do you have the same sort of capability in relationship to the sort of threat that we have been facing in Iraq, and how does that feed through into the equipment programme?

LT GEN SIR ROBERT FULTON: I would have said my sense is that Northern Ireland is a better model than the Cold War in the sense that during the time when -- well, I think once again I would come back actually -- sorry, if I may retrace my steps, I think I would come back to my point about there were two operations in Iraq in the sense that we wanted to know what we were going to face when we were confronting the Iraqi army, and I think that defence intelligence capability gave us a pretty good idea of what that would be like, but I think the

point of your question is the development thereafter, and that's my point about Northern Ireland, because we were dealing with an insurgency, we were dealing with an insurgency that in a sense held the initiative in the sense of being able to attack us at a time and place of their choosing, and they -- we had developed during our time in Northern Ireland, as people are well aware, a capability for countering improvised explosive devices and the ways in which they were initiated, and we had also developed tactics, techniques and procedures for dealing with them. Northern Ireland had proceeded on the basis of a combination of the two. My sense is that by and large with the contribution of defence intelligence, the defence science and technology laboratories and our own people we were attempting to pre-empt in the sense of knowing what the enemy was capable of doing. If your question then is from that were we able to know what the enemy was going to do, then I think no. Very often it was -- the first time that a new attack was initiated against us in a particular way was the first instance that we knew that's what we needed to produce the counter for.

SIR LAWRENCE FREEDMAN: We will look into IEDs in a bit more detail later. I suppose the reason I mentioned the Cold War is the question of whether there is a contrast

between something that moves rather slowly along very defined lines and a rather fast developing insurgency where you may be forced into a more reactive posture. The question is really: does the difficulties with intelligence put you in a more reactive posture in these sort of settings?

LT GEN SIR ROBERT FULTON: My sense is that it almost has to in the sense that, as I say, you may know the range of things that the enemy are capable, or are likely to be capable of doing, because of, as it were, there is a span of commercial technology available or there is technology available from elsewhere in the world, but which ones they are going to pick up on and which ones they are going to use in order to counter whatever it is you are doing, because, of course, they will watch what you are doing, they will look for where -- if our operating patterns offer them an opportunity, and they will try that, and we will then develop a counter to it. That's my point about it then has -- so it is action and reaction on both our parts all the way through, would be my sense.

LT GEN ADREW FIGGURES: Yes, and I think we have taken the lessons of Northern Ireland. I can recall visiting teams embedded in the Headquarters at Basra Airport who carried out the scientific and operational analysis of

the attacks, were constantly in contact with the defence science and technology laboratory. Work was done back in the UK to replicate these threats and what possible counters might be to them.

Going back to the point these developed very quickly, and the nature of their development, particularly the size of the explosive devices used, meant that to be able to just counter it with passive protection was only a partial solution. One had to think further ahead than that and start getting up the opposition supply chain and preventing them, disrupt them from actually being able to deliver these devices from which they could be used.

SIR LAWRENCE FREEDMAN: I think we will talk about specific instances.

Just a final question. Were you confident that the intelligence side had the resources to do what they needed to do and were you satisfied with the interaction with the intelligence side and the defence science labs and so on to make sure that the best possible threat assessments were being given to you within the capabilities programme?

LT GEN SIR ROBERT FULTON: Yes, I think so. I never had cause to doubt that. Whether there were sufficient resources on the ground in Iraq I have no way of

knowing, but in terms of the conduit and the process by which it came to us and was incorporated into the planning by the Directors of Equipment Capability, I never had any cause for concern.

LT GEN ADREW FIGGURES: I agree.

SIR JOHN CHILCOT: Continuing on my theme, I will ask Sir Martin Gilbert.

SIR MARTIN GILBERT: If I could follow up on that, could you perhaps tell us in broad terms how you received information about the equipment capability available to forces in Iraq and in particular how you received news of their concerns about it, if they had them?

LT GEN SIR ROBERT FULTON: The Directors of Equipment Capability, who in the main were one-star brigadiers or equivalent in the other services kept in close touch with the frontline commands, the Permanent Joint Headquarters, with theatre itself, and, of course, in many cases came directly from one of those places anyway, because one of the important constructs of the equipment capability area was that the customer should be of and from and going back to the front line rather than being acquisition or procurement professionals or engineers.

So -- and, of course, it was not just the Directors, but also down through their staffs were people who had

come from the field, from command, from one of the frontline commands, from the Permanent Joint Headquarters, and therefore not only were they getting it formally but also informally as well.

SIR MARTIN GILBERT: Would you have seen things like end of tour reports, Board of Inquiry reports?

LT GEN SIR ROBERT FULTON: They would have done, yes. I didn't read each one personally but they certainly did.

SIR MARTIN GILBERT: How did you judge the urgency of responding to the needs that were identified?

LT GEN SIR ROBERT FULTON: The Permanent Joint Headquarters was the filter for requirements coming back from theatre. Clearly they didn't do it in isolation, because the frontline commands were also gathering together, but Permanent Joint Headquarters was the prioritisation centre, if you like, and clearly they were in daily discussion not only with us but also with the -- also with the chiefs so that the Chief of Joint Operations was briefing the Chief of Defence Staff and the Chiefs of Staff.

SIR MARTIN GILBERT: If I could turn specifically now, to both of you really, to the UOR questions, we have heard a great deal on, the MoD's December 2003 publication "Lessons for the Future", looking at Operation TELIC

noted there had been, as they put it, weakness in tracking of progress of UORs requests from the requests, as it were, through to their delivery and use in theatre.

Was this something on which you were able to take action?

LT GEN SIR ROBERT FULTON: Yes. I think that in a number of -- in a number of ways. I think it would certainly be true in -- because, of course, they were very much looking at the sprint phase of this, and, therefore, I think I would recognise that the priority was speed. We only had in effect from December to the very earliest months of January, because bearing in mind that people were deploying. So I think speed was paramount. We knew we had to do it quickly, and I think that it was only as 2003 went on, and it was apparent that this was going to be a much longer term activity that we were able to draw breath, and I think the other dimension, which I know has been mentioned, is that it was recognised, and it was recognised from the outset, that a capability is more than the piece of equipment. Clearly the longer the timescale went on the more important it was that it was integrated. That's not to say it was not important at the beginning, but that, for example, in many cases by the time we had gone to

industry in December 2002 and industry could react, however quick it was, that the force to which it needed to be applied had already deployed, and therefore it was only on arrival in theatre that the UOR and the people could be married up, and clearly that is not ideal.

So I think yes, I would recognise the criticism for the first phase, but I do think that we got very much better at not only tracking but also in tracking not just delivery but also its translation into full capability.

SIR MARTIN GILBERT: I would like to turn from the sprint to the marathon phase, because the National Audit Office observed in 2009:

"Weaknesses remain in the management of information available to provide everyone involved with a complete and common picture of the progress of UORs and to measure outcomes."

What would have been the barriers to this, to making further progress for the management of information?

LT GEN ADREW FIGGURES: Shall I ... Well, something as prosaic as the fact that the information system used in the DPA, DAWN, was not totally compatible with the information system CHOTS in the MoD, but with the advent of the defence information infrastructure there was an ability to use a common database and give visibility

to those concerned.

So defence information infrastructure was a great step forward in a whole load of areas. With the advent of the defence information infrastructure deployed it meant that in theatre you could all work off the same database, because up until that time we had every month to produce a disk, convey it to theatre and then they looked at the disk, we had a conference, a video conference, and progress was discussed in that way.

So yes, once we had integrated our information systems, then we made a great step forward.

In terms of the people involved, all the right people were involved in my time. So provided they got to the table and provided they came with the appropriate information, then the necessary work could be done.

An important step forward was the case which was made that when we purchased a UOR, that we also purchased a training margin which had not been the case until I think 2006/7, so that we could then train in this country prior to deployment.

Then the next piece of sophistication was to sequence the UORs such that they met the appropriate formation well in advance of deployment so that the formation knew what they were going to take with them or meet in theatre and so all these capabilities could be

integrated and they could train with them both individually and collectively.

So there was I think a programme of continuous improvement. I suspect we have yet to achieve excellence. One never does in this type of environment.

SIR MARTIN GILBERT: That has been helpful.

I would like to turn back to something you touched on, General Fulton. When he gave evidence to us, General O'Donoghue says it inevitably takes time to deliver UORs to theatre after the request is received. We have heard evidence also from General Shaw and General Binns that kit was arriving in Iraq in most cases that had been requested by their predecessors.

Do you think that commanders recognise that for larger items the requests they make will usually be for the benefit of their successors? Is this something that was --

LT GEN SIR ROBERT FULTON: I think you would have to ask them. Do I have a sense that that is so? Yes, I think quite possibly, but I think that the onus is on commanders to see the campaign in its context rather than chopped up into segments that are defined by their presence.

I mean, I think it touches on a point that was talked about earlier, which is this great cry of

agility, because agility is seen as the holy grail. Well, maybe, but I would say that agility has a flip -- two flip sides. One is people who change their minds and the second is people who are followed by someone else who has a different perspective.

So all three of those could lead to a change in requirement. The question is: which of those three is legitimate, or which are legitimate, and which takes you down expensive blind alleys? Because I think there are examples of all three around, and, you know, I am not sure you can pick the bones -- and, of course, depending on which hill you stand on, my opinion, because I am the new commander, is better than my predecessor's. So, therefore, I want something different.

If the equipment world reacts to that, is it being agile or is it being unwise?

SIR MARTIN GILBERT: So the question of the six-month tour length in a sense does affect capability development during a campaign. Is this something that concerned you at the time? Is it something that created problems?

LT GEN SIR ROBERT FULTON: I think that -- I mean, if you are talking about the commander, I think two things. One is I think the issue -- I think the question is a much bigger one than simply the equipment requirement, and, secondly, equipment requirements are generated, as

it were, many levels below that particular commander, but I think my point about agility -- I mean, you know, I think my point about agility and changing your mind and, "The next officer has a different perspective to mine", all apply no matter what level it occurs at.

SIR MARTIN GILBERT: If you look at the people who were responsible for producing the overall operational strategy, what role do they or should they have in determining the equipment and capability requirements to fulfil the strategy --

LT GEN SIR ROBERT FULTON: Do you mean the theatre commander or our own Chief of Joint Operations?

SIR MARTIN GILBERT: At the higher level.

LT GEN SIR ROBERT FULTON: As I referred earlier, the Chief of Joint Operations at Permanent Joint Headquarters certainly in my time was responsible for joining together the threads and prioritising them and making recommendations, and clearly we in the department were responsible for reacting to those and getting approvals from all the various people, but clearly the Chiefs of Staff have an influence as well.

So clearly that also brings into play the relationship between what you call the strategic direction by the Chiefs of Staff in this country -- sorry -- Chiefs of Staff in London, Chief of Joint

Operations here and, of course, then the Theatre Commander, whether national, or the Theatre Commander combined.

LT GEN ADREW FIGGURES: Yes. I think there was a formal process for ensuring everyone worked together in support of the operation. So the Chief of Joint Operations would have an input and a very significant input into the equipment planning process. He also, and his staff, had a very significant input into progressing of the urgent operational requirements.

When there was to be a change of force structure in theatre as a consequence of the need to -- of change of strategy or change of circumstance, then we had a significant contribution into the planning process. Did we require more protective mobility, more ISTAR, whatever, and how were we going to provide that?

So there was I think within the department and with the Permanent Joint Headquarters a good linkage formally and informally.

We had people -- equipment capability or capability officers embedded in the deployed Headquarters such that they could articulate the requirements and also they generated these informal links, you know, a bit of skipesh moning, so that it didn't have to go through a tortious staff process. They would just get on the

phone and say, "Look, we have a problem with this".

So there was the scope for agility in that, but I would go back to General Fulton's point. There is always a danger -- if you want to get something delivered, establish the requirement, stick to it and go for broke. Get that into the hands of the troops. They will tell you whether it is good or bad and then you have the next iteration. There is nothing worse than constantly, "Change a bit of that, change a bit of that, change a bit of that". You never get anything. This is a wasteful business, because it may well be your proposed solution is not effective and you have to be prepared to be told, "Well, thank you very much indeed, but this is rubbish. It doesn't work and we need something else". It requires a bit of flexibility to do that, but they know, because they use it.

SIR MARTIN GILBERT: I would like to end my questioning with something which Sir Peter Spencer told us yesterday, and told us rather vigorously, when he argued for the virtues of incremental acquisition off the shelf solutions as the key, as he put it, to successful acquisition, as opposed to over-ambitious requirements setting. He put it in these words:

"What characterised successful UOR procurement in the main was that we were going for something which

already existed and may have needed to be adapted for integration purposes but we knew what the performance was. This contrasted starkly with some of the more ambitious requirements which were set in mainstream procurements."

Do you agree with his diagnosis?

LT GEN SIR ROBERT FULTON: Yes, but I think it says something about the difference between UORs and mainstream procurement. You can't UOR a nuclear submarine. You can't incrementally acquire a nuclear submarine except in the sense General Figgures referred to it earlier in terms of building the submarine and then adding a capability. The UORs by and large were additions to a basic capability, sand filters for Challenger tanks, defensive aid suites for aircraft, etc, etc. So I think it draws a very clear distinction between the core programme in the main, the core capital programme and the things that you are going to do to the capital programme to adapt it to the requirement.

I think my second point about buying off the shelf is the one about integration. It's a much bigger subject than you might want to touch on here, but buying something off the shelf is fine, but you risk ending up with as many stovepipes as you have bought bits of equipment, because they were not designed to work with

the other bit of equipment.

Very often you will have to decide actually the extent -- in the phrase that you quoted "and integrated". Well the issue about integrating something which was not designed to work with something else is, as I am sure Sir Peter told you, really non-trivial, and it can add -- I mean, it can add mightily to the cost. You know, there is an example, the attack helicopter. The attack helicopter was designed -- it was not quite bought off the shelf but it existed in the American inventory and was adapted. One of the key questions we had to ask is: this is going to operate with ground force, therefore of course, so the requirement says, fit Bowman into the attack helicopter. Well, don't, and we didn't, but we had to find another way of making sure that it could integrate. So, you know, the integration is non-trivial and you will have to decide, because bear in mind that one of the things that we were trying to do, and it goes back to the point that was made earlier about the aftermath of the SDR and the new chapter, which is that one of the things that fundamentally we all knew that we wanted to do was have integrated capability, not army/navy/air force capability. We didn't want the navy to have its own CCI -- common and control information system, and the army and air force

the same. We actually wanted to share information because we were gathering intelligence from a whole range of common sensors.

Now if those sensors cannot feed the information to everybody on the battlefield, then the information may not have been worth gathering in the first place. I am sorry to go on, but this issue -- integration is the big issue about buying off the shelf.

LT GEN ADREW FIGGURES: I subscribe to the nuanced approach.

SIR JOHN CHILCOT: Thank you.

SIR MARTIN GILBERT: Thank you.

SIR JOHN CHILCOT: We would like to ask just a few questions on UORs which Sir Roderic Lyne is going to take up and then we will take a break in a few minutes' time. Rod.

SIR RODERIC LYNE: I think we are conscious of the fact we spent a long time on UORs, and they are not the biggest bit of the story which is the basic core programme of capability.

Just to finish this off, within the envelope of money that was agreed once Iraq got going with the Treasury I think on an annual basis for what could be spent on UORs and was not I think a finite envelope, because if the need arose, you could then go back and ask for more, who had the final say on whether a particular bit of equipment could be purchased as

a UOR or could not? Where did that lie?

LT GEN SIR ROBERT FULTON: Whether it was going to be purchased rested with the Ministry of Defence, but who was going to pay for it I guess was a subject of, as it were -- whether it was going to come out of the defence budget or whether it was going to come out of the Treasury was an issue between the two.

So I don't think there is a simple, straightforward answer to your question. We produced the requirement, as General Figgures has described earlier. There may have been arguments about whether it was justifiable. I am not aware of any occasion on which we produced a business case that did not happen because there was no money for it.

SIR RODERIC LYNE: So basically within the Ministry of Defence where you were dealing with a number of applications for a UOR you had your internal proceedings for deciding which ones fell within the UOR rules and you would then go ahead with that bit of kit, as I say, within this envelope of money you had, and that was a decision that would be taken at your level?

Am I over-simplifying it too much?

LT GEN SIR ROBERT FULTON: I am struggling with the idea of the envelope. If we wanted something -- sorry -- if we needed something, and there is a distinction between the

two, if we needed something and we made the business case, then there was, I mean, a constant dialogue between the Finance Director of the Ministry of Defence and the Treasury on, "We have exceeded that that was allowed before and we now need some more money for this purpose". So this was a constant process.

So, as I say, I think I am hesitating on the word "envelope".

SIR RODERIC LYNE: Right. Let's leave the envelope out of it. Let's simplify it a little further. The need arises from the ground for X vehicles of a particular kind to be supplied as quickly as possible. The business case for that is accepted. Who is the person who says, "Right. We now go ahead and buy X"? Is it somebody in the Treasury or is it somebody in the Ministry of Defence?

LT GEN ADREW FIGGURES: It is signed off within the Ministry of Defence, and the rules for determining whether it is a UOR or not are the Treasury's rules.

SIR RODERIC LYNE: Yes.

LT GEN ADREW FIGGURES: But provided we are compliant with those rules, then we have the delegated authority to get on with it.

SIR RODERIC LYNE: Yes. Right. Good. Okay. I think that's clear.

Just taking those rules, what sort of grounds might be applied for saying something does not comply with the rules for a UOR? What would be -- can you give us some examples of things that might be screened out where somebody had proposed that something should be brought under a UOR, but you reach a point at which you say "no". You within the Ministry of Defence say, "No, we can't do this as a UOR".

LT GEN ADREW FIGGURES: I think -- and it is hard actually to remember a case where it occurred, but, for instance, it would be if we couldn't deliver it in the time-frame, and indeed the time-frame stretched. I think originally they were six months and then they went to one year and then to 18 months, because as these UORs became more complex and required integration, development and so on, then you needed more time to deliver them and it was negotiated that yes, we could have more time.

You then get into -- say it took three years. Well, I think -- it is back to the prioritisation piece I think. I think one is beginning to stretch the charity of the Treasury there. Surely --

SIR RODERIC LYNE: You at that point would say, "Hang on guys. This is not really a UOR at all". You would blow the whistle on it?

LT GEN ADREW FIGGURES: Yes, because I think there is no

point in asking for something you know the answer to it, but there is a very good relationship -- I sat next door to the Director General of Equipment, who dealt with James Quinault at the time. They would discuss all those things. We never asked a question we didn't know the answer to, if that's ...

SIR RODERIC LYNE: So you didn't have a lot of failed requests on UORs.

SIR PETER SPENCER: No.

SIR RODERIC LYNE: Essentially you had a chain of people in the Ministry of Defence who would go from the theatre, through PJHQ to yourselves. Within that chain you would scrutinise these requests, decide what was sensible, reasonable, viable, deliverable and say "yes", or at some point you would say, "Hang on a second guys. This does not work for this particular reason". You would weed it out mostly yourselves. If in doubt you would ring up the Treasury. Is that right?

LT GEN ADREW FIGGURES: Yes, although the manner in which you described it, and I have to be careful, because you are describing intent to, Sir Roderic --

SIR RODERIC LYNE: I am a layman.

LT GEN ADREW FIGGURES: -- but it is almost as if we would be over-zealous in our scrutiny. I think the judgment was pretty balanced and there was a lot of challenge

along the route.

A good example is Corporal Hadenough has a really good idea. Up it comes through his battle group and then goes to the Brigade Headquarters. What do the Brigade Headquarters think about it? It might not get through to battle group. It might not get through to Brigade Headquarters. Generally a good idea gets through. The danger that this just dies as it goes up the chain I think is overcome by the way we do our business. People visit and Corporal Hadenough very often gets the opportunity of saying, "I have had this really good idea. It seems to have gone nowhere". There is nothing worse than the Vice Chief coming back with, "I have heard this really good idea. What have you done about it?" That can be an advantage or you can be overwhelmed with all these good ideas.

So there is a balancing mechanism, but I think people have generally shown sound judgment. Where there is a good idea, a sound requirement, it has been progressed. There may well have been an occasion when it has not worked, but I think those are the exception rather than the rule.

SIR RODERIC LYNE: If I can just turn to one other dimension of it, which you have already touched on. General Fulton, you said a few moments ago that a capability is

more than a piece of equipment. That was certainly the case with UORs in that a UOR had to include the training dimension for the piece of equipment.

In the Iraq conflict, prolonged conflict we are looking at, did you find in practice that the UOR system provided sufficient equipment for training to be done pre-deployment or were you having to patch it into people who were already deployed in theatre so that they were learning on the job, because you didn't have enough pieces of kit or the possibility to train on them? How was that working?

LT GEN SIR ROBERT FULTON: I mean, certainly initially in the 190 or whatever it was, the -- you know, the big lot at the beginning, there simply was no time to integrate, as I alluded earlier, and it was arriving in theatre and in many cases fitted in theatre by contractors during the training time, and I think the NAO talked in terms of us getting, you know, two-thirds were fully there before the start of hostilities and another two-thirds were there in part but not in totality.

So we were running to catch up at the beginning and therefore in terms of was there enough for pre-deployment training then? No.

I think then as life went on --

SIR RODERIC LYNE: As you moved from sprint to marathon.

LT GEN SIR ROBERT FULTON: -- as we got into the Marathon, my image of the longer term, and I think as the UORs became more complex, then I think there were -- I think we got rather better at that. Whether in every case there was enough for everybody to be trained before deployment, actually I would doubt, but I don't know. I don't know the answer, but I think we got better and better at it as time went on. As the timescales got longer, as the pieces of equipment that were being UORed became more complex, particularly as we got into some of the protective counter-IED stuff, then clearly it became increasingly important that people should have had some experience of it before going.

I think the answer -- my answer to your question is "no" at the beginning and "yes" by the end and an improving pattern all the way through.

LT GEN ADREW FIGGURES: Yes.

SIR RODERIC LYNE: In the early stage this was presumably above all a question of time that one had to do this deployment against a very short time-frame, but did you, looking at the six years as a whole, find that the UOR rules set by the Treasury, the rules of the game, allowed you a sufficient margin to have kit for training or was there a constriction there, or was it sometimes that you weren't bidding for enough where you didn't

have enough training kit?

LT GEN SIR ROBERT FULTON: From my perspective it wasn't an issue -- it wasn't a Treasury issue per se. I think I would answer in the same way as to the previous question. "No" at the beginning, "yes" at the end and a steadily improving process all the way through.

I think if you were to take a snapshot of the UOR process today and a snapshot of the UOR process in December 2002, you would find an immense difference in terms of the tracking, in terms of what gets under the radar, in terms of -- you know, what is allowed, in terms of the extent to which it is going to be kept in-service for a longer period, in terms of complexity. I think we are just looking at two -- we call them both UORs, but I think we are actually talking about almost two different things.

LT GEN ADREW FIGGURES: Yes.

SIR RODERIC LYNE: My final question: General Fulton, you talked earlier about the importance of appreciating the need to integrate bits of kit. You gave -- you talked of stovepipes. You gave the example of the Apache helicopter and its communications, or was it General Figgures? Apologies. I may be taking two statements together.

Was the integration issue particularly difficult in

Iraq because of the incredible number of UORs that we were using?

LT GEN SIR ROBERT FULTON: Do you mean more difficult than in the world -- do you mean more difficult than --

SIR RODERIC LYNE: If you had a more measured pace? I mean, you were dealing with a very large number of UORs. Obviously in the core programme of equipment you have time to think through these issues. When you are dealing with UORs, they are by definition short timeline items, which by implication again to a layman would militate against integration, would mean sometimes it would be easier to have a cock-up under which you get a radio that you stick in a helicopter that doesn't actually work in a helicopter.

LT GEN SIR ROBERT FULTON: I was smiling because I think your premise that the rest of the core equipment programme is integrated is not one that the user would recognise, because integration tends to be where the complexity lies and it tends to be one of the things that gets traded out of the requirement at quite an early stage.

Setting that aside, I think that if you are buying a UOR, and once again I think if you went back to the beginning, UOR on the shelf exists, delivered in six months for the operation in progress, which is where

UORs were, you were not going to be able to integrate it except that -- and, for example, over the operations radios in helicopters actually in a sense had been successful to the extent that they worked for that operation because they were put in for that operation. The issue actually became: what did you do with it at the end of that operation? Because actually one of the costs involved in fitting radios into helicopters and a pan-fleet fit was actually taking out all the UOR radios that had been put in. So, for example, we started the operation, I think there were probably no two Chinooks that had the same radio fit, because they had all been used in different operations, because the UORs didn't fit the entire fleet, they only fitted those particular helicopters that had been use in that particular operation. People then said, "Let's keep that", at the end of the operation. That was one fit. Here was another helicopter that had been involved in a different operation and had a different fit.

So right at the beginning I think we bought what we needed for the operation and the integration was not something that people got too much involved in. I think by the end it had become much more of a concern, not least because it now has to work for longer, go on for longer and has to fit in with the rest of the programme.

LT GEN ADREW FIGGURES: I think one needs to remember that Bowman-isation was underway, which was a huge change in the army, the land components capability.

Just to give an illustration, and we will most probably come to the IED threat, but the electronic countermeasures, for instance, that you would put on a vehicle or armoured vehicle had to be compatible with the electronic signature of Bowman. Equally the Bowman radio should not counter or conflict with the operation of the electronic countermeasures.

So we would have started off with, say, an ECM UOR, which was all right for the Larkspur fit, but had then to be modified for the Bowman fit. There was then the requirement both to cool the Bowman fit and possibly the ECM fit. So that required air-conditioning.

We then got into the process of requiring more power. By the way, we were putting thermal imaging sites on for the gunners, drivers, commanders and so on. So the power amount increased. So we then we had to increase the generating capacity. This was a never-ending circle of complexity and complication, which I think both the DPA and the DLO at the time, and later the Defence Equipment and Support, did extremely well to manage, but it was a nightmare to manage it. It was also extremely difficult for those who supported

this equipment in theatre because of all these changes and so on.

So there is a view that the UOR process is ideal, simple, delivers quickly. It also delivers nightmares which require a long time to unpick if there is to be a sustainable capability.

SIR RODERIC LYNE: Thank you. That was very clear. Thank you. Even I understood it.

SIR JOHN CHILCOT: Thank you very much. Let's break for ten minutes. Then we will come back.

(11.35 am)

(A short break)

(11.45 am)

SIR JOHN CHILCOT: Right. Let's restart. I will ask Sir Lawrence Freedman to pick up the questioning.

SIR LAWRENCE FREEDMAN: We want to now go into your role in the story of the protected patrol vehicles, Snatch Landrovers and how to counter the IED threat.

Snatch Landrovers were deployed in autumn of 2003 in the context of the developing insurgency. You mentioned before that Northern Ireland experiences provided perhaps better guidance than the Cold War in this conflict. So you would have been aware right from the start presumably the risks of a developing IED threat.

So my first question is, within the limits of what

you can say in public, how good was your information on the IED threat and how did it evolve?

LT GEN SIR ROBERT FULTON: Well, clearly the threat existed. Why were Snatch deployed to theatre? Because the commanders wanted it. It was a request for a patrol vehicle, and bearing in mind they deployed with Challenger, Warrior, which were not suitable as patrol vehicles, and within the concept of tactical operations at the time what commanders wanted to do was to have a vehicle that would allow them contact with the local people, where they could patrol in berets, where they could, because, as I think you have heard, people saw that the campaign for what it was was one of engaging with the local people, and that was the best way to do it. So this is what was requested.

The quickest way of meeting it was to go to the only place where we had protected patrol or we had any sort of patrol vehicles, which was Northern Ireland. There was then a decision about the risk to be taken in Northern Ireland and the balance of risk between taking them out of Northern Ireland and putting them into Iraq. I mean, the effect of losing them there. The decision was taken to deploy them.

Simultaneously there was already the programme and then a developing programme recognising that these

were -- would need replacing in the course of their natural life and therefore there was a programme called Vector, which was designed to follow on. So this was a progression that came directly not only from the tactics of the day but also the request of the commanders of the day.

SIR LAWRENCE FREEDMAN: The question is about IEDs within that. So by the time of the autumn 2003, although clearly there was a hope that this would be a hearts and minds sort of campaign, the risk of the threat was already there. To start with I am just trying to get a sense of how that part of the problem was factored into the working through of this particular issue.

LT GEN SIR ROBERT FULTON: Factored in by the commanders on the ground. I don't think it was -- I didn't think it was my job to second guess the use to which they were put within the theatre, and clearly that was a decision to be taken in theatre.

I think also I would say that the work that was in progress did not necessarily say that -- and indeed our experience of Northern Ireland did not necessarily say that heavier vehicles is the best way of protecting people against an IED. I mean, you would need to talk to the commanders on the ground and I know you have. Tactics, techniques and procedures play their part in

terms of interdicting the person who is going to initiate the IED, and, of course, as you are aware, a lot of work and a lot of the UORs went into stopping the IED ever being initiated.

So I think if you were approaching it from the point of view of what is the best way of countering the IED, I would say three things.

One is the tactics in use on the ground to get at the person who is going to initiate it; stopping it being initiated in the first place, and then also choosing where you are going to use the vehicle, any vehicle, whether that be a Warrior, whether it be a 430 or indeed a Challenger.

SIR LAWRENCE FREEDMAN: You have mentioned Vector. If you are looking ahead, or even just thinking about UORs which might help you improve the Snatch, you still need to have a sense of how the threat will develop in the future. That's really -- the main question I am trying to get at at the moment, is accepting that there are things that the commander on the ground has to do, and you described very clearly the range of options that they may have, in an equipment sense presumably you are looking ahead to the likely progression of IED capability over time where you have to assume an enemy will improve what they can do on the basis they have

done in previous conflicts.

LT GEN SIR ROBERT FULTON: Yes, but in terms of progression what you are then describing is size of IED, and clearly the enemy can go up through bigger and bigger IEDs faster than we can put slabs of steel on the sides of vehicles.

SIR LAWRENCE FREEDMAN: There is also forms of detonation as well.

LT GEN SIR ROBERT FULTON: That's my point, about getting at the threat, and I don't think we should here describe the nature of that threat or what was being done in order to counter it, but that's where the work was. Because the IED is simply a -- whether it is -- you know whether it is artillery shells or whatever it may be, you know, there were cases where IEDs went through the side of an M1 Abrams tank. So they could go through the size of IED. So if the question is: did anybody foresee how big the IEDs would get? Well, yes, because that doesn't take much imagination. Did anybody foresee how they would be initiated? Yes. That's where the scientific work and intelligence work was going on and that, as General Figgures described earlier, was what the people in theatre were doing in conjunction with the science back here. Of course, that was the Northern Ireland lesson, that we put the work into

stopping it being detonated, not necessarily into trying to contain or trying to stop a bigger and bigger bang going through the side of a vehicle.

SIR LAWRENCE FREEDMAN: So in terms of the developing capability and as time goes by, there seems to have been a debate between either (a) improving the degree of protection that you can provide to Snatch, which is not just armoured but countermeasures as well, and (b) developing an alternative capability. Within that there seems at least initially to have been a preference for (a), for improving that you can do with Snatch.

Is that fair?

LT GEN SIR ROBERT FULTON: I don't know.

LT GEN ADREW FIGGURES: I don't think I would recognise it as such. I mean, clearly something had to be done with Snatch, but then something had to be done with Warrior. Something had to be done with CVR(T). So there was work in parallel. We did work on the 430. So the whole question of protected mobility and passive protection was addressed, but also the business of the countermeasures was addressed and then, of course, the avoiding the IED or detecting it before you entered into the area, and so that was one of the reasons why the thermal imagery on the driver sites was so good, because they were able to pick up of the difference between the

temperature of the road and the IED at the side. So they had had some success in that in Iraq.

So every strand of enquiry I think was pursued. It's a question of how quickly you could come to solutions on these strands, if that ...

LT GEN SIR ROBERT FULTON: I think that's my point when I said "I don't know" earlier. Not that I don't know the answer to the question but I am not sure it was as simple a choice as you have described. I think people were working on a whole range of approaches to determine which was the one that was likely to -- because, of course, none of that can be divorced from what is the commander trying to do and where is he trying to get to and how is he trying to prosecute the campaign? That's the other side of it, because he is trying to make use of the tools at his disposal. We are trying to give him the best tools. He will take the tools that he has at any moment. He will try and advise us on where -- on how he wants to develop the capability. So this is an iterative process, but at any one time it has to be the commander choosing what he does at that moment.

SIR LAWRENCE FREEDMAN: But if we are looking at the question of the longer term or the limits of what might be achievable with Snatch as you have it and the limit of what the commander can do, you then come to this

question, which you have now helpfully alluded to, which is the relationship between the replacement for Snatch, or an alternative, and the rest of the programme.

Now the rest of the programme in this area includes FRES. Now we have heard a lot about FRES, very little of it complimentary.

The difficulty is you have a lot of investment and a lot of commitment to a broad programme to replace a whole suite of vehicles. The question is, within that set of priorities, where does a replacement or alternative to Snatch fit in?

LT GEN SIR ROBERT FULTON: I think they are two completely different questions. I don't think that FRES is part of the Snatch equation. I really don't. I mean, we can discuss FRES, if you like, but it was borne out of the 1998 Strategic Defence Review. It was borne out of the defence review for a particular purpose, which was -- shall I continue on FRES or do you want --

SIR LAWRENCE FREEDMAN: I understand that FRES was never envisaged as an alternative -- as a replacement for Snatch. That's absolutely clear. The reason that they may be related, and this goes back to what Sir Peter Spencer said to us yesterday, would be as follows. Here you have a major item in the army's equipment programme. With an alternative to Snatch you are not able to get

an alternative through as a UOR, initially at least, so it has to be part of the prioritisation of the defence programme. Peter Spencer spoke of the fratricidal effect. So that there was concern, he suggested, that if you made this a higher priority, then that could have a knock-on effect on your ability to proceed with FRES. So in that sense in terms of this question of prioritisation there could have been a relationship.

LT GEN SIR ROBERT FULTON: I fundamentally disagree, and fundamentally disagree because I was charged to be the defence equipment customer, not the army equipment customer. So in my mind at the time there was never an alternative option which said, "Replacement for Snatch has [I think in your phrase] a fratricidal effect upon FRES". FRES was -- I can describe FRES if you like, but perhaps I will stop there and see -- do you want to go down the PPV route or down the FRES route?

SIR LAWRENCE FREEDMAN: We are interested in PPVs. Let me quote to you what Peter Spencer said:

"I think the difficulty became in the amounts of money which were available and if you were going to use money from the Capital Equipment Programme to deal with the short term [as opposed to UOR action] then that had a fratricidal effect [his phrase] on your ability to move the FRES programme forward. So the programme has

had some awkward decisions to make so far as the priorities were concerned."

That was the point he was making, that that becomes --

LT GEN SIR ROBERT FULTON: What I am saying is I don't agree that if you put in a replacement for Snatch it is FRES that has to come out. That's the whole point about having a central customer, not an army customer.

Going back to the discussion earlier about if you want to put something into the programme, something has to come out, it doesn't have to be an army vehicle. It might be a satellite. It might be an aeroplane. It might be an addition to one or other of those. That's why I fundamentally disagree with the premise that one would have had a knock-on effect on the other.

SIR LAWRENCE FREEDMAN: Okay. So let's accept that maybe FRES is not the marginal programme that is always vulnerable, but it is obviously looming large at the time.

I will put the question another way. Was the fact that an alternative to Snatch or a replacement would have to come out of core capabilities a factor in the reluctance to give this a high priority?

LT GEN SIR ROBERT FULTON: Not to me.

SIR LAWRENCE FREEDMAN: So as far as you were concerned this

was not being held back by the pressures from the rest of the programme?

LT GEN SIR ROBERT FULTON: No. I mean, any more than any other part of the totality of this, going back to the point earlier, but no, the issue was not a question of, you know, what would be the casualty elsewhere in the programme.

LT GEN ADREW FIGGURES: I mean, I would say, and I would refer back to some notes I made at the time, that actually when we discussed this in 2006, I would say that actually FRES had been used as a regulator for the defence programme. They had actually taken money out of the FRES programme in order to attempt to balance the programme.

SIR LAWRENCE FREEDMAN: I mentioned 2006, which is, of course, when the issue comes to the fore. I am interested in why it takes until 2006 before the question -- I mean, we are now three years into the conflict -- why it takes this amount of time for the question of a placement to be -- to reach decision stage.

LT GEN SIR ROBERT FULTON: I think my perspective would be for the reason that we described earlier, that actually people were looking at the totality of protection, of which that was a strand, and people were looking around

the world at whether there was anything better, but I come back to the point about, you know, we need to understand whether we are protecting against the device when it explodes or whether we are -- and whether there is a design, whether there is both a design of vehicle and whether the materials are available, bearing in mind we were talking earlier about buying things off the shelf and so on and so forth, and people were looking to see what the potential alternatives were.

So I think my perception would be that this was a process that had gone on right from, as you say, the autumn of 2003, when Snatch was first deployed. People were looking at what was the best way of helping the commander on the ground have the widest possible choices available to him.

SIR LAWRENCE FREEDMAN: If you look at what Des Browne told us about the review that he announced of armoured vehicle capability in June 2006, he told us:

"I would say that the pressure from the point of view to examine and continue to re-examine the use of Snatch Landrovers came from the kind of political environment to the military rather than the other way round."

We have declassified a day today a document from Lord Drayson where he seeks:

"Confirmation as to whether there is a requirement".

So what seems to be the case, and again going back to what Sir Peter said yesterday, it seems to be the case that the pressure to move in a particular direction at this point came from the political side rather than the military side. Is that fair?

LT GEN SIR ROBERT FULTON: Well, I mean, I know, although I had gone by then, I know because I have seen the papers of the June 2006 discussion, but I don't recognise the progression that had gone on through 2003, 2004. Commanders' reports were saying Snatch was an excellent vehicle for the purposes for which they wanted to use it.

I come back to the point about there has to be a relationship -- nothing is an absolute good vehicle, for example. It has to be -- there has to be a relationship for the purpose for which they wanted to use it. Then the point at which it goes beyond that, well that is a judgment from the commanders on the ground, and that then has to be -- that is something then to which the department -- to which we had to react.

SIR LAWRENCE FREEDMAN: But Sir Peter said, referring to this particular case:

"What we needed was the leadership to define what

did need to be purchased and to go out and do it. That leadership on this occasion came from Drayson."

From Lord Drayson.

Why was it in this case? Why didn't the leadership come from the Defence Board and the chiefs?

LT GEN SIR ROBERT FULTON: Well, I think there's a sort of relationship there between the commander on the ground at whatever level, the commander in theatre, the Permanent Joint Headquarters, the chiefs, the equipment customer and a series of examinations of what was needed against what was -- what could be -- you know, what was available in the sense of, you know, did it exist?

I don't think people were sitting on their hands saying, "It is all fine". I think people were saying, "This IED problem is a whole theatre problem and needs to be met by a choice of are we going to use, for a particular task, a Challenger, a Warrior, an up-armoured 430, a CVR, a Snatch, a Vector, and how are we going to interrupt the firing sequence in order to stop it being fired?" That's a totality rather than simply saying, "What we need is more steel on the side", because we already know that the kinetic effect is going to overmatch anything we can fit down -- anything that's of a dimension we can fit down the streets we want to go down.

SIR LAWRENCE FREEDMAN: I understand that. I am just trying to get at why this decision was being taken at this time.

There seems to have been the view that this decision was coming a little earlier than might otherwise have been expected in terms of the full review of the sort of capabilities as you have described, that the urgency in this episode came from the political Head of Defence Procurement.

The question comes back to the fact: was this unusual that the politicians were insisting on doing something with that degree of urgency? We are talking June/July 2006, rather than just coming through the Defence Board?

LT GEN ADREW FIGGURES: Could I ...

LT GEN SIR ROBERT FULTON: Uh-huh.

LT GEN ADREW FIGGURES: We talked earlier about the delicate balance between requirement and ability to meet it. I think there was this question of how could this requirement be met? I think the answer lies in the eventual solution. When was the Mastiff vehicle acquired? It would not have been on the shelf unless someone had carried out the design development work as a result of their experience in Iraq to reduce it, and the American experience in Iraq in -- we have been over

this ground -- 2003/4/5, was that they were suffering grievously from this. So they had a design development programme which eventually led to these vehicles, but they didn't exist in 2004 and to my knowledge they didn't exist in 2005. We could not have laid our hands on them.

So 2006, when the review took place, there was the potential to meet the requirement.

SIR LAWRENCE FREEDMAN: Was this the first time that Mastiff was available?

LT GEN ADREW FIGGURES: Yes.

SIR LAWRENCE FREEDMAN: I thought it was known about a bit earlier than that. You must have known of the American programme earlier.

LT GEN ADREW FIGGURES: Yes, we knew of the programme. The question was: what would it deliver? My understanding was that in General Fulton's time the team scoured the world looking for possible solutions, and I think it is perfectly natural, and if one reads the press of 2004/5/6, the Ministry of Defence and the political leadership was excoriated for its apparent inability to do anything about it. So of course there is going to be political pressure. I don't think ministers will sit around saying, "Carry on with what you are doing because we quite like all this pain". That's why -- or I am

sure they would have initiated action but the prod of adverse press criticism I think was felt very keenly. I don't think the customer or supplier felt any less keenly the need to protect the lives of our servicemen and women in Iraq.

What I gain from this is that you are almost saying that a whole organisation sat on its hands and did nothing. Well, having been in the DPA and Technical Director of the DPA and the DLO and then coming to the equipment capability area, my judgment would be every waking hour people had they were attempting to solve the problem in this area, but if there is no technical solution to it, however much effort you put into it, you can't solve it.

SIR LAWRENCE FREEDMAN: I don't think the suggestion is people were sitting on their hands and doing nothing. I think the question is: what brings this to a head? What actually extracts a tough decision from the system? It is not even necessarily pointing at you two. It's a question of, this seems to be something that came directly from the political sphere and the Defence Board, the chiefs, do not seem to have brought it to the fore in the same sort of way. Clearly people were looking at options all the time, but it's a question of timing.

Can I just quote you something else? This is from CJO, Chief of Joint Operations, on 7 July 2006 setting the equipment capability advice suggested:

" we have reached the engineering and technological limits of the physical protection that can be provided by Snatch."

Now was that the first time that this had been recognised?

LT GEN SIR ROBERT FULTON: No. I think right from the beginning we recognised that there were limitations, but not just for Snatch. That happened to be the one that that loose minute was about, but, I mean, we had gone through exactly the same process with the CVR and the extent to which that could be up-armoured. We had gone through that process with the 430 series. We spent a lot of money in 2004/5 up-armouring the 430 series. So this was a constant process of adding more and more protection.

I come back to the point that of course there is going to come a time when the enemy has gone on adding kilograms of explosive and you can't go on -- we can't go on adding kilograms of steel, and therefore there has to be a step change. For there to be a step change there has to be a technology or there has to be an equipment to which you can go. We referred up -- your

question about the political input has I think also to refer back to the conversation earlier about the extent to which ministers played a part in the process. Of course they are a part of the process and so there are plenty of other occasions where ministers would have, as it were, encouraged the process.

So I think to see this as a sort of Damascene moment would I think be to give more to that moment than it deserves in the context of the totality of progression of defence, offence, defence, offence as we went through the campaign.

SIR LAWRENCE FREEDMAN: In the document we have declassified -- it has been put on our website, it has been declassified for us -- there is a handwritten note which says:

"Ministers can no longer say in the House that they have had no requests from commanders for an alternative to the Snatch."

So do you think that was an important political moment?

LT GEN SIR ROBERT FULTON: I don't know.

SIR LAWRENCE FREEDMAN: Because, again going back, what we have -- I just quote General Dutton. What he said on Snatch is more that he didn't have an alternative, that it was a good situation. There was a question of the

alternative.

Just to try to pull all this together, I understand what you are saying is that you were looking for alternatives but it was not really until you had Mastiff available that you could move and that you are saying that was the really decisive moment?

LT GEN ADREW FIGGURES: Yes, and I think one has to take into account the American programme, but one also has to take into account the armour packs which were developed for Mastiff. So although it looks a very simple truck, there is quite a lot behind that and it was not available earlier.

So I think a lot of this boils down to this delicate balance. There is a requirement crying out to be satisfied there. People are working very hard to satisfy it through scientific endeavour and then the development of a prototype. Yes, there is something that is worth investing in. Well, Minister, here are some potential solutions. Are you prepared to run with that?

I would not underplay the energy, enthusiasm and leadership that Lord Drayson gave, but you can have max energy, leadership and enthusiasm, but if there is no solution, then it is for naught.

SIR LAWRENCE FREEDMAN: Was it felt that you could do this

on a UOR?

LT GEN ADREW FIGGURES: Well, it was, because, I mean, the whole question of not having to -- back to the Baroness' point, not to have to find the money initially to do it from the programme meant that we could get on and start it straight away so. That helped the -- but I suspect if we didn't have the framework, and again this is hypothetical, if we didn't have the framework, it was quite clear that we had to address the issue of ground mobility, force protection. So we would have had to find the money somewhere, even if we had to borrow it at credit card rates of interest.

SIR LAWRENCE FREEDMAN: Just to round this up, are there any lessons you might draw from this experience about how we can stay ahead of an emerging threat in this way?

LT GEN ADREW FIGGURES: Well, I mean, I would start -- and I think we touched on it earlier in that you can't always look at life through the rear view mirror. So the idea that you constantly protect the platform and that will give you a long-term solution is perhaps going to go wrong at some stage. You have to look at the surveillance and target acquisition dimension to it. I mean, after all, if someone cannot lay an IED, then you are not going to be exposed to the threat. So can you maintain this basilisk-type stair in your area of

operations? Can you ensure you have the communications within your organisation so everyone has situational understanding of the ground over which they are going to move and the last time it had been checked? Can you destroy the enemy's supply chain? Can you penetrate it? Can you exploit evidence such that you can bring them to justice or you can hunt them down?

So there are a whole range of things which are now being addressed. I think we have alighted on one little sector of the means by which we protect our people whilst on operations.

SIR LAWRENCE FREEDMAN: I suppose the difficulty is that if you can't successfully do a lot of those other things, that is all you are left with.

LT GEN ADREW FIGGURES: Well, yes. You must -- if all else fails, you have to be able to survive in the worst case.

SIR LAWRENCE FREEDMAN: Can I now move on to helicopters? We have had quite a bit about forward helicopter plans. I just -- it would be helpful if you could set out what your plans were for support helicopters when you were in post. Forward plans?

LT GEN SIR ROBERT FULTON: The helicopter programme was based on a forward support helicopter programme that developed over my time and where we tried to improve the helicopter capability over time by reducing the number

of different types in the inventory, because one of the shortcomings was in my view the fact that there were lots of different types. But I think I would observe that the helicopters with which we went into Iraq in 2003 was the helicopter programme that in a sense came out of the Strategic Defence Review and was developing forward, and at various times people -- and there were certainly, and I know you have seen them, reports that we were short of helicopters, support helicopters, and that comes back to the point earlier about being able to afford in the core programme the totality of everything we wanted to do.

I think there are, and I know you have had variations put in front of you of what that 38 per cent, that famous 38 per cent figure means, and whether it's the aggregation of everything. I think you would also in the same report see that --

SIR JOHN CHILCOT: Sorry. Could you slow down a little.

LT GEN SIR ROBERT FULTON: I think you can see that the figures are a reflection of the fact that we were a rather lower percentage short of land-based helicopters, 17 per cent, and that we were a rather larger figure short, some 87 per cent, short of amphibious helicopters. In other words, the statistics are what they are.

It is, of course, a truism to say, firstly, that everybody will always want more helicopters, and I think it is also true to say that if people have helicopters they will use them. So what I was trying to do in principle was to generate as many airframes as we could, but that was a long-term programme, i.e. out to 2017/2018,not a six-month programme.

So our ability to react to a short-term requirement for additional support helicopters was constrained, yes, constrained by money in the core programme, because that was certainly something that at that stage was very much part of the core programme rather than a UOR, because it simply didn't exist at those days to go out and buy it.

I know that that changed later when there were some and by then the UOR system had moved on and it was possible to, but that's where I was.

SIR LAWRENCE FREEDMAN: General Figgures?

LT GEN ADREW FIGGURES: Taking over, there was a requirement for more helicopter tasking lines in Iraq, and that arose for several reasons, and we were asked to look at options how that might be satisfied. At that time Merlin and Puma were deployed, the Puma in Baghdad and the Merlin in the south.

We looked at a number of options and became apparent that the Danish SAR helicopter force had ordered --

there were six remaining with Westlands and it was possible to re-configure those and deploy them to Iraq, but it was going to take some time, something in the order of 12 months I recall.

So at the time we had our five tasklines of Merlin in Iraq and by acquiring these further six which would enable us to generate search task lines in Iraq.

So that dealt with the immediate problem. I will not go into the Afghanistan problem which developed later on, but the other issue was: how are we going to manage the much-discussed Mark III fit to fly -- Chinook fit to fly piece?

Again a piece of work which had been done by the Defence Equipment and Support really to address the issue of how we were going to certify them once the fit to fly programme had been completed showed there would still be some uncertainty about that and therefore there was an option where they reverted back to the Mark II, IIA. If you wanted to get helicopters flying in support of operations that was possibly the quickest and least risky way of doing it. So that was a change of plan.

SIR LAWRENCE FREEDMAN: That was a very helpful overview. I will ask a few specific questions within that.

The NAO's 2009 report about support high intensity operations said that none of the UK helicopters which

had been used in Iraq were designed for the hot and dusty conditions there.

Given that from the Strategic Defence Review the Middle East had been a core region for defence, isn't that a bit surprising, that some effort had not been made to get helicopters ready for service in a region that wouldn't be totally unexpected to have an operation?

LT GEN SIR ROBERT FULTON: Only surprising if we had been able to do everything the SDR wanted us to do.

LT GEN ADREW FIGGURES: I think one needs to think back prior to the SDR, and it just, as you were talking, I recall an instruction coming down from in those days the sixth floor, I think it was the minister for defence procurement, Dr the Lord Gilbert, who said, "In future you are to make your equipment suitable for deployment worldwide", full stop, carry on, get on with it.

I simplify, because I can see a disapproving eye from one or two places, but that essentially was the direction, and the Merlin had been developed well before the SDR was considered. It was, I suspect, and I can't remember the exact terms of the requirement, but most probably a medium helicopter designed for operations in Europe, because that's where it all was.

So yes, work had to be done and work was done to

enable it through the UOR process to fly in Iraq, but was it unreasonable in the light of all the other UORs that had to be done for Op TELIC to expect that to be covered? Well, I don't think it was on the balance, across the piste, in the light of, as we have discussed, there was never enough money to do everything you wanted to do at the time you wanted to do it.

SIR LAWRENCE FREEDMAN: What was the effect of not doing the UOR?

LT GEN ADREW FIGGURES: Well, were we able to fly Merlin helicopters in Iraq? Yes, we were. Did we have to carry out a UOR programme to do it? Yes, we did. I can't remember how long it took, but it would have been in 2003 I suspect, and the fact is when I was in Iraq they were flying in support of our troops in Basra.

SIR LAWRENCE FREEDMAN: If we think what would be reasonable to look ahead with, and again we come back to Northern Ireland. In Northern Ireland, when faced with threats from roadside bombs the army relied a lot on helicopters. Again it is a question of what place this particular capability had in the overall programme.

When do you think, looking back, the potential value of helicopters had been recognised sufficiently probably by people before you in terms of developing the overall programme?

LT GEN SIR ROBERT FULTON: Well, if anybody before me foresaw Iraq, I haven't read it. So I think that what people were doing --

SIR LAWRENCE FREEDMAN: But there has not been an operation since Vietnam where helicopters have not played an important role.

LT GEN SIR ROBERT FULTON: But we come back to the defence planning assumptions and the scenario planning and the way the department does its business and therefore the number of helicopters in the core programme have to take their place against all other contenders.

If the implication is that we should buy as many helicopters as we have spare money available for, then I don't think that's the way the department ever has done its business. It buys according to scenario AB, ABC, ABC and D.

SIR LAWRENCE FREEDMAN: I am intrigued as to which scenario for a contemporary war would not require a lot of helicopters.

LT GEN SIR ROBERT FULTON: Therefore this comes back to this point about the 38 per cent figure or the 17 per cent for land helicopters and so on and so forth.

Of course you will always need more helicopters. I also come back to my point about people will always use a few more -- there is an iron law of helicopters

which is however many you have, people will find more uses for them, but my deduction from that is not, "Go out and buy more helicopters and cancel something else in the programme".

So, if you like, until September 2002 or whatever date one starts preparation for Iraq, the core programme was affording as many helicopters as it could over the period from 2002 through to -- well, in 2002 we had an equipment programme that went to 2012, but actually we also had a putative programme that went to 20 years. So we were looking to grow the helicopter capability, and this is I think also in the NAO report, over the period through to 2017/2018. It had to take its place against everything else.

SIR LAWRENCE FREEDMAN: I mean, obviously we can't resolve it here, but it just comes back to this question about how the chiefs, how the Defence Board evaluate one set of priorities against another.

LT GEN SIR ROBERT FULTON: What, in the core programme?

SIR LAWRENCE FREEDMAN: Yes, in the core programme --

LT GEN SIR ROBERT FULTON: Yes, yes.

SIR LAWRENCE FREEDMAN: -- and the scenarios that are in use. We can't go into it now, but it seems to me an intriguing question as to how these scenarios are developed, and I still find it hard to understand why

helicopters don't have a higher priority as against some of the other things we have been talking about. That is possibly a larger question.

Did you ever receive a formal request from commanders that translated into a UOR for additional helicopter provision?

LT GEN SIR ROBERT FULTON: I think during the time that I was there you can't buy -- I mean, we didn't -- so --

SIR LAWRENCE FREEDMAN: But you couldn't have the --

LT GEN SIR ROBERT FULTON: No. In terms of the discussion that went around, and, of course, I think, you know, there were also commanders during that time who were saying they had enough helicopters. So, you know, this was not, as it were, what they wanted to do. This is not, as it were, a universal plea, but, that aside, I think I would say that as part of the discussion between commanders in theatre, PJHQ, us and everybody it fell outside the UOR requirement.

Therefore what people wanted to do was to look at ways of generating more hours from the airframes that we had, because, of course, airframes is not -- I mean, coming back to a point we discussed earlier, you know, airframes are not the only part -- constituent part of a capability called helicopters, because, you know, there were a finite number of aircrew, for example, and

so the totality during my time was that the number of helicopters were the number of helicopters.

SIR LAWRENCE FREEDMAN: I mean, just to go back to what commanders were asking for, we have a declassified report from General Dutton at the end of 2005 which he highlighted a lack of helicopter capability for the operations then underway, but that would not translate necessarily for you into a request for additional helicopter resources. Your basic sense is that we had to make do with what we had and find ways of improving them and doing related things.

LT GEN SIR ROBERT FULTON: Firstly improving availability. That does not translate into, "Go out and buy me more helicopters that can be delivered in UOR timescales". Clearly life had moved on and, as General Figgures has described, an opportunity presented itself for something that was compatible with what existed, because, of course, clearly it was not necessarily a good idea to go and, as it were, buy off the shelf something we didn't have anywhere in the inventory and simply throw them at the problem. So, therefore, it needed to be something that was compatible with the inventory so that it could be supported.

So does a request for more helicopters translate into going out and buying more in UOR timescales? No,

not in my time.

LT GEN ADREW FIGGURES: So it is back to this point that General Fulton has made. There is this iron triangle: airframes, crews and helicopter flying hours, ie the support and spares to do it. It is interesting. Seven task lines from 28 aircraft. I think to the uninitiated, they may say, "You are not really sweating the assets". The fact of the matter is it is difficult to generate crews in the short term and a lot of effort went into seeing whether we could re-roll crews. Some of that was done. A lot of effort went into improving the number of helicopter flying hours we could generate per airframe her year, and defence equipment support did a lot of work on that.

The question then was: could we take risk against the use of helicopters elsewhere as part of the defence mission? Yes, and we looked at taking them from Northern Ireland and we looked at taking them from the Falkland islands and we looked at taking them from support for training, but if you take it from support for training, how are you going to train the brigade which is going out to the theatre? I think at the time we were generating two brigades who were dependent upon helicopters for their -- to prosecute their concept of operations.

So there was a huge pressure on Joint Helicopter Command to address these two other legs. You can't buy helicopters off the shelf. This was highly fortuitous that the Merlin buy was there and we had had previous experience with South African Puma where we had bought airframes which required a huge amount of money to make them fit to fly. So what apparently is an attractive option does not translate into flying hours in an operational theatre.

SIR LAWRENCE FREEDMAN: Does that explain the cuts that were made in 2004 on the Puma fleet?

LT GEN ADREW FIGGURES: In the sense that --

SIR LAWRENCE FREEDMAN: Well, assertions have been made about the cuts in 2004 cuts, the reduction of £1 billion from the forward helicopter programme. That included the Puma fleet. I am just interested in whether or not that had any impact on our ability to have -- to support helicopters generally, but I have just noted your mention of the Pumas as a problem.

LT GEN SIR ROBERT FULTON: No, I don't think so and certainly not in the timescales we are talking about. It was much longer than that and the areas on which that axe fell were not support helicopters in the land environment in the timescale we were talking about. We are talking about the marinisation of heavy lift

helicopters and we were already very doubtful about the technical risk involved in marinising our heavy lift helicopters anyway.

That was also down -- 2010/11/12 if my memory serves me right. It was the search and rescue helicopters. It was the battlefield light utility helicopter which was going to be the longer term replacement for Lynx and it was the upgrade to the Merlin Mark I, which was the naval helicopter, the anti-submarine helicopter operating off the backs of ships. It was also the replacement for the maritime links as well. So for very good reasons, all the reasons you identify, whilst the 1.4 billion cut to the helicopter budget was profoundly unwelcome, it had no effect at all on anything to do with Iraq.

SIR LAWRENCE FREEDMAN: Okay. Just my final question on this. You mentioned the Chinooks. It is obviously quite a saga. Why not do what you eventually did earlier?

LT GEN ADREW FIGGURES: Well, I really don't know other than perhaps the notion hadn't occurred to us. You might say, "Why didn't the notion occur to you?" I think -- well, what was our plan for the Chinook fleet? Our plan for the Chinook fleet was to upgrade it such that we could put in the capability to fly at night and the

necessary defensive aid suites, communications and so on. That would have required a different cockpit to the one that we were going to have in the Mark III, the Special Forces cockpit, and as more work was done on this, we realised that we could have a uniform fleet of I think 40 at the time, equipped to the same standard which we would all be fitted for, the necessary extra equipment for SF. So we would be able to use the whole fleet rather than this part fleet.

As that work developed and as the understanding of how the airworthiness certification would have to be undertaken for the Mark IIIs, I think the penny dropped at some stage, which said, "Carry on with the Mark III fit to fly and you have an unbounded problem. You will find it difficult to contain the costs. You will have a question in your mind about performance and the time-frame is uncertain".

Equally, I don't think Boeing were overwhelmed at the prospect of considerable re-work with an indeterminate end. So eventually we came to the conclusion -- I think I can give credit to the IPT. They said, "It is not worth a candle, why don't we just go back to where we started from? At least we know where that is". That of course sounded simple. There were all kinds of complications with that too, but it

did get helicopters -- those flying. I believe the first may be flying now.

SIR JOHN CHILCOT: Right. Last set of questions, over I think to Sir Roderic Lyne.

SIR RODERIC LYNE: I want to look at ISTAR which for the layman I believe is intelligence, surveillance, target acquisition and reconnaisance.

General Fulton, in the new chapter of the SDR of 2002 it said:

"We also planned accelerated investment in unmanned air vehicles, UAVs."

What was planned?

LT GEN SIR ROBERT FULTON: Watchkeeper. Watchkeeper was our UAV programme which was at that time -- it had had a somewhat chequered history, but we were bottoming out what the requirement was, because I think at that stage this was a comparatively new technology not in the sense of an Unmanned Air Vehicle that flies, but what you want it to do? Having got it to do it, what are you then going to do with what it produces? In a sense it was quite clear that UAV technology was moving ahead very rapidly in the sense of the air vehicle.

What I think we had not -- and took us a while to do, and that's, of course, why we do the concept and assessment phase of a programme before we sign the

contract, so we did a lot of work with the -- both in terms of selecting the contractor and then in terms of working with the contractor through the assessment phase to work out: what's it going to gather? How is that going to be fed down to earth? How is that going to be -- it comes back to the integration point. We did not want to buy a stovepipe that simply had a UAV on the end. What we actually wanted and what the whole thrust behind the 2002 new chapter was, and I used the phrase earlier "knowledge superiority", but if you unpack the sort of jargon, it simply meant making sure that if we knew something, everybody could know it, I mean, all of our side could know it. We could share it not only with ourselves but we could share it with our allies, be that European or American allies.

So a lot of work in 2002 and a lot of the extra investment that went into the programme in 2002 was on not just UAVs but also all the other collectors, Astor, Raptor, E3D and all of those programmes, but also on developing the information infrastructure that would allow that to be shared, because one of the besetting problems in all the operations before was that a collector would collect the information and it would come down to a base station. Therefore we knew it but we couldn't get it to the front line.

SIR RODERIC LYNE: When was Watchkeeper scheduled to come into service?

LT GEN SIR ROBERT FULTON: I can't remember what its original in-service date was, but I do remember that at one stage the minister announced a date of the order of 2005 or 6 I think. I think that a date of 2009/10 was what people had in mind. I think what that showed was not so much that they got it wrong, but a reflection of the keenness to get it in, and the wish to put pressure on not only us to work harder but on to the company to work harder, but equally, you know, the reality of life was that we were absolutely determined that Watchkeeper was one programme that was not going to get derailed by people changing their minds midway through, and that we would actually do this properly so we would get the capability, and my understanding, although I am now out of date, is that that is progressing well.

SIR RODERIC LYNE: So when you told the Defence Select Committee that you expected it to be in service by 2006, you were reflecting the ambitions of your ministers rather than what you --

LT GEN SIR ROBERT FULTON: And my own. Yes, I freely admit that we wanted to and, no, it did not go as we would have liked. That in-service date was the one that we were working to and yes, that date slipped.

SIR RODERIC LYNE: Is it in service now?
LT GEN SIR ROBERT FULTON: I am out of date. I don't know.
SIR RODERIC LYNE: General Figgures, do you happen to know if it is in service now?
LT GEN ADREW FIGGURES: No, I can't sadly say. I should have boned up. My apologies.
SIR RODERIC LYNE: If it was, you would have probably heard through the grapevine that this new dimension had happened.

Let's go back to 2003. While you were waiting for Watchkeeper, which you don't expect to have on stream for several years, what capability did we have for UAVs and indeed systems to make use of what they told us?
LT GEN SIR ROBERT FULTON: We had Phoenix, which did well in the initial phase of the Gulf War, and then there was the question of as the campaign, as the marathon developed --
SIR RODERIC LYNE: Hang on.
LT GEN SIR ROBERT FULTON: Sorry.
SIR RODERIC LYNE: You mean the second war. Phoenix I think goes back to the 1980s as a system. You said Gulf War, but you mean --
LT GEN SIR ROBERT FULTON: Sorry. I mean Iraq. Sorry. I apologise.
SIR RODERIC LYNE: You mean TELIC. Phoenix did well in the

sprint phase.

LT GEN SIR ROBERT FULTON: My apologies. Phoenix did well in the sprint phase. We then get into the marathon. Then there was clearly a requirement for intelligence, intelligence gathered from the air. Therefore we procured under UOR Desert Hawk and that came into service, and then there was --

SIR RODERIC LYNE: Can you remember when it came into service?

LT GEN ADREW FIGGURES: First deployed I think in 2003, and we had an issue with it.

LT GEN SIR ROBERT FULTON: In the electronic --

LT GEN ADREW FIGGURES: Yes.

LT GEN SIR ROBERT FULTON: The electronic environment in southern Iraq was not that for which it had been developed in I think America and therefore it had difficulties to begin with and then I think they were resolved over time.

SIR RODERIC LYNE: So we got it online -- I mean, Phoenix has been used in the campaign or it is worn out or maybe doesn't work for this purpose so it has gone.

Then there is a gap and when in practice is that gap filled? How long did we go without?

LT GEN ADREW FIGGURES: Well, we got Hermes, which is a precursor of Watchkeeper, in 2007.

SIR RODERIC LYNE: So there is a four-year gap. In that four-year period did we have -- did our commanders down in MND South East have UAVs?

LT GEN SIR ROBERT FULTON: No.

SIR RODERIC LYNE: Should they have?

LT GEN SIR ROBERT FULTON: Should they have? I think the approach that was taken was the issue -- the question was: should they have intelligence? Should they have access to intelligence? Therefore the decision was taken that the collector was to be the American assets and that we would put people into the American system so that this would cover the tasking and would make sure that we got the product, because there has always been, not just with UAVs, a question of: do you need to own the means of production in order to benefit from the product? It was the product that mattered. What this -- and we put a number, and I can't remember how many it is, but a large number of air force personnel into the American system so that we could give commanders the product of it and we could learn.

Now over time there was clearly a concern expressed by commanders that actually they would like to own the means of production; in other words, they would like to actually -- they would like to have these, and this is -- this then led to a stated requirement for

Predator, and at that stage Predator A was coming to the end of its life and it was to be replaced over that time by Predator B, a much more capable -- larger and capable UAV.

The decision was taken that it made no sense to go out and buy Predator A and we should wait for Predator B, son of. The issue then became one of: could we break into the American chain, because the initial demand was that all of Predator B should go as fast as they could to the Americans? It required the intervention by the Chief of the Air Staff with his opposite in the States in 2006, I think, to, as it were, break that logjam and also with the influence of Air Chief Marshal Stirrup in order also to break into that so that we were able to get the Predator capability.

Meanwhile there was work going on to say, "If we can't have Predator, should we go down the Hermes route?" That decision was taken in 2007. I think we might well have gone down that route earlier.

SIR RODERIC LYNE: So the answer is "yes".

LT GEN SIR ROBERT FULTON: The answer to what?

SIR RODERIC LYNE: The answer to the question, "Should we have had it sooner", is "yes".

LT GEN SIR ROBERT FULTON: Yes, it being: did we want to own our own air vehicles?

SIR RODERIC LYNE: If we go back to the beginning of the story, UAVs were not very new by the time the SDR new chapter was written in 2002. That recognised the importance of building up capability. As you have said, this needs to be a properly integrated system. You can't just go down to the nearest model shop and buy it.

We had Phoenix, which is recognised in the campaign by commanders to have played a very important part, but then we had a four-year gap in which we had to borrow the means of production, as you say, from -- at least had to access American coalition assets to get that bit of the production. I believe we also accessed Australian kit as well to do it, at a time when our commanders -- I mean, General Shirreff, for example, in evidence to us, said it beggared believe that for three and a half years he didn't have, as the GOC NMD South East, UAVs under his command. Because we are not talking about astute submarines here or Typhoons. They are not massively expensive bits of kit, and while you are waiting for your ideal solution to come in and you have a commander on the ground who is dealing with force protection -- and, as you said earlier, this is not just about the amount of armour on a vehicle, it is tactics, techniques, procedures. It is seeing what the guys are firing at you, and if you are the commander on the

ground it is not unreasonable to want to have your own kit up there under your own control, is it?

So there was this very long gap that we didn't fill with our own kit. Now was there anything that could have been done to fill that quicker?

LT GEN SIR ROBERT FULTON: Yes. I think you could have gone and bought Hermes from the Israelis. I think we could have brought Predator A. We could have had some second-hand Predator A.

SIR RODERIC LYNE: You could have done that in 2004?

LT GEN SIR ROBERT FULTON: I think we probably could have done, but I think what that also underplays is actually the investment in other forms of -- I mean, I think your question focuses on the platform rather than the product and whilst I fully recognise that commanders like to own their own platforms because if they don't own them, then they don't know, you know -- it is a comfort to own it. I don't mean that this a disparaging sense. You want to own it because then you feel you can control it.

SIR RODERIC LYNE: You maybe also have a quicker speed of response if you own it, perhaps significantly quicker.

LT GEN SIR ROBERT FULTON: Perhaps.

SIR RODERIC LYNE: Would it be significantly quicker than summoning help from elsewhere?

LT GEN SIR ROBERT FULTON: It might be. Well, I mean, what

you are describing is reactive rather than tasking intelligence assets to cover a certain area at a certain time. If your question is: if a ask a question in Basra, how long does it take it to fly to me to react, I think underplays actually the point of tasking the intelligence assets to collect the information you want at a time you want it, at a place you want it. For example monitoring pipelines, monitoring borders.

So I think I would paint a picture of a plan, an intelligence collection plan rather than whistling up the cavalry at the last minute.

SIR RODERIC LYNE: Can I move on, because time is pressing on us, to indirect fire?

When did this become an issue for us and how quickly and how were we able to respond to that threat?

LT GEN ADREW FIGGURES: I think this became an issue in my time and it stemmed from the withdrawal of the log elements from Shaibah log base into Basra Airport, the COB, as it was called, which obviously provided an irresistible invitation to terrorists --

SIR RODERIC LYNE: To fire rockets at.

LT GEN ADREW FIGGURES: -- to fire rockets at.

My memory of it is late 2006/early 2007, I think it plays well to the business of using what we have to good effect. The phalanx guns were taken off the Royal Navy

destroyers together with their radar. They were integrated into a sense and warn system which we use the giraffe radar for and they were integrated into the overall Command and Control system in Basra.

My memory is there were two tranches of it. I think we deployed five guns and then a further two, which would provide the area defence. That was I think done in the space of about nine months or under a year. Again should we have foreseen this? The lessons of history, concentrate, bound to be a target. What capability did we have to counter it? When faced with it, I think the reaction was swift and indeed we were helped by both Sweden and indeed the United States, who I think had a ticket on some of these giraffe radars and it just shows how the coalition worked. You could phone up -- I recall phoning up the Vice Chair of the Joint Chiefs' Office and speaking to Admiral Giambastiani and saying, "Could we have these two giraffe radars?" He said, "Yes, sort it out with General so-and-so. It is done." So it was a really good example of working together. I felt I had to get it in. So I am happy you have indulged me.

SIR RODERIC LYNE: Was it, given time constraints and all the rest of it, as effective a solution as we could have devised at that particular moment?

LT GEN ADREW FIGGURES: I will have to resist the temptation for an analogy, but it wasn't a perfect solution. There were always leakers to it. The point was, were you able to protect the most vulnerable parts of the base and unfortunately one or two rockets got through, and my memory serves me that we lost both dead and wounded as a consequence of indirect fire, but it also saved, and it is difficult to calculate this, a number of lives.

So as a system it was successful, and I think having seen it in operation, the morale effect was absolutely staggering. So with the incoming and to see the shells going into the air, you felt you were not just taking punishment. You were actually doing something. So it was a popular junior ranks weapon, is the ...

SIR RODERIC LYNE: If the armoured Reaper UAV that we had by the end stage purchased had been sent to Iraq rather than to Afghanistan, or some of them, would that have helped us to defend our forces in the Basra COB?

LT GEN ADREW FIGGURES: Well, I think we go back to the basilisk-like stair. Even in Baghdad for the coverage and refresh rate that the Americans could generate, they could not prevent rocket man firing. So it would reduce the ability of the enemy to operate but it would not by any means be certain to close it down.

SIR RODERIC LYNE: No, but it would have made a difference

in your view?

LT GEN ADREW FIGGURES: It could potentially have made a difference. Indeed, the Hermes in 2007 and the Desert Hawk I think had some success.

Then we get into a further complication of rules of engagement, because you have to identify that the person who you think is setting off a rocket is actually doing it before you engage him. So there is a high level of proof required.

SIR RODERIC LYNE: Thank you.

SIR JOHN CHILCOT: I would like to ask you in a moment whether there are any final reflections you would like to offer, but I just want first to return briefly to a question we addressed at the start of this session.

General Fulton, you said that in 2003 we were not going to be in a position to deliver the full expeditionary capability envisaged in SDR 98 or the new chapter in the timeline for the main equipment programme, which is a ten-year timeline.

Recalling evidence from Air Chief Marshall Jock Stirrup, his description of the situation in 2002 was that:

"Our expeditionary campaign infrastructure, tented accommodation, showers, messing facilities for people who were being deployed were still built up and our

strategic and tactical mobility was still somewhat constrained."

So taking the expeditionary capability objective in the SDR in the round -- and I know you can't put a figure on it -- broadly how much of that had been delivered by 2003, March onwards? Most of it?

LT GEN SIR ROBERT FULTON: Do you mean how far down the road towards being able to --

SIR JOHN CHILCOT: That's a good way to put it.

LT GEN SIR ROBERT FULTON: -- mount medium scale operations, being able to do the DPAs while in the areas that were being talked about?

SIR JOHN CHILCOT: Yes.

LT GEN SIR ROBERT FULTON: We had increased strategic airlift, but not the totality required. We had increased sea lift, but not the totality required. We did not have the communications. We did not have the helicopters. We did not have crucially -- and we flirted with FRES earlier, but what the army needed to do out of the SDR was to deploy what they called the medium weight capability. In other words, if they were going to be flexible, deployable, sustainable, what they needed and wanted to do was to be able to put, and this is where FRES came from, FRES; in other words, they needed to deploy armour by air into a theatre. So,

1 therefore in, a sense the timeline of the army being
2 able to deploy to be able to do what they required to do
3 was the lifespan of FRES. So comms, the lifespan of
4 Skynet 5 and indeed I would also add the ISTAR
5 capability. I would add Watchkeeper into that, but
6 I would also add Astor and Raptor and Soothsayer,
7 because what we had to do, remember, is we had to be
8 able to go there and operate on our own. We could not
9 rely on other people being able to collect our
10 intelligence for us. So I think we were a long way from
11 it.
12 SIR JOHN CHILCOT: And noting in passing the SDR talks of
13 two medium scale. Iraq is actually large scale, isn't
14 it, with a division size engagement?
15 LT GEN SIR ROBERT FULTON: Yes.
16 SIR JOHN CHILCOT: Final reflections then from this
17 morning's session.
18 LT GEN ADREW FIGGURES: May I, Sir John, just add to that?
19 I think our supply chain was an area where we have a lot
20 of work to do, so the whole business of management of
21 the joint deployed infantry, knowing what we have, where
22 we have it, part of the sustainable peace, the whole
23 understanding of our usage and the ability of
24 pre-empting it such that we drive up the levels of our
25 availability.

So the supply chain -- the joint supply chain is a critical enabler to expeditionary operations and work to be done on it.

SIR JOHN CHILCOT: Not wanting to prolong it, but is asset tracking part of that supply chain phenomenon?

LT GEN ADREW FIGGURES: Yes.

SIR JOHN CHILCOT: Other reflections, before we close?

LT GEN SIR ROBERT FULTON: No, nothing we have not covered.

LT GEN ADREW FIGGURES: I would agree.

SIR JOHN CHILCOT: Thank you, General Figgures and General Sir Robert Fulton. I will close this session now and we will resume at 2.00 pm, just under an hour, when we will be having evidence from Dr Hans Blix. Thank you very much.

(1.05 pm)

(The hearing concluded)

--oo0oo--