HOUSE OF COMMONS

Public Accounts Committee

Oral evidence: MoD Equipment Plan 2022-2032, HC 731

Thursday 15 December 2022

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[Watch the meeting]

Members present: Dame Meg Hillier (Chair); Sir Geoffrey Clifton-Brown; Mr Jonathan Djanogly; Mr Mark Francois; Peter Grant; Nick Smith.

Gareth Davies, Comptroller and Auditor General, National Audit Office, and Marius Gallaher, Alternate Treasury Officer of Accounts, HM Treasury, were in attendance.

Questions 1-117

Witnesses

I: Lieutenant General Rob Magowan CB CBE, Deputy Chief of Defence Staff (Military Capability), MoD; Charlie Pate, Director General Finance, MoD; Andy Start, Defence Equipment & Support Chief Executive Officer, MoD; David Williams CB, Permanent Secretary, MoD.

Report by the Comptroller and Auditor General The Equipment Plan 2022 to 2032 (HC 907)

Examination of witnesses

Witnesses: Lieutenant General Rob Magowan CB CBE, Charlie Pate, Andy Start and David Williams CB.

Q1 **Chair:** Welcome to the Public Accounts Committee on Thursday 15 December 2022. We are looking, as we do every year, at the latest equipment plan from the Ministry of Defence. These plans are published every year, covering the next 10 years of defence spending on equipment. The plan that we are looking at today is for 2022-23 and the 10 years following.

Obviously, supplying the military is an expensive business and much of the kit is bought in the hope that it will never be used in aggression, but it needs to be an affordable programme. We have had concerns raised over a number of years about these programmes, including this year, in respect of optimistic assumptions and contingency planning. Of course, we are facing the challenge of the ground war in Ukraine, which the Ministry of Defence and the British Government have been supporting by supplying equipment. That has raised issues with how we backfill equipment that we provide to our Ukrainian allies.

We have officials here from the Ministry of Defence to talk about the plan and, crucially, the cost of it. I welcome from the Ministry of Defence David Williams, the permanent secretary, who is a regular visitor; Charlie Pate, the director general for finance; and new witnesses today, General Rob Magowan, who is the deputy chief of the defence staff, and Andy Start, the Defence Equipment & Support chief executive, who is new to the job and appearing for the first time in front of this Committee. Mr Start, could you explain a bit about what you do, so that people can put it in context?

Andy Start: Thank you, Chair. I am three months into being the CEO of Defence Equipment & Support. I am a little different to my predecessor in that I am joining after 35 years in the aerospace and defence industry; I am very passionate about the industry.

By way of background, I started my trade in military space, building the UK's military space asset, Skynet. I then worked for the Secretary of State for Trade and Industry, Patricia Hewitt, on the national aerospace strategy, before joining BAE Systems, where I was the corporate strategy director for the UK. I then went on to run their software business with the Swedes and to run the avionics business, which created some of the flight controls for aircraft such as the F-35 and Eurofighter. I went off to the States for two years, which helped me understand how the US defence system operates. I came back and spent a number of years in defence space services, before going to the Royal College of Defence Studies for a year and then to run the public sector of Capita.

Chair: Thank you. You are not a career civil servant, so it is helpful to get a bit of flavour, although with the General, his CV is fairly clear.

We have no declarations of interest from Members. Before we go into the main session, I will ask Mr Nick Smith MP to ask a couple of questions about how the military is supporting the current situation around the country, with the strikes that are going on.

Q2 **Nick Smith:** Good morning, everybody. Mr Williams, could you help us? I want to talk about the issue of military staff covering for striking workers in the weeks ahead. There has been some media coverage that up to 1,000 military personnel have been asked to support staffing in the national health service, the Home Office and Border Force. That does not include the fire service, where there may also be difficulties. Could you confirm how many military staff have been deployed and are ready to help out in those services, please?

David Williams: Certainly. Through our MACA arrangements—that is military assistance to the civil authority—we are providing support to help maintain essential services in three areas. For Border Force, we have identified and trained around 600 armed forces personnel. My expectation is that they will be operating in support of passport control activity at major points of entry.

Q3 **Nick Smith:** Have they already been trained?

David Williams: They are already trained and ready to deploy. We have identified a similar number of armed forces personnel to support the NHS, specifically through ambulance driving, and that training is under way in support of five ambulance trusts in England this week.

Q4 **Nick Smith:** Have those 600 been trained up already?

David Williams: They are in the course of being trained now, so that training is live. We are scoping support for fire and rescue services. I think we will provide just under 200 specialist fire crew and we are considering whether other general duties personnel may also be needed to support the maintenance of central fire services in the event of industrial action in the new year.

Q5 **Nick Smith:** Thanks. So quickly totting that up, that is approximately 1,400 personnel.

David Williams: That sort of order, yes.

Q6 **Nick Smith:** Do you think you need any more to be deployed?

David Williams: At this stage, those are the live conversations we are having with other Government Departments. It is possible that there may be some requests for assistance from the devolved Administrations. We have notionally earmarked up to around 2,500 troops, should they be needed.

Q7 **Nick Smith:** Okay, so it is not in hand for Scotland and Wales, but you expect it to be.

David Williams: It depends on the requests that they make and whether those are requests that we are able to help out with.

Q8 **Nick Smith:** So you think overall it could be up to 2,500 personnel.

David Williams: It could be. At the moment, I am not expecting it to get that high, but we have made plans on a contingency basis in case.

Q9 **Nick Smith:** Given that many of these military staff are already in training for all this activity, I understand that the costs are now borne by the Department of Health and the Home Office. What, would you estimate, has it cost so far?

David Williams: In terms of the principles that I mailed to Mr Pate on the detail, we run an arrangement whereby we charge out to other Government Departments the full cost of military assistance, and then it is for them to accommodate within their budgets. That is the arrangement that we will use for this phase of industrial action. To date, the numbers will be pretty low because we will charge in arrears, but I do not know whether there is a number that you have in mind.

Charlie Pate: It depends on the exact scale and duration, but we are looking at several million a month for the type of level that Mr Williams has described. And all of that will be charged to the relevant Department.

Q10 **Nick Smith:** I understand it is about—let me know if this is right—£4,000 per week per military personnel. Is that right?

Charlie Pate: It would be of that order of magnitude, yes.

Q11 **Nick Smith:** So we are looking at an approximate cost of up to 2,500 personnel at about £4,000 per week for however long this difficult time takes.

Charlie Pate: Those are the kinds of sums we are looking at, yes.

Q12 **Sir Geoffrey Clifton-Brown:** Good morning. Mr Williams, why is there full cost recovery from the Departments? Surely you have the overhead of those military personnel, anyway. You are paying them and housing them, so why is it full cost recovery?

David Williams: For a couple of reasons. First, it is to ensure that Departments are not reaching for military assistance when they could get equivalent support from the private sector. It also helps to ensure that armed forces support is the support of last resort, rather than the first choice. It is consistent with our managing public money and Treasury budgeting guidelines. We have discretion in certain circumstances to waive that down to additional costs. Aspects of military support to other Departments during the covid pandemic, for instance, were charged on that basis.

Charlie Pate: The full costs regime is agreed with Treasury, as, indeed, it is if we move to marginal costs, which we did during the pandemic and for some Brexit support. We have been charging at full cost since about last summer for all MACAs.

Chair: Forgive me if I have to exit just to cough. Sir Geoffrey, as deputy Chair, might need to step into the Chair occasionally. I thought I would last, but it is not going very well so far. It is not covid; I have tested negative. We are now moving on to the main session on the importance of equipment. Mr Nick Smith MP will lead.

Q13 **Nick Smith:** I wonder if you could help me, Mr Williams or General Magowan. We are trying to understand whether you have sufficient confidence in the ability of the plan to react to changing events. The war in Ukraine has had many impacts in all sorts of ways. To lay people like me and others, we have seen a greater increase in the numbers of drones being used and an increased emphasis on rocketry. We hear there have been huge demands on the supply of ammunition and other defence matériel. You hear terrible stories of stocks being used up in weeks, when it was anticipated that it would take months and months. Given what we have learned so far—I am sure there will be other lessons from the war in Ukraine, and in other places, too, about our defence equipment plan—are there any no-brainer lessons that we need to be mindful of, given what has happened on those topics and in those areas?

David Williams: Let me start, and then I will bring in the General. I have two general observations. First, in terms of the agility and responsiveness of our processes, although we produce an annual summary of the equipment plan, which is the subject of the hearing today, our planning processes are a rolling process. We have the opportunity through the year, including through our in-year management processes, to make adjustments to the programme when we need to.

Secondly, the response we have made in terms of support from the UK to the Ukrainian armed forces demonstrates our ability to be very agile, when circumstances dictate, in the provision of lethal and non-lethal aid. We are working through the lessons from Ukraine, and the General is leading aspects of that process. There will be some early lessons, in terms of the level of ammunition and other weapon stockpiles that we hold, and we are already taking action to address that. There will be lessons around innovation in the battlefield—the use of drones, AI and electronic warfare, and in particular how you marry some of those new capabilities with the more traditional heavy metal, as it were. Let me pause there and let the General come in.

General Magowan: The way we run our process, in terms of ensuring we have the flexibility in the equipment plan to respond to events, means that we very quickly seized the opportunity of learning those lessons from Ukraine through a range of studies across defence. That culminated in a session on 13 October, when we brought everybody together to understand the lessons. Then we brought in the industry about two weeks later, which Mr Start and I co-chaired. We can spend as long as you wish, Chair, on what those lessons are. Mr Williams has already identified some.

Chair: We will be coming to that.

General Magowan: The point I am trying to make is that we have taken those lessons into our operational risk register. I hold a risk register that identifies where we need to invest to ensure we are meeting the threats of today and tomorrow. We are adjusting that register as a result of the Ukraine lessons process, which I just described.
With the integrated review refresh in the spring, we are now thinking about how we may need to adjust the equipment plan beyond what we have already done in support of Ukraine and in our own replenishment. We can go into that in detail if you wish. That will become clearer in the next couple of months, based on the lessons we have learned from Ukraine.

Q14 **Nick Smith:** Give us your very quick, back-of-the-envelope response: what do we need to think about straightaway to get up to snuff?

General Magowan: If I were allowed to say one thing in an elevator, I would say that hard-edged, conventional war fighting deterrence is very much back. That translates into certain capabilities that we are now going to put more focus and more resource into through the process of the integrated review refresh.

Q15 **Nick Smith:** I will come back to you with one single question: will we need more soldiers to work alongside that extra capability going forward?
General Magowan: Not necessarily.

Nick Smith: Are you sure?

General Magowan: You cannot equate the number of personnel directly to the military capability that we need to deter and defeat adversaries—particularly peer on peer. To me, as a military professional, that causal link is not that straightforward.

Q16 **Mr Francois:** Good morning. General, I think it is fair to say that Britain can be very proud of everything we have done to support the brave Ukrainian people—I don’t think anyone in this room would disagree with that statement—but the Secretary-General of NATO, Jens Stoltenberg, said just a few days ago that there is a risk that Ukraine could escalate into a hot conflict between Russia and NATO, so clearly that is a possibility that we cannot ignore. In that context, the integrated review came out in spring

2021, and the Defence Command Paper—the defence bit of it— followed shortly thereafter, and then Ukraine was invaded in February 2022. This is a 10-year plan. Isn't it the fact that, because of the invasion of Ukraine, the equipment plan that we are looking at in detail today has in effect largely been overtaken by events?

General Magowan: No. That equipment plan, which has been developed over a long period of time, is already in play, in terms of what we have today. In terms of what is being developed through this decade, it is absolutely getting at the point I made about hard-edged conventional deterrence.

Mr Francois: You mentioned that.

General Magowan: But there are still risks.

Q17 **Mr Francois:** There was a RUSI paper that came out just over a week ago that talked about initial lessons learnt from the Ukrainian invasion, one of which is that the Russians fired off in two days the equivalent of our entire war reserve of artillery, and you are still telling us that the plan has not been overtaken by events.

General Magowan: I am not saying that it has not been overtaken. What I am saying is—

Mr Francois: You just said that it had not.

Chair: Let the General finish.

General Magowan: We have a baseline plan that is based on war fighting, but you are absolutely right, Mr Francois, that we have identified quickly and are addressing the fact that we do not have the resilience and the redundancy in our supply chains for munition stockpiles—both basic stockpiles and complex weapons. That is why I am working closely with Mr Start to ensure that we are delivering that resilience into our sovereign primes to get after it. The point you are making about munition rate in war fighting that we are seeing in Ukraine would be one of my key lessons from Ukraine, and that is why we are taking the action. That will see an adaptation of the equipment plan, but it does not mean that the equipment plan is completely unfit for purpose.

David Williams: I think that the point of the debate is around the phrase "largely overtaken". There are definitely changes that we all want to make. The core of the plan seems to hold good but, in terms of assumptions around the duration and intensity of the land battle, there are clearly lessons to learn from what is happening.

Mr Francois: We are going to come back in a few minutes to the land environment specifically. General, I think you yourself would volunteer that that is a particular area where we may have to enhance what we are doing— if that is fair. To save time, we are going to come back and look at land very specifically, so perhaps we will just leave it there.

Chair: Thank you, Mr Francois. Jonathan Djanogly.

Q18 **Mr Djanogly:** I was just listening to Mr Smith and Mr Francois. There seems to be a growing consensus coming out of Ukraine that, despite the wonderful efforts that we are giving to the Ukrainian people, the UK itself is underequipped—albeit with quality equipment—to fight a major war on the European continent. Is that correct?

David Williams: If we think back to the integrated review, in that context it is important to emphasise the centrality of our membership of NATO to UK defence. In a world where you are thinking about a land war in Europe with Russia, that would be a NATO endeavour, not a UK-only one. We need to look at resilience—assumptions around stockpiles and capability—in the NATO context in the first instance. Later in the hearing Mr Start, who is our national armaments director and a rep to NATO in that space, may have some points to add.

Do I think that we nevertheless need to adjust aspects of our land capability? Yes, I think we do, and stockpiles are a good first place to start. Consistent with the direction of our investment—we touched on this in the previous hearing on defence digital—the ability to take targeting information from space platforms, from airborne intelligence and surveillance assets, and to fuse it in a way that can facilitate and support ground manoeuvre and attacks, is as much about the investment in the future that we are already planning to make. It is about doubling down on those bits of the plan that are still very relevant while being open to the fact that there will need to be adjustments at the edge. Some of that is about the volume of hard fighting power, as the General set out.

General Magowan: It might be worth adding against your question specifically that Ukrainian bravery, courage and esprit de corps, with considerable support from international allies, has held the Russian armed forces in check. Within a NATO context, if we were embarking on what you have just described, I would not back the Russian armed forces.

Q19 **Mr Djanogly:** That is a fair point. In the context of the readjustment of your spending, plus what you have just been describing in terms of having to reassess things again from Ukraine—I think you said looking more at the traditional, conventional-type forces—can we cope with all that within 2% of GDP? What gives way?

General Magowan: If we are going to meet the threats that we are now seeing playing out in front of our eyes, either it is going to involve significant reprioritisation in certain areas of the equipment plan—not overhauling it, but some reprioritisation, although that will invoke risk across our capability—or we will need more resource to prevent us from having to make those choices.

Q20 **Sir Geoffrey Clifton-Brown:** Good morning, everybody. I will start with Andy Start, please. The second world war taught us that every sort of engineering factory was immediately put into action to produce arms. Since then, we have largely run down that capability, so you can have all the money you want and learn all the lessons you want, but if you do not have the manufacturing capability to make all these replacement missiles and everything else, you cannot do it. That takes a lot of time, so what is actually happening about increasing our manufacturing capability? Is this being done on a UK basis? Is it being done on a NATO basis with our NATO partners, particularly the Americans?

Andy Start: You are absolutely right that we address this with our allies. On a NATO basis, we get together among all the armaments directors in what is known as the Conference of National Armaments Directors. Within that forum—I have already been out in Brussels twice since I have been in the job—we talk through that dynamic of how we stimulate that industrial supply chain to be able to meet our long-term needs.

There is a definite lesson learned from Ukraine, which is that historically we have been working on a principle of buying batches of munitions and capability, and we need to shift to a scenario of having continuous production—warm production lines, if you will—that can then be ramped up at a time of war. We are starting to shift those conversations; that is happening on a NATO basis. Together among our colleagues, we are combining the long-term requirement and articulating that back to all our industry to allow it to invest in those long-term strategic capabilities. Then, in the UK, we are proactively working with our key suppliers—which is BAE Systems, MBDA and Thales—to make sure those production lines are ramping up, and we have obviously placed letters of requirement into the United States.

Q21 **Sir Geoffrey Clifton-Brown:** It is not just a question of replacing what we have used, is it? Given Mr Francois' figure about the Russians using the entire amount of UK missiles in the first 48 hours, you have to make a judgment now about not only the replacement amount you will need, but how much extra you will need because of the changed method of warfare.

General Magowan: Absolutely, and that is what we are doing right now. We are replenishing the stocks that Mr Start has just talked about. We also have lists of munitions and broader capability that we want to invest in now through the process Mr Start has just outlined, particularly through our sovereign primes, to ensure they have the resilience to respond. Whatever happens through the integrated review refresh, we will address this munitions shortfall and increase it.

Charlie Pate: On the financial aspects of that, not least given the previous question, there are two elements. We have agreed funding from the Treasury from the reserve for the replenishment of stock that we have gifted to Ukraine.

Q22 **Sir Geoffrey Clifton-Brown:** Whatever it is? However much it is?

Charlie Pate: Well, we are doing that on a case-by-case basis. If we are replacing like for like, that is reasonably straightforward. In some instances, what we have gifted is no longer in production, or our requirement is slightly different, so we work through that and agree with the Treasury what they will reasonably replenish. Secondly, the Chancellor provided £560 million for the Ministry of Defence, over and above the budget set out in the equipment plan for the next two years, to go to exactly Mr Start's description of restarting those production lines with the UK companies.

Andy Start: To give you some level of confidence, there are stocks that we have already acquired. We have already acquired replacements for NLAW, for high velocity missile and for other air defence capabilities. We have already bought what was available from stock and we are working with each of our suppliers to make sure they have longer-term requirements to stimulate the long-term demand.

Q23 **Mr Francois:** Are you saying that we have now replaced in our war stocks all the NLAWs that we have given to Ukraine?

Andy Start: No.

Mr Francois: Ah. That is what you implied.

Chair: Let Mr Start clarify.

Andy Start: Thank you for the question, Mr Francois. We have already bought that which was available, because it was in existing stocks, and we have placed an additional contract for long-term production with the NLAW manufacturers, which is Saab and Thales in Belfast. That contract was placed last week.

Q24 **Chair:** When will that be delivered?

Andy Start: Progressively from ’23 onwards. It is not an instant replacement—

Q25 **Mr Francois:** How long will it take us under the contract you have just signed to replace all the ones we have given to Ukraine?

Andy Start: I don’t know. I would have to come back to you on the detailed timing. It is a phased delivery programme between now and—

Mr Francois: It is several years, isn’t it?

Andy Start: It is at least two years, for all of them. It is a progressive rampup.

Mr Francois: Thank you. I don’t think that is quite the impression you were conveying to begin with. Shall we get on to land?

Chair: We have got it clear now. I am just going to go back to Sir Geoffrey, and I will come back to you in a moment, Mr Francois.

Q26

Sir Geoffrey Clifton-Brown: I am going to come to you, Mr Williams. How are you going to prise this money out of the Treasury? Where have you got to in the process? The General talked about the integrated review refresh. Can you give us an update on where you have got to with that and when we can expect to see it? CDS gave a speech to RUSI yesterday, and from what he said, it implied that you are some way down the track. You are going to need to produce this before the Budget, otherwise how will the Chancellor actually decide on how much extra he is going to give you? ***David Williams:*** Yes. The refresh of the integrated review itself is being led out of No. 10 by the Cabinet Office, involving the MoD and other Departments. That is not a defence lead, but obviously we are contributing fully to it. We are then looking to refresh our own plans—the defence Command Paper that was published alongside the original IR—and that work is under way, both through this year’s version of the annual budgeting cycle, as well as a series of specific sprints on particular topics and themes.

The Chancellor, in the autumn statement, said that he expected defence would need more investment and increased funding, but that would flow from the conclusions of the integrated review. We are working on the assumption that those decisions will be taken in time to inform any fiscal event—Budget—in the spring. That work is under way. That is the kind of timeline we are working to for a set of decisions in the first quarter of 2023.

Q27 **Sir Geoffrey Clifton-Brown:** Given that you can't just bounce this on to the Treasury and expect them to give you the money next day, are you anticipating in your minds that this will be complete by, say, the end of February? I am trying to tie you down a bit more.

David Williams: We are engaging with the Treasury routinely as we go. The precise timetable for the endgame is not yet agreed.

Q28 **Sir Geoffrey Clifton-Brown:** Okay. Back to Mr Francois's point, this is going to be a game changer—not just Ukraine; there are a whole load of other factors that we will come to in a minute that will change your budget perceptibly. I know it is planning for all the equipment you have contracted for and it has an aspiration for a whole lot more equipment, but isn't this particular defence plan likely to be superseded by something that looks very different? When we have this hearing next year, we will be looking at a very different defence plan, won't we?

David Williams: I think it will be adjusted and updated. As I said to Mr Francois, it is the balance. I think the core of the plan will hold good, but I expect that you will certainly see the impact of decisions to adjust our capability plans, both in the light of lessons from Ukraine, and to reflect some of the direction of travel on our recent announcements of a partnership with Japan and Italy on combat air.

We are expecting a leaders' decision on the AUKUS partnership with America and Australia in the first part of next year. There are a range of decisions in the nuclear enterprise, particularly around our new programme to replace the warhead, that we will want to reflect in next year's planning round or possibly the one after.

So yes, I think you will see change, and it will be noticeable change, but it is not starting from a blank sheet of paper. This is a balanced plan that delivers well against the objectives of the 2021 integrated review. It is affordable within the financial assumptions that we had at the time. I expect the refresh to be that—a refresh of the integrated review, not back to square one. It is about the degree of commonality versus the degree of change.

Q29 **Sir Geoffrey Clifton-Brown:** My last question is for Mr Pate. I know that the Chair has given us a parameter: we are not to go into individual equipment budgets. The largest of the lot is defence nuclear. There are two figures in this Report. There is the £1.6 billion extra, and there is the £4.5 billion. How do those two figures relate to the original budget, and how much of the £10 billion contingency is left?

Charlie Pate: Thank you, Sir Geoffrey. The £1.6 billion is from the CAAS—Cost Assurance and Analysis Service—report that we publish alongside the equipment plan every year. That is an independent view that is set against the project team's costing. At this stage, CAAS thinks that it could cost another £1.6 billion over the 10 years—recognising that the programme extends beyond that—of the equipment plan. That is lower than the difference was last year, and that is partly because the project team has increased its costing. In the main, the CAAS report reflects a different view on what risks may materialise, and the probability of those risks occurring.

That actually then links to the £4.5 billion figure, which is the DNO's view of risks that it has not included in the budget—we call that "risk outside costing". Part of CAAS's work is to look at those risks and say, "Actually, some of those are more likely to materialise than the project team thought," so there is an increase in the DNO's view of risk outside costing of about £4.5 billion. That is on top of existing risk. But at this stage, we do not think that those risks need to come into the programme. That is the ongoing debate that we have every year. You asked about the £10 billion. I do not have the exact figure, but it is around a fifth to a quarter of that.

Q30 **Sir Geoffrey Clifton-Brown:** Is that £10 billion fixed for the first 10 years, or does it apply to the whole project?

Charlie Pate: It applies to the whole project. We agreed indicative profiles with the Treasury in spending review 20, and we have drawn down the first two years of those. Indeed, as part of the autumn statement, the Chancellor agreed to the number that we had settled on in SR24 next year, so we already have certainty that that number is available to us should we require it, which I suspect we will.

Q31 **Mr Francois:** General, the RUSI report that I referred to earlier said that NATO, including the UK, does not have the ability to fight a sustained war with Russia because, essentially, we run out of ammunition and kit too quickly. You have intimated that, when we get the review, which will lead to a revised and updated equipment plan, the land element may be an area of greatest change, so let's focus on land briefly. We have not bought a new armoured fighting vehicle, other than Terrier and some engineering stuff, into service for over 20 years. Most of our armoured fighting vehicles are either obsolescent or obsolete. The Warrior CSP was cancelled, so we will lose our armoured infantry capability entirely. The Boxer IOC has slipped to 2025, Challenger 3 to '27 and Mobile Fires to '29. How on earth are we going to update the British Army so it could deter the Russians when all these programmes are so late and/or over budget? I haven't even mentioned Ajax yet.

Chair: We will save Ajax—we'll save the best until last.

Mr Francois: Isn't it true that in the land environment we have an immense amount of catching up to do?

General Magowan: Yes. It is good that those programmes are in train, but there is slippage in exactly the way you just described, Mr Francois. I am not denying that we need to ensure that our ability to war fight as a division within a NATO corps is part of our offer to NATO. The risk to our being able to deliver that from an operational perspective is significant. Those programmes are delayed, and we can get into the reasons for those delays if you wish, but I reiterate the point that war fighting is about the ability to adapt fastest to the new environment, as you know. That is what the

Ukrainian armed forces are doing today. They are holding a very large element of Russian land forces at bay, and actually pushing them back in Ukraine, with support from a range of partners. That shows that when we are at war, the ability to understand the environment and to adapt quickly gives one the upper hand in the battle space.

Q32 **Mr Francois:** To save time, we understand that. We have nothing but admiration for the Ukrainians. We have lent them kit, and now they are teaching us tactics. But let's talk about the British Army. If we crashed the 3rd (UK) Division out of barracks at 5 am tomorrow—I am not saying anything that the Russians don't know—we would be lucky if half of it even got out of the tank park, because the vehicles are so old and so prone to problems; then it would take us 60 days to get to Estonia. How can we deter Russian aggression with a British Army whose armoured fighting vehicles are clapped out?

General Magowan: That is precisely why we have invested so much into modernising the Army to deliver future soldier through those programmes.

Q33 **Mr Francois:** You said that, but it is going to take years for any of those new programmes to come in and there is a war going on now. What are you doing to speed it all up?

General Magowan: That is what we are learning from Ukraine. We are not fast enough and not flexible enough in our approach. We are learning those lessons and putting them into the equipment programme delivery now. I am not suggesting that delivering the totality of the equipment programme for the Army would see us at green with regard to divisional level war fighting. A range of risks remain untreated, particularly what we call joint enablers—for example, medical and integrated air missile defence. I won't give you the long list; we can do that in a private hearing—no problem. There is more that we need to do. One of the key lessons from Ukraine is that we must be faster in our procurement to enable us to do what you have just said, which is deter the Russians.

Q34

Mr Francois: To save time, there is no disagreement at all. We want all of this to happen far quicker. Even Boxer is three years away, and people are being blown to pieces as we speak. What are you doing to materially speed up these programmes in case we have to fight a war this year or next year? **Chair:** Can we redirect that to Mr Start? That would make sense.

Mr Francois: How are we materially and with a sense of urgency speeding up these programmes?

Chair: Mr Start, you are new in the job. Show us what you can do.

Andy Start: First, let's speak about Ukraine and what we have being doing to support Ukraine, because that links to what we can do to enhance UK capability if and when we need to. In terms of Ukraine, there is £2.3 billionworth of aid—both lethal and non-lethal—within six to nine months. The first order was out within 48 hours of the ask. The feedback, having had a visit from the Deputy Minister Gavrilov the other day—

Mr Francois: I'm so sorry— ***Andy***

Start: No, this is relevant— **Chair:**
Keep it tight, Mr Start.
Andy Start: What he was particularly complimentary about was the way we had been able to give them modern equipment to augment their legacy equipment to deliver a better outcome. What does that mean for us in terms of the UK? First, we are pressing on with trying to drive forward the modernisation programme we have. We will have our first vehicles for Boxer delivered in '23, and they will roll out through '25 onwards. Having ridden in that vehicle, it is a game-changer in terms of the capability that it delivers.

Q35 **Mr Francois:** Sorry, but you people always elide delivery and initial operating capability. It does not go into service until 2025, does it?

Chair: Yes, can you be clear on that? It would be helpful.

Andy Start: The first vehicles will be delivered to the Army in '23. The IOC is in 2025—you are absolutely correct. If we were in a time of war, would we accelerate that and take more risk? Of course we would. There is an acceptance programme for all these pieces of equipment that is very careful and very scrupulous, but if we were actually in a conflict, we would take more risk. One of the reasons we have been able to go so quickly to support the Ukrainians is that the Ukrainians are prepared to take risk in terms of rolling out new equipment. That is why we have been able to use our future capabilities group to roll out things such as UAVs at an incredible rate to support them—because they are prepared to take risks.

Q36 **Mr Francois:** But the IOC is for a mechanised infantry company, and that is three years away.

Andy Start: As I said, we are pressing on with the programmes at the greatest speed we can. If we needed to and we were in conflict, we would take greater risk and go faster.

Q37 **Mr Francois:** How much faster?
Andy Start: You'd have to look on a programme-by-programme basis.
General Magowan: That is my whole point, Mr Francois. When you are in a war, things go a lot faster. The pressure on the supply chains, the pressure on the industrial base and the pressure on us increases manyfold. Therefore, the current rate of procurement that we are seeing through the programmes that you have articulated would be significantly different. We would take more risk.

Q38 **Mr Francois:** But General, if the job of armed forces is to deter war, wouldn't we be more likely to deter war in the first place if we were evidently readier to fight? Shouldn't we speed up now to show that we are ready to fight, to make it less likely that we will have to?

Andy Start: Mr Francois, if I may—

Mr Francois: Your implication was that if there is a war, we will speed everything up, but by then, on one level, it is too late, isn't it? The deterrence has failed.

General Magowan: But that implies that we are not doing everything we can to be as fast as we can within the parameters we have.

Mr Francois: Self-evidently we're not.

General Magowan: Well, we are. We are doing—

Mr Francois: No; if it takes another three years to bring a mechanised infantry company's worth of Boxers into service, with respect, General, we are clearly not.

Q39 **Chair:** As you raised the point, Mr Francois, can I just be clear? Is there a way you could speed it up? Mr Start hinted that you can take more risks. General Magowan, what would that look like for the British armed forces if you had to do it faster, and how fast could you go?

General Magowan: Mr Start and I are always having conversations about how much risk we are prepared to take in terms of procurement, and whether we want to take financial risk, technical risk or integration risk. There are a number of examples, particularly in the electronic warfare space, where we have taken considerable technical and interoperability risk to deliver capability into the hands of the Ukrainian war fighter, which we probably need to do within our own system to deliver the speed that you're talking about. But it is much easier to do that when you are facing an adversary, as the Ukrainians are, than in the context we are in today. That does not mean we are not trying to learn those lessons in our own procurement system today.

Q40 **Mr Francois:** Let me follow up directly. Part of the concept of the integrated review is that, while we might have a smaller Army, it would communicate with all elements and everything would be much more joined up and therefore far more effective. The brain to do that is called Morpheus, because by 2026, Bowman may have to come out because the crypto won't be up to scratch. How are we doing on Morpheus? In answer to a WPQ on the 13th, it was said that progress on the Morpheus Evolve to Open assessment phase has "fallen considerably short of what was anticipated," and that the Department is "reviewing next steps on how best to achieve our objectives on Morpheus."

Morpheus is a basket case. We have spent £1.5 billion of taxpayers' money on virtually nothing. If we bring all this stuff into service even more quickly and it cannot communicate properly, it's not good, is it? What's wrong with Morpheus?

David Williams: Shall I come to that one? As you know, Mr Francois, Morpheus is part of the overall land environment tactical comms programme. The majority of that programme is progressing well, including upgrades to the Bowman radio system, the wide-area network and how we enhance situational awareness for troops who are dismounted. The point of the Morpheus Evolve to Open programme is to allow us in future, through the life of the platforms rather than on day one, to exploit thirdparty upgrades—

Q41 **Mr Francois:** Mr Williams, to save time, we know what Morpheus is meant to do; the question is, why is it not doing it? Why is it so late?

David Williams: We have successfully now got through the design for the Evolve to Open programme. We are not confident that the current arrangements will allow us to deliver. We are holding GD, General Dynamics Mission Systems, to delivery against the original contract—

Mr Francois: GD is the Ajax contractor as well—

David Williams: Well, General Dynamics is the parent company. This is a different division, but yes.

Without prejudice to that contract, we are thinking through other options for delivery, so that we can get this open architecture in place. Otherwise, with a proprietary system like Bowman provided to us by General Dynamics, updates need to run through that company. In a way this is consistent with an approach to IT systems more generally; it is about freeing us from the original manufacturer to allow us to exploit a range of capabilities. It is not day one, black or white, either it is there or, if not, the capability fails; it is about being able to exploit these platforms with the communication systems, with their sensors, through life.

We will get there. It is late. It was due by the end of 2021—I think that was the contractual date—so it is a year late, and it will clearly take a bit longer to get in place. We are on it, and it is a priority. This element of the programme has not gone well—

Q42 **Mr Francois:** Mr Williams, a translation into English: GD has us over a barrel.

General, last one: you say that you want to speed everything. Our soldiers are arguably the best trained in the world—although the Ukrainians have been incredibly brave and impressive—but our soldiers cannot fight with kit that is obsolescent and does not work. Can you reassure the Committee that, buried somewhere in the depths of the Ministry of Defence, you have a plan materially to speed all these programmes up so that if we were to go to war 3 Div would have a fighting chance? Can you assure us that something along those lines already exists?

General Magowan: Absolutely.

Mr Francois: It does?

General Magowan: Absolutely. If we had to fight tonight with that division to deter and defeat an adversary in Europe, we would absolutely be ready.

Q43 **Mr Francois:** Right. Can you then assure us that you are doing everything you can to speed up these programmes to give us a better chance of winning?

General Magowan: Absolutely.

Q44 **Chair:** Mr Start, you can assure us that as well?

Andy Start: Yes.

Mr Francois: Thank you.

Q45 **Nick Smith:** General, you have talked about this very altered security situation. You have talked about your agility and working in collaboration with Mr Start. The phases you have used as a group about the equipment plan in the recent minutes have been about it being refreshed, adjusted, updated and adapted. It's too damn general! We need you to be much more specific. General, what changes do you expect to be made to next year's equipment plan so that the Army is fit for purpose?

General Magowan: Clearly, I can give a very full answer to that question, but you have to bear with me in this environment, please, because by answering it in a very full way, I am exposing operational risk. I have been very clear that there is operational risk in the plan—

Nick Smith: We don't want you to do that. We are on your side. But give us that very sharp response to show us that you mean business.

General Magowan: In general terms, in the land environment, we need to improve our ability for a division to work as an integrated whole, so there is a range of joint enablers, as we call them—I will not list them all here—in which we have lacked investment over the years. There is no doubt about that. We are holding operational risk against that. They are the sorts of things that we would have to adapt very quickly if we were fighting that division tonight.

Q46 **Nick Smith:** So in terms of changes to the equipment plan to meet the objective you just talked about, what would you do?

General Magowan: Either changes to the equipment plan to ensure that we are baking in more hard-edged deterrents or enhancements to the equipment plan if we were provided more resource.

Q47 **Nick Smith:** What and how?

Chair: What would be your wish list? I think that is what Mr Smith is asking. What is your Christmas list?

General Magowan: Do you want me to articulate specific military capabilities that we are currently holding risk against here?

Nick Smith: Show us that you are doing it, General.

Mr Francois: Yes, we do.

Q48 **Chair:** Do you have anything that you can reveal and can say in the room?

General Magowan: Okay. I think we have been quite clear that—again, learning the lessons of Ukraine—our ability to strike with precision at depth needs to increase. Our ability to defend ourselves from the sky through what we call integrated air missile defence needs to thicken up; we have some capability, but not enough. Again, that is a lesson from Ukraine. We are also learning another lesson from Ukraine. In the wars we have all fought in Iraq and Afghanistan, from an allied side—certainly not from the local side—we have been dealing with one, two, three or four casualties. We are now in the business of being prepared to deal with many more casualties than that. Our medical supply chains and our medical response plans do not necessarily match that. Would you like me to go on? That is in the land environment. In the maritime environment, we need to increase our lethality.

Q49 **Nick Smith:** What does that mean for the equipment plan in the next few months, to get it up to speed?

General Magowan: The things I have just articulated to you are the things we are going to argue for through the integrated review refresh. If we receive more resource—we will see—then we will add those to the equipment plan. If we do not receive more resource—we will understand why—then we will have to prioritise accordingly through what we call a balance of investment. I have just dealt with the land environment, because that has been our focus in this conversation, but I could talk about the maritime and air domains as well, within this hard-edged, warfighting environment if you would like me to.

Chair: We will leave that there for now because we need to comment on the numbers on the equipment plan and we could end up discussing an entire battle plan for any scenario. But I think the point is being made both ways and I thank you for that. It is always the challenge, isn't it? We all want more capability, but it does not usually mean that things drop off the edge, so that is something we will be keeping an eye on as the integrated review goes through. We will have just one last point on this and then Sir Geoffrey is going to move on to the money.

Q50 **Sir Geoffrey Clifton-Brown:** Mr Williams, I saw Mr Francois's scepticism about almost all the witnesses' responses on Morpheus. We cannot go into aspects of Morpheus, but it is the step-changer. In the last hearing we had on the digital, I think it was Mr Pate who actually admitted to me that Morpheus's digital capability will be the limiting factor of how Ajax can operate. We are going to get into Ajax later, but I think perhaps you might want to reflect on the answer about how quickly this integrated warfare, from an Army perspective, could be brought into operation and perhaps just think about that and give us a note on what you can reveal please.

David Williams: I am expecting that we will make decisions on the way ahead on the delivery of the Evolve to Open architecture for Morpheus during the course of the first quarter of next year, so this is not something that we want to drag on. The importance of that programme to us being able to exploit the capability of platforms such as Ajax and Boxer as they enter service—but, critically, through their life—is really important. We will fix it and we will get it right.

Sir Geoffrey Clifton-Brown: Let us leave it there. There was some reassurance there. We may want to think about it.

Chair: The problem with the equipment plan is we could go into every project in detail and we are going to be here all day.

Sir Geoffrey Clifton-Brown: We do not want to do that.

Chair: I am sure you do not want to be here all day either.

Q51 **Sir Geoffrey Clifton-Brown:** This Committee should follow the money, so can I take you to figures 3 and 4 on pages 15 and 16 while we are on the Army? What figure 3 shows us and we know from this whole defence plan is that it is all in deficit for the first seven years and then it is supposed to be in surplus for the last three. Of those first seven years, the Army is the most in deficit—to the tune of £2 billion. We know that, in terms of the toplevel budgets, the Army has the biggest deficit of the lot. We know that, probably, as a result of Ukraine, the Army is going to need the biggest increase in its budget. These things do not square, do they?

Charlie Pate: On the detail of the Army figure in figure 4, the majority of that deficit recorded this year is a change, I'm afraid, to the accounting treatment of general munitions. We ended up with a capital surplus and a resource deficit; that is reflecting the resource deficit in there over the 10 years. It is an ongoing change to how we account. We need to rectify that with the Army and, indeed, we are working through that with them for this coming planning round.

I would expect to see the majority of that resolved through the planning round through accounting treatment. The rest of it reflects additional realism that the Army has been taking, recognising that actually they have underspent in previous years. They are recognising that in their plan going forward and have a level of over-programming, actually, exactly to get after your and Mr Francois' point about the need to get on with it. They are recognising how they have out turned in previous years and are programming into that way.

I would rather it was a very accurate programme, but, as we have reflected in many conversations over the years, we have to add a realism to our budgets, recognising delivery challenges that we get across the portfolio.

General Magowan: Can I just add something on Morpheus? It is worth flagging, Sir Geoffrey, a broader point across defence: we carry risk because we lack enough data scientists and software engineers in defence.

Morpheus is just one project. We can go through a whole list of information, communication and technology programmes that are running at risk— colours that we would not want to see. There are a range of reasons—these are complex technical programmes—but one of the main reasons is that we have not got enough volume of those experts within defence, including the associated project management experience as well. I would also say that those within the industrial heartland who are providing support to our SRO who are defence facing suffer the same problems as well. We are all fishing from the same pool.

Chair: The Committee has raised these skills deficits a number of times.

Q52 **Sir Geoffrey Clifton-Brown:** Going back to where I was, Mr Pate, on the seven-year deficit followed by three years of surplus, are you really saying that the plan is affordable with the contingency of £4.6 billion that you have? Do those numbers really add up?

Charlie Pate: In short, yes. Our view is that they do against a £242 billion budget over 10 years. Yes, there are relatively small deficits in the first seven years, but the Defence Board judged, as we set this programme earlier in this calendar year, that that level of overprogramming risk, which is what it is, is reasonable given two things. These are the scale of the budget, as I have said, but also the uncertainty that we have as we firm up the integrated review plans—some of that takes time— and the challenges of deliverability.

I am sure we will come on to discuss inflation, but the flip side of inflation is some of the challenges we are seeing in supply chains, which mean we are not necessarily getting all the money out of the door that we expected. Given all that, the Defence Board's view was that the alternative would be to have taken reductions in the equipment plan at this stage; the board did not think that that was reasonable, given the relatively small level of overprogramming here and the uncertainty that I have just described.

Q53

Sir Geoffrey Clifton-Brown: I hear your optimism. I do not know whether I got the correct figure. I do not know whether I said £4.3 billion of contingency, which is only 2% of the budget, so it is a pretty thin margin.

Charlie Pate: I accept that that is the right number. That is entirely unallocated contingency for the equipment plan. We also have, as I described earlier, that risk inside costing of about £13 billion across the equipment plan. That is specific contingency for specific projects, and then departmentally we hold another £3 billion or so—I think it is £3.4 billion—of unallocated contingency for the whole of the budget, some of which could be for the equipment plan.

Yes, these are tight numbers, but we are trying to deliver the maximum to the speed that we can with the resources that we have been given.

Q54 **Sir Geoffrey Clifton-Brown:** They become even tighter, don't they? What are your plans for coping with cost pressures over the next three years, given that you have only half a billion of contingency available and £2.1 billion of unidentified savings to make?

Charlie Pate: We have significantly delivered on those planned cost reductions, which you were challenging me on earlier in the year. Last year the total number was £7 billion. That is now down to £3.7 billion, and of that, we have £1.6 billion that does not yet have clear plans.

As I have said in previous hearings, that is set against the hundreds of projects held at the TLB level. The General and I, at the planning level, generally deal with about 80 to 100 of the major programmes. This is recognising that TLBs have to do that balance of investment themselves.

Again, I am not saying there is not a challenge there, but those are relatively small numbers against the levels of spend over the next three years. We have delivered an improvement through this year, and I expect to see that continue.

Q55 **Sir Geoffrey Clifton-Brown:** How will you make the £1.4 billion cost reductions required over the next three years, particularly given that the new efficiencies you have got to find have not been identified yet?

Charlie Pate: On efficiencies, this might sound paradoxical, but I take confidence that our lower-confidence numbers are increasing. We are reflecting that we have more ideas of efficiencies across the organisation. Indeed, Mr Start and the DE&S have done a tremendous job delivering about £9 billion since 2016.

I could reel off specific efficiencies that we have delivered this year. We have taken a prudent view on that pipeline of new ideas that we have and have taken into the plan the £3.4 billion of lower-confidence efficiencies. There is a bigger pipeline beyond that, which gives me the confidence that we can deliver the £3.4 billion. We just have not finally agreed which programmes to pursue at this stage.

Sir Geoffrey Clifton-Brown: I have set you up nicely for Mr Francois to come in.

Chair: I think Mr Grant wanted to come in briefly.

Q56 **Peter Grant:** Mr Pate, in the NAO Report, paragraph 7 refers to the £2.6 billion deficit in the first seven years and says that, "The Department believes that this level of overprogramming across the first seven years is a manageable approach because it expects that some projects will be delivered more slowly than planned." How is that different from the £13.2 billion management adjustment for realism that is already built into the plan?

Charlie Pate: They are similar areas. The £13.2 billion is what we accept in our specific programme costings, given historical performance and our view of the deliverability of the portfolio, when you take it as a whole. Individual project teams are costing individual projects on the basis of what they think should be delivered. We then take an overarching view, including discussing with DE&S and the other delivery organisations what they actually think we can get through the delivery chains.

We have then accepted, given the uncertainty that I was describing to Sir Geoffrey, a relatively small level of overprogramming above and beyond that. Because of the uncertainty we are facing at this stage, it would be precipitous to take action. The action would be to take programmes out of the equipment plan. We reassess those every year, but the Defence Board did not want to go further to remove that deficit at this stage, given those uncertainties.

David Williams: Very briefly on that—this plays slightly to Mr Francois' earlier point—I would not want the Committee to go away with the impression that we are in any way relaxed about schedule. Delivering equipment is really important. I absolutely understand the challenges we have had in our most complex programmes, and those are the ones that we focus on. We want to deliver, and across the broad range of the NS programmes we are good at delivering on the schedule that we agree at main gate.

But there is a realism issue here, as Mr Pates set out. Some of that is about our, and our industrial colleagues', cost and schedule forecasting, and summaries about the impact of events, whether it is covid or supplychain disruption. There is also the point that, within the framework we operate of annual budgets where we cannot overspend or guarantee to carry forward underspend, we want to be able to maximise the amount of investment we can get out of the door. There is something about the framework that is not ideally how you would operate a complex—

Chair: You touch on an area that the Committee has a view on, although we haven't solidified our view. We recognise some of the challenges with annual budgets. Briefly back to you, Mr Grant, and then Mr Francois.

Q57 **Peter Grant:** Yes, I was going to say, Mr Williams, I think the Committee is very firmly on your side as to the issue of annual budgets when you are working on a plan that stretches for 10 or 15 years.

Coming back to Mr Pate, it still sounds as if what you're saying is that there is the doing part of the equipment plan that says, "This is what we'll deliver and this is when we'll deliver it," and there is the numbers part that says, "It's not affordable unless some of it doesn't get delivered according to the plan." Are some of the vital things that Mr Francois was listing earlier on included in the things that are not going to be there until '26 or '27? Are some of them going to be delayed?

Charlie Pate: We are dealing with 1,800 projects across the equipment plan. These adjustments are a top-down view of what is realistic. It comes back to Mr Williams's point that we are trying to deliver the maximum possible within the budget we've been given, but also within the budgeting framework. So, no, I am not sat here telling the General and Mr Start to slow down those programmes at all. Some of this is why I hold contingency back, so that, as they prove those adjustments wrong, we can afford them. That is, I'm afraid, an inevitable tension of the budgeting framework, as Mr Williams has set out.

David Williams: And indeed our experience over the last couple of years is that that realistic slippage has actually been higher than we have expected, albeit against a capital budget that has ramped up substantially. We are therefore also using opportunities to bring forward expenditure to deliver earlier or invest in long-lead items as a way of dealing with inflationary pressures. It is a dynamic process in year, as you see headroom opening up about how you can use that to best effect.

Andy Start: If I may—

Chair: Very briefly, Mr Start.

Andy Start: Having come across from industry, the annualised process that runs in Government does make it extremely difficult to run these big programmes in an optimal way.

Chair: I think we've got that point. This Committee has some sympathy with that point of view, but there are obviously accounting issues that come into it.

Q58 **Peter Grant:** If all the frustrating delays suddenly fell out of the system, everybody started operating at full efficiency and none of this slippage happened, what would you do? Would you go over the budget for the year, or would you tell somebody somewhere to artificially stop the projects until the new financial year?

David Williams: Well—

Chair: Mr Williams is thinking about nirvana.

David Williams: The options in those cases are either that we choose to allocate more money to the equipment programme, either by reprioritisation within defence budget or by a discussion with the Treasury, or we would need to deliberately slow down progress to deliver within our budget, but, as Mr Pate says, that is not our experience now.

Alternatively, the Comptroller and Auditor General will qualify my accounts and I will have an unpleasant hearing in front of the Public Accounts Committee explaining why I haven't lived within the budget that Parliament has voted, but that is not really an option available to me as accounting officer.

Charlie Pate: Mr Grant, without being unduly pessimistic, I am afraid that I don't think we would get to that stage. We have a plan with projects at very different stages of their life cycle. That uncertainty of planning, particularly as we are considering a project—before it enters contract, at which point the figures show we have much greater certainty of delivery, both to time and cost—is what is reflected in the discussion we have just had.

Q59 **Mr Francois:** We are going to come on to efficiency savings, Mr Pate, but within the context of the overall plan. Last year, when we discussed the increase in the size of the plan, we pointed out that the MoD had basically got a very good settlement of an extra £4 billion over four years, in simple terms. What you had done was to basically extrapolate that to the end of the plan, and that is why the plan went up quite a lot, and that is why you were then able to say that it was in balance. Is that a fair summary?

Charlie Pate: Just to be absolutely clear, it is very broadly £4 billion a year, let's say. With the agreement of the Treasury, we used the manifesto commitment of the current Government of 0.5% real year-onyear growth and we applied that to the equipment plan, and that was the agreement.

Q60 **Mr Francois:** Okay, but we now have inflation of 10%. We will come back to that in a minute. The problem is that that profile would have fitted a defence budget of about 3% of GDP by the end of the plan. We are now talking about 2% of GDP, subject to the integrated review, so you do not really have that money anymore. It is all up in the air.

The problem is, bluntly, that from about year 3 to year 10 that is all now funny money, because if the integrated review does not go the way that you want, and the Budget in the spring does not go the way that you want, suddenly all that extra money disappears and the whole plan becomes completely unaffordable, doesn't it?

Charlie Pate: I'm afraid I am not sure on the calculations there. The £242 billion budget—an over £500 billion budget in total for the Department is implied by that—is actually a prudent calculation. We are at 2.3% of GDP currently for the whole NATO-qualified spending. That includes the Ukraine £2.3 billion. That profile actually begins to fall over the decade.

Q61 **Mr Francois:** Are you saying that if in the spring the MoD was told, "We're going to spend 2% of GDP on defence," you would still have an equipment plan of £242 billion? I am not sure that that adds up.

David Williams: If the Government chose to hold only at 2% of GDP over this period, in the second half of the decade the defence budget would increase.

Q62 **Mr Francois:** Yes, it would increase, but it would not be able to cover the £242 billion over 10 years, would it? That is my point.

Charlie Pate: On the current trajectory, with this plan and the broader departmental budget, we fall below 2% later in this decade. This is a prudent plan. Three per cent. would be tens of billions more by the end of the decade.

Q63 **Mr Francois:** So you are saying, just to be clear, that that £242 billion is affordable at 2%.

Charlie Pate: If we dropped to 2% very immediately there would be shortterm reductions, but later in the decade, yes.

Q64 **Mr Francois:** All right. I am not quite sure that I agree with you, but fair enough.

Let's come on to the efficiency savings. It says on page 6: "The Department believes it can manage the affordability pressures on the Plan, but our assessment shows this will be challenging…the Department assumes that it will achieve its full efficiency savings of £13.5 billion over 10 years…However, the Top Level Budgets (TLBs) are still developing plans to deliver £3.4 billion (25%) of these efficiencies." Can you give us some idea of what that £3.4 billion worth of efficiencies within the TLBs is going to include, because that is a big number?

Charlie Pate: Yes, I accept that it is a big number over the 10 years. We have £10 billion in delivery, and that is just within the equipment plan. We have wider efficiencies across the rest of the Department. I will come on to

the specifics, but broadly we are on track to deliver our overall departmental
efficiency challenge this year, which is roughly equivalent to 5%, as per most Whitehall Departments. Last year we did, and that contributed to us landing exactly on our budgets, both the resource and capital.

Q65 **Mr Francois:** But Mr Pate, to save time can you just give us some actual examples of how you are going to save that £3.4 billion?

Charlie Pate: Yes. We are working through a lot of our support contracts. Mr Start has saved £229 million on Hawk support through partnering with industry and other nations. At the other end of the scale, we have saved £28 million on Merlin operational data recovery through using a different way to meet the regulatory standards, using technology.

Mr Francois: Did you say Hawk?

Charlie Pate: I am saying Hawk.

Mr Francois: Don't get us going on MFTS. Okay, go on—keep going.

Charlie Pate: Those are genuine savings against the baseline that was in the equipment plan. Going further, we are working together to introduce category management across the Department. That is something that industry has been doing for decades, but actually is a really important part of our industrial strategy—giving a pipeline to industry of what our contracts are looking like. For example, with gas turbines having a category across air and maritime, we are expecting savings of £148 million from that category. These are approaches, and I can give you many more specifics.

Mr Francois: No, you've given us a few.

Charlie Pate: We have 100 categories that we are developing that will drive that.

Q66

Mr Francois: Quickly to Mr Start then, you are now the head of DE&S. How many people do you employ?

Andy Start: About 12,000.

Q67 **Mr Francois:** I know you are not responsible for it, but what about for the Submarine Delivery Agency?

Andy Start: About another 2,000, is it?

Charlie Pate: Yes, I think so.

Q68 **Mr Francois:** To ask a question on efficiency, the Israelis, who have many similarities to us, run a procurement organisation with about 2,500 people. Why are they able to do that with 2,500 people yet you need 12,000?

Andy Start: We have got a massive difference in scope of what everybody does. If you break that 12,000 down, about half are in operational delivery, so that is the logistics, support and delivery of all the kit, running the client and defence support centre and actually doing a lot of the frontline work on munitions. Half are actually in frontline execution roles.

The other half, about 6,000, run the acquisition and development programmes. Of those, about two thirds are monitoring and maintaining the large scale of contracts we run, and the balance are doing the new concepts and evaluations. When you start to look into the detail of what they do, it is a significant team, but they are doing a huge amount of work. If you look at the spectrum of capability that we run in the UK and compare that to Israel, it is quite different.

Q69 **Mr Francois:** I am not sure I agree. I still think it is 12,000, and I do not accept your point that half of them are in operational roles so that all counts. Even if we take the 6,000 figure, you still need twice as many people to do what the Israelis appear to do far more efficiently. The Submarine Delivery Agency has 2,000 people, and we deliver less than one submarine a year. Surely we could find some efficiencies at DE&S, couldn't we?

Andy Start: Mr Francois, I absolutely believe that there are opportunities to things faster, better, leaner and more agilely, and I am committed to doing that. It is also worth noting that the range and complexity of what we do is huge. We have 1,750-odd programmes and 500-odd projects. The vast majority of those contracts are ahead of budget, and the majority are ahead of time. It is a huge complexity that we are managing. We can definitely do better, and I am committed to doing so.

Q70 **Mr Francois:** I am so sorry, but on a point of fact, of the 1,800, some are ahead of time, but overwhelmingly they are the smaller programmes. Among the larger programmes, there is a massive amount of delay. Of the 52 that the Infrastructure and Projects Authority audited, nine are red, only three are green and the rest are amber. That is not exactly a worldbeating record, is it?

Andy Start: I am glad you raised that, because it gives me an opportunity to explain the dynamics that are in play there. Those ratings are joint ratings that we do—our SROs do—and are then audited by the IPA. We take the IPA input. To run through the three categories, the green are the most straightforward programmes, obviously. The amber programmes are the ones that are expected to deliver on time and on budget but have risks that we need to manage. Then there is a small balance, and it is a relatively small balance in the context of the overall programme performance, that are late and problematic and unlikely to deliver on time or on budget or both. The red programmes are where we really have to put some energy,

and I intend to do so. I have a long track record of fixing red programmes, so I am committed to doing so.

Q71 **Mr Francois:** Forgive me, but to save time, we have had debates about colours and categories in the past. There used to be five. They got rid of amber-green and red-amber. There were a lot that were red-amber, so there are a lot that are hiding in amber in that sense. Even of the ones that are amber, many are late and/or over budget. It is not true to say that only the red ones are in trouble. Many of the amber ones are in trouble as well, aren't they? Be honest.

Chair: What percentage of the amber ones are you worried about them tipping into red?

Andy Start: I worry about all programmes tipping into red. Some reds we do recover. You will notice that in the IPA report there is a very good descriptor about how by working with the IPA and taking their recommendations we are moving some back, but it is a small proportion that will tip into red. As I said, red does not mean that we will not deliver. We will deliver, but we will just deliver potentially late or over budget.

To reiterate, we have 500-odd projects and programmes, and a very small proportion of those are red. Statistically, the majority of programmes are delivered either on time or early and the majority of programmes are delivered on budget or ahead of budget. That is one of the things that really surprised me, coming into the role. I was not expecting that, because that is not the public narrative.

Q72 **Mr Francois:** I will ask one last question on this and then hand back. This Committee concluded last year that the UK's defence procurement system is "broken". That is what we, as an all-party Committee, concluded. You have inherited what we believe is a broken system. Can you guarantee to the Committee that when we get the IPA annual report next year—probably in July—there will be a much smaller proportion of red programmes than there is now?

Andy Start: First, I do not recognise the characterisation. It may be your opinion, but it's not what I have seen, having had the privilege to actually see inside the wire and look at the real data across the full range of 1,750 contracts and 500 programmes. The vast majority are in pretty good shape. I think we have to be pretty proud of what some very hard-working colleagues do to deliver for this nation. They are really committed to doing so, both in industry and in the DE&S. I firmly do not recognise the characterisation. You are entitled to your assessment, but my assessment is not that it is broken—on the contrary.

Q73 **Mr Francois:** But in fairness, you have been doing the job a few months; this Committee has been monitoring procurement for years, and that is why we got to that conclusion. It does not relate just to your last few months in office, to be absolutely clear.

Andy Start: No, and to be fair, I am not looking at my performance; I am looking at the incoming data. So I do not recognise the characterisation. What I am committed to doing is to driving forward integration, agility and pace within my department, and I am hoping you will see the effects of that over the coming years.

Q74 **Mr Francois:** There will be a far smaller proportion of reds next summer, right?

General Magowan: Yes. I can prove that now.

Chair: The man in uniform rides to the rescue!

General Magowan: To back up what Mr Start has just said, Mr Francois, five of the reds are going to amber. That has not been disclosed yet, but that is what is going to happen. And—I will be honest with you—two of the ambers have gone to red. I make that plus three, so at least it is moving in the right direction.

Q75 **Mr Francois:** Okay, so by next year—well, in July, General, maybe we'll have you back and see how you got on.

General Magowan: That is a September snapshot.

Charlie Pate: They are quarterly snapshots.

Mr Francois: All right, we will see. Thank you very much.

Q76
Chair: And we would expect, in a programme as complex as this, that there would be a risk of red at any rate, but the question is how you manage it— or manage those ambers.

Andy Start: These are our SRO ratings. I do not want to discourage the SROs from being open, honest and transparent.

Q77
Mr Francois: Sorry, but this is really important. If those are your ratings, you use different ratings from the IPA—

Chair: No, they are agreed with the IPA, just to be clear.

Andy Start: If I can help clarify that—

Q78 **Chair:** This is absolutely clear. They are agreed between the IPA and your SROs, so neither side can just—you cannot game it is what you are saying. What you are saying, Mr Start, is that you want that culture of honesty so that people are not afraid to say, "There's a big problem here."

Andy Start: Yes.

David Williams: The point—just to be clear—is that we update our ratings on a quarterly basis through the year. The IPA publication is that set of data, but published annually; it is an annual snapshot.

Mr Francois: So that is your update.

David Williams: This is our update.

Mr Francois: Those are your colours.

David Williams: What will be published next year is the agreed ratings between us and the IPA as at the end of the financial year.

Charlie Pate: This is important. The main driver of many of those ratings is IPA reports as they come in through the year, so there is not disagreement between the IPA reviews and individual SROs.

General Magowan: It is worth pointing out that the system drives us to a probability of performance costs and time hit at 50%—a normal bell curve. Therefore, by design, not everything is going to be at green.

Chair: Absolutely, and we are very well apprised of that fact, but thank you for that.

Q79 **Nick Smith:** I have a quick question for Mr Williams about project management and costs. What evidence is there that you have a realistic understanding of project costs, given that your independent cost assurance team estimates that project costs could be between £5.2 billion and £14 billion higher?

David Williams: First, although they operate independently, it is a team working within the Ministry of Defence. It is effectively a judgment about risk—how likely risks are to materialise. As the NAO Report, and indeed our publication, set out, the position of a surplus over the 10 years of around £2.6 billion is our central estimate. We ourselves think the left and right of arc is plus or minus £7 billion, so if everything came good, we would have a larger surplus, but in a reasonable worst-case scenario, where the risks materialise, there would be a deficit. This is not a precise science. It is about the application of judgment and how we layer up risk provision within project costs, and about the contingency that we hold within the equipment plan and at departmental level. Those project costs are informed by the work that CAAS does.

As part of our improvement work, alongside Mr Start's initial findings on arrival in DE&S, and partly in response to the Committee's findings last year, we are running a series of externally led studies and work strands, one of which is about how we improve cost forecasting and cost control. I absolutely accept that there is scope to improve, but I just wanted to give you a sense that these are a complex set of judgments and where in that risk profile you choose to put your central estimate is, in the end, a matter of judgment.

Q80 **Nick Smith:** We accept that and we understand the point you make about it being about judgments, but the question is about what evidence you have got. Can you evidence your judgment to back up your point?

David Williams: Mr Pate, do you want to come in on the detailed evidence?

Charlie Pate: It comes back to the discussion we had earlier about risk inside costings and outside costings. Each project looks at its risks and determines which it thinks, on a probability basis, are likely to occur or not, and then whether they are in the costings or not. CAAS brings its professional judgment, including against other similar class, where there are

comparators available, and it challenges the project teams on their evidence for those risk judgments. That internal tension is incredibly helpful to us in understanding what we need to align for.

Q81 **Nick Smith:** I think you said that you have overall contingencies of £3 billion for the Department, but CAAS talks about the estimates being higher, between £5.2 billion and £14 billion.

Charlie Pate: The £14 billion is its very worst case, and even it says that is unlikely to occur. Again, I come back to what I was saying earlier, if we were to carve out that as a risk that we expect to materialise, we would be taking cuts to the equipment plan, so we are trying to balance here. On the relevant contingency number, that CAAS £5.2 billion is split between the £1.6 billion on the Dreadnought, for which we have the £10 billion contingency agreement with Treasury, and £3.6 billion for the rest of the conventional plan. That is against our £4.3 billion equipment plan contingency. I am sorry—that was lots of numbers.

The £3.6 billion helps guide us as to what we need to set aside for the equipment plan contingency, so we do not do an absolute like for like, but in the final setting that we take to the Defence Board, we have the CAAS view and we say, "Well look, it is saying £3.6 billion of potential risk. We have over £4 billion of contingency. That seems about right as a judgment."

Q82

Sir Geoffrey Clifton-Brown: I want to take you back, Mr Pate, to the figures you gave the Committee about the rate of increase to the defence budget. The £2.3 billion figure that you came up with just now, which was the first time I have heard anybody come up with that figure, presumably includes the £14.1 billion extra that you were given in the 2021 financial round for four years.

Charlie Pate: I think the £2.3 billion I added is for the military support to Ukraine that was announced.

Q83 **Sir Geoffrey Clifton-Brown:** You said 2.3%.

Charlie Pate: That is part of the 2.3% of GDP that the former Prime Minister talked about in the summer.

Q84

Sir Geoffrey Clifton-Brown: So without that it is back at the original 2%.

Charlie Pate: It is more like 2.1%

Q85 **Sir Geoffrey Clifton-Brown:** If you do not get a settlement of more than 2%, you said that you will be in deficit in the first few years. Can you quantify what that means? If you are in deficit in the first few years, how are you going make that surplus up in the last few years?

Charlie Pate: To be fair, we were talking through a hypothetical scenario where the Government were to say, "The 2% is a ceiling." Actually, what they have said is that it is a floor. All I was trying to describe is that, given that we are above 2% now, if the Government said it was at 2%—as Mr Francois was suggesting—that would be a budget cut.

Chair: So we await the statement in the spring.

Q86 **Sir Geoffrey Clifton-Brown:** One further point from me. The Report identifies a possible £25 billion in extra costs for CAAS.

Charlie Pate: That is our risk outside costing.

Sir Geoffrey Clifton-Brown: Yes, risk outside costs not identified in this plan. How likely is that to occur? If any of that occurs, that starts to throw the whole plan out.

Charlie Pate: It would. This is project risk management, though, so each project team takes an assessment: as good practice, they set out all the possible risks, and then judge likelihood and impact. That £25 billion is judged less likely to occur, as opposed to the £13 billion that we have provided for as risk inside costing, which is judged more likely to occur. There is potential for those to occur, but equally there is potential for the risks inside costing not to occur, so it does come back to project management and judgment of those risks.

Q87 **Sir Geoffrey Clifton-Brown:** Given the very small contingency that you hold, £4.5 billion, if even a small proportion of that £25 billion starts to enter into the plan—you do not think it will, but if it did—that starts to throw the whole costing of the plan out, doesn't it?

Charlie Pate: Yes, I accept that, and we would have to look at what is within the plan or return to the Treasury for further funding. But the judgment at this stage—and it is judgment in managing the plan—is not to fund those risks, because to do so, we judge that we would over-fund the plan, and then we would return to the situation that we were in in the early 2010s of habitually underspending as a Department by more than £1 billion a year. We have not done that for the last few years.

Sir Geoffrey Clifton-Brown: Others will start to unpick inflation, exchange rates and so on—other risks.

Q88 **Mr Francois:** Let us look at some external pressures on the budget. We now have inflation at 10.7% this month, I think, and historically, inflation in the defence industry tends to be higher than in the economy generally. How are you going to keep to this plan, given that at the moment, at least, we have inflation at nearly 11%?

Charlie Pate: There are two sides to the question, if I may. The first is how we calculate, and it is not a simple calculation: it is certainly not as simple as just putting a number into an Excel spreadsheet. We look at a range of different indices—16 or 17, I think, at latest count—that align with our types of expenditure: infrastructure, plant and equipment, clothing, transport. Those all have different UK industry indices, so we plug those in, and different contracts use different rates as well. Using those, we can take a view on what is most likely.

The second element of the calculation is that we have different protections in place, which we have talked about before. There is an element of forward purchase in fuels, utilities and foreign exchange, and 15% of our major contracts are firm price, so the inflationary risk at the moment is on the contractor, not on us as the authority. The third element we have to take into account—again, I was talking about it earlier—is that inflation is in large part caused by the supply chain challenges, which again feed back into our deliverability: so, in any given year, recognising that we are budgeting annually, what is the impact in that year? All of that has to be taken into account in terms of the calculation. Having that accurate understanding is incredibly important, because what are we aiming at?

Then there are a few areas: on projects, we are not automatically paying. This is not like the covid situation, where we said to suppliers, "We will cover relevant costs." We are clearly in individual negotiations on individual contracts, and that will sometimes include scope. An example I can give is that we have signed off some Army storage facilities. The Army are clear that they will not proceed with the additional buildings if they cannot manage it within the agreed envelope; they would like to have those, but they are not absolutely required. It is that kind of approach.

On contracts, we have now changed our position to take the risk of inflation on ourselves as the authority. That avoids companies taking that risk and adding a premia. It is very difficult to predict the path of inflation, and it certainly has been over this year. We are increasingly time conscious and are bringing forward long-lead items where we can. We brought forward £500 million of expenditure into last year from this and subsequent years, so we are recognising the value of time. We are also looking at reducing our demand, just like any household, and reducing demand on utilities; we have various projects under way on generating our own power and reducing usage. Ultimately, if those do not come through—and I would not say that that would manage inflation at 10%— we are having to look at funding. That comes back to the contingencies that we have talked about, but also whether there is additional funding to be had through those spring Budget discussions.

Q89 **Mr Francois:** Okay, so you have a range of measures. That is a detailed answer, and we are grateful for it. We discussed exchange rates before but, in simple terms, because the MoD has had a considerable number of very big-ticket purchases off the shelf from the United States—F-35, Poseidon, Apache, Wedgetail; lots of them—the more of those you buy, the more dependent you are on the pound-dollar exchange rate to balance the plan. As of now—five minutes ago—the pound is $1.23.

Charlie Pate: It has dropped a cent since yesterday.

Mr Francois: Well, there we are. As I understand it, your core assumption on the pound-dollar exchange rate across the plan, according to the NAO, is $1.40. You have a high of $1.54 and a low of $1.26, so we are currently below the lowest estimate in the plan. What other mitigations have you got to keep the plan affordable if the pound-dollar exchange rate remains below $1.26?

Charlie Pate: About a third of our foreign exchange expenditure is in euros. You can tell me what the current rate is, but yesterday it was about €1.16, which is significantly above our medium rate that we set. There is some balance there at the moment. At the end of the day, we forward purchase— as I have described before—over three years, but that forward purchase is now becoming more expensive. We would have to go into the equipment plan without further money. For inflation and foreign exchange—which is an element of that inflationary pressure—without additional funding, as General Magowan said earlier, we would have to go into the plan and take reductions.

Q90 **Mr Francois:** And take something out. Okay, that is a very clear answer. Let me give you one very quick example: the E-7 Wedgetail. It costs £2.1 billion for five aircraft, renegotiated now to £1.9 billion for three. How on earth is that an efficient decision that contributes to the defence of the UK, given that we have taken the AWACS, which used to do the job, out of service? We have no current capability at all.

General Magowan: On the capability side, the E-7 is a significant step change from the E-3 capability; we would be really keen to talk to you about its capability in a private session. It is absolutely critical to the spiral development of the F-35 and also FCAS. As you say, we have a capability gap at the moment, but NATO does not. As part of the coalition, we rely on NATO to ensure that that AWACS capability is there. We have got military capability coverage, but we must commit to the E-7; otherwise, we will not be able to integrate the battle space in the way that we need to for the future.

Q91 **Mr Francois:** Very quickly, we know that the Russians have used cruise missiles very liberally. If Jens Stoltenberg was right and we went to war, we would lose all our fixed radar stations on the east coast in 24 hours. We have not got an airborne early warning aircraft at the moment; you cannot use Crowsnest, because that is one of your red basket cases, so we need the E-7. We will not even say, now, when the IOC for E-7 is; you are only saying that you will complete the full business case with Boeing by next summer. Why on earth did we take the E-3 out of service before the replacement was available? If we went to war and lost all of those eastcoast radar stations, we would be blind, wouldn't we?

General Magowan: No, Mr Francois, because, first, that was a balanced investment decision based on— **Mr Francois:** It was a bad one.

General Magowan: I would say, well, against what else? Crowsnest is a capability today, and it is an increased capability from the carrier strike group deployment in 2021. As every month passes, the Crowsnest capability is enhancing.

That is there to protect the carrier, not the United Kingdom per se. However, we do have capability. We do have an air-missile defence capability in the shape of Typhoon, and, as I have said, if the Russians were firing cruise missiles into western Europe, we would be in a NATO article 5 environment, and NATO has an airborne early warning capability in the form of the E-3. That needs to be upgraded, and we will see what NATO chooses—it may well choose the E-7. However, against the balance of what I have just said, we took that operational risk.

Q92 **Mr Francois:** Very quickly—this is really important—in order to shoot down the cruise missiles, you have to see them.

General Magowan: Indeed.

Q93 **Mr Francois:** And those NATO E-3s, in a full-on conflict, could be tasked elsewhere. But Boeing, which has made a vast amount of money out of the UK in the past 10 years, now has us basically over a barrel. When will the E-3 come in?

General Magowan: When will the E-3 come in? 2027. Sorry, do you mean the E-7?

Mr Francois: Sorry, the E-7. When will the E-7 come in?

Andy Start: The first aircraft is due in 2024, from the latest data that I have got.

Mr Francois: IOC?

Andy Start: First aircraft available. You then have an integration and a work-up on the capabilities around it. I do not have that data.

Mr Francois: 2024?

Andy Start: Yes, so 2024 is for the first aircraft. I do not have a published IOC date because it has not been through—

Chair: Testing?

Andy Start: Not just that; it has not been through the full approval cycle, so we do not have the back-end programme approved, so I cannot give a date. However, the three aircraft are at STS Aviation in the UK, being integrated now. So the capability is coming, but, Mr Francois, you are exactly right; it is a vital capability and we are really keen to see it in service as soon as possible.

Mr Francois: I think the point that the Committee seeks to make is that if you are going to spend vast amounts of money on these very big-ticket American items—we are coming on to another one in a minute, called Ajax—you have to be confident that you can deliver them to time and cost, and the track record on that is very poor. I think that is the point we want to make. Thanks, Chair.

Q94 **Chair:** If necessary, we can seek a private briefing on some of the issues that we cannot discuss in Committee.

General Magowan: I would just reinforce that, as I said earlier, the NATO coalition and the United Kingdom are running an operational risk against integrated air-missile defences. There is no doubt about that. We knew that before, and it has become more acute through lessons from Ukraine.

Mr Francois: Yes it has.

Chair: Indeed. Those points have been very well made by you and General Magowan. Thank you. Mr Nick Smith MP, we are now moving on.

Nick Smith: Although, Chair, I wanted to go back to—

Chair: Please be quick on it. The danger with this is that it is like a box of Quality Street—there is something for everybody—and I am trying to rein in the Committee's enthusiasms because we need to keep up with our numbers.

Q95 **Nick Smith:** Mr Pate, you talked about your 18 baskets, around inflation, and that was interesting, although I understand that, at the time you made the judgment of what the likely inflation rate would be, the OBR told you that you should consider a rate of 8.7%. Why did you ignore that OBR guidance judgment?

Charlie Pate: We have not ignored its judgment at all. It provided an assessment, I think in July, from its fiscal sustainability report. Obviously, this report is from March—it closed in March. It is fair to say that the inflationary outlook was very uncertain this time last year, and that is what we were working towards. We did not want to take precipitous decisions on the equipment plan, because that would have meant taking capabilities out. We agreed, internally, that we would continue as we were, noting in the equipment plan—we have noted it very clearly; we haven't hidden this— that that was, well, not a risk but an issue, as I have described.

Nick Smith: I was going to make a complimentary comment, Mr Pate, but I will move back to Ajax.

Mr Francois: Sorry Charlie, there is always next year.

Charlie Pate: Compliments are acceptable.

Q96 **Nick Smith:** Mr Williams, Ajax is really important to our country's security and to jobs in south Wales. Do you agree with General Dynamics that there is strong progress on Ajax and that the extensive trials are demonstrating the full capability?

David Williams: Let me give the Committee a bit of an update on the update that I provided at the start of our last hearing on defence digital. I said then that the user validation trials had been completed. I am happy to say today that, in our assessment, they have completed successfully and therefore demonstrate that at this point, the proposed modifications from GD to the vehicle and the communication system to manage issues around vibration and noise appear to be doing the trick. In that sense, yes, that is good progress.

We are expecting to move into the next phase of trials—reliability growth trials—in the first part of next year, I would hope by February. That is planned to be an 18-month process with simulation of battlefield missions lasting up to 48 hours or three days at a time, which will prove the capability against the full range of key user requirements.

Without getting into the internal variations on RAG ratings, I am pleased to say that in the latest IPA review of Ajax to support decisions about how we recast milestones and take the project forward, they have now rated it as amber overall, rather than red, in effect because they can see that there is a credible plan for the vehicle coming into service, albeit still one with lots of risk and lots of detail for us to work through with General Dynamics.

Where we are at the moment is that the proposed adjustments to the programme, including thinking about how we reset the initial operating capability dates and the full operating capability dates, are going through the official-level scrub. That happened this week, in fact. There will then be advice to Ministers. It may just miss the end of the calendar year, but early in the new year we should have decisions on how that programme will progress. The signs are encouraging, given its troubled history thus far.

Q97 **Nick Smith:** I was quickly writing notes to make sense of what you said. To be clear, Mr Williams, the trials were successful and you have eliminated the unacceptable noise and vibration exposure for the crew.

David Williams: Based on those user validation trials, it looks like it, yes.

Chair: The difference in the length of those answers is interesting. It is a bit unfair on Mr Williams, who has to explain it in a bit more detail.

Q98 **Nick Smith:** Mr Williams, you talked about the 18-month trial that is still in hand and the most recent scrub. Thanks for that. Is the project still deliverable within the terms of the original contract?

David Williams: Our intention is that it will be deliverable within the firm price that we set for the contract, and we want to hold to the original contract as closely and strongly as we can, but for example the contract requires General Dynamics to integrate the Combat Mk II headset and we do not want it to do that anymore, in part to address the noise issues. I think we need to look at the bare minimum changes to the contract to reflect how the programme needs to move forward. We are engaging in a conversation about what the future milestones will be that allow us to unlock payment to the company. As you know, we have made no payments for around two years on this project thus far.

Q99 **Nick Smith:** Thanks for that. It is good that you have a firm price, although I expect that GD will be interested in getting its money as soon as possible. It is probably in all our interests that an accommodation be reached between the Department and the company. Have you got a new operating capability date for Ajax that you can share with us, please?

David Williams: Not that I can share with you today. That is the date that is being worked through in this process. It will go to Ministers for their agreement, and Ministers will announce it once agreed. I expect that will be very early in the new year.

Q100 **Nick Smith:** General Dynamics told us that by September this year, you had accepted 135 vehicles. Is that correct?

David Williams: I don't know about formal acceptance—

Andy Start: That number does not quite line up with my understanding. I thought that we had 26 vehicles so far—

Mr Francois: Yes, those are the training vehicles.

Andy Start: Those are the training vehicles, which will be refitted with the new noise and vibration changes and should be up to the new standard by the summer of next year.

Nick Smith: Sorry, will you say that again?

Andy Start: The first 26 vehicles, we have. Because we have now proven out the noise and vibration changes, we would expect those vehicles to be upgraded to reflect that, and we expect that by the middle of next year. I am not familiar with the other number, so I will take that away—

David Williams: We can give you a short note. My hesitation was because there is a difference between having completed vehicles in our possession and them formally having been accepted. We will come back to you with a note on that.

Nick Smith: We really do want to button down how many vehicles you have, are fit for purpose and can be driven.

Chair: We, you and certainly General Magowan are interested in when they can be used. All the other stages are incidental along the way.

Q101 **Nick Smith:** Mr Williams, coming back to General Dynamics, I think you suggested that the MoD has not paid any money to General Dynamics yet, or not since December 2020. Will you tell us a bit more about that, please?

David Williams: We have been building up a set of financial retentions. General Dynamics has clearly been continuing to work over that period but, it having missed a number of key milestones, we have withheld payment. We wanted to withhold payment until there was a workable solution to the noise and vibration issues. We are now working through how future payment relates to the milestones that we need to set for the period from now to IOC or FSC.

Q102 **Nick Smith:** You have been playing hard ball, I think it is fair to say, with General Dynamics in recent years over payment. You have to do your internal sums, but equally General Dynamics has a workforce and wants to have confidence in working with you and the Department for the production of this vehicle in the future. By when will you have made a decision on giving it some of the money for its production of the vehicle?

David Williams: As you might imagine, that is a live discussion now. I expect us to agree the way ahead on the programme early in the new year, and for that to be reflected in the necessary amendments to the contract and the contract schedule as quickly as we can thereafter. I

would like all that to be done in the first quarter of 2023, but the precise timing of the first payment is an active conversation, which we need to link to progress moving forward.

Q103 **Nick Smith:** One last question from me: there has been bags of to-ing and fro-ing and much difficulty over the delivery of this complex procurement and vehicle. How is the lessons learned review progressing, and when will that report, please?

David Williams: The review being led by Clive Sheldon KC has been progressing well. The team has come out to a number of stakeholders for a few final pieces of information and clarification. I expect he will be ready to present his findings to Defence Ministers early in 2023. It is in the end game, as I understand it. As the Committee knows, I have not been sponsoring the review personally, as I have history with Ajax over the past decade, but it is coming.

It is also worth reporting that, in fact, today is the anniversary of the publication of the health and safety review of Ajax. We are making good progress on implementing those recommendations—I would be happy to update the Committee separately on that—in terms of standing up safety teams, getting the safety policies right and rebuilding the safety capability in Army HQ in particular. The proof there is less in the letter of the recommendations than in the culture, mindset and how safety actually plays through in decisions and activity on a day-to-day basis. There is good progress there and the Sheldon review is coming shortly.

Q104 **Mr Francois:** We are an all-party Committee. Obviously, Mr Smith has perfectly legitimate constituency interests in all of this, and the rest of the Committee is sympathetic to that. When we last reported on this, our Chair, Dame Meg, said shortly afterwards, "You need to fix Ajax or fail it by Christmas." That was about six months ago. It is very disappointing that, even now, you cannot tell us what the initial operating capability date will be for this programme, which is already years late. General, if you think you have fixed the problems—I think we would have more confidence if these tests had been done independently and if the MoD was not marking its own homework—why can you not tell us when it will enter service?

General Magowan: I think Mr Williams has answered that question—we can reiterate that—but from a military capability perspective, to your first point, Mr Francois, there is no debate and no question about us deleting the Ajax capability. From a purely military capability perspective, the range of capabilities that Ajax will have in the modern battle space, which we need, is such that no off-the-shelf vehicle in the world can replace that within the timeframe we are still delivering against Ajax. We would have to go back to redesign, and there would be even more delay against what we are currently procuring with Ajax, so we are pressing on with this programme. We know that we will have to run on legacy, which is Warrior, and we know we will have to regenerate supply lines, particularly with munitions, so we are already planning to do that. We are managing the delay from a capability perspective, but we are pressing on with this capability because we need it and there is nothing else on the market.

David Williams: Just to pick up on the specifics, to be clear, the proposed way ahead for the programme in the light of the user validation trials, including proposals from the SRO and the project team on what the IOC and FOC should now look like, has been considered very recently by the departmental investment approvals committee, which Mr Pate chairs, with some points of clarification. It then just has to go through our Ministers and Treasury Ministers before the final decision and announcement. We are in that very final stage of being able to agree it, but Ministers need to make those decisions and then we will communicate them as soon as they are made.

Q105 **Mr Francois:** David, after all these years, it is disappointing that you still cannot give us a date. What bit of comms kit will Ajax carry? It is right at the heart of the whole digitised battlefield concept, General, as we have been told many times before. Is it going to carry Morpheus? If it is, when will Morpheus be in service on Ajax?

General Magowan: It is a very good point, Mr Francois—

Mr Francois: Because otherwise it has no brain.

General Magowan: Absolutely. This is a conversation I had with the SRO for Ajax just yesterday, not because we were coming to this Committee, but it is of no surprise that it has come up at this Committee. Against the timelines you allude to, Bowman will be integrated as Governmentfurnished equipment into Ajax because of the delay to Morpheus that we have discussed. When Morpheus comes online towards the end of this decade, it will be integrated into the operational fleet—into Ajax.

One of the key capabilities of Ajax is its ability to integrate across the totality of the data-enabled battle space. Morpheus is designed to do that in an open architectural way that Bowman cannot. That does not mean that Ajax will not be able to deliver against its key user requirements, but there is no doubt that once Morpheus is integrated into the platform, it will be significantly more capable.

Q106 **Mr Francois:** When will Morpheus enter service?

General Magowan: At the moment, my planning, in terms of military capability planning, is towards the end of this decade.

Q107 **Mr Francois:** Can you not give us a firmer date than that? At the moment, as the Committee sits here today, we still do not know when Ajax will enter service and we still do not know when Morpheus will enter service on Ajax. **Chair:** We will have Ajax without Morpheus, potentially.

General Magowan: I do not have a formal date. I am using planning dates from my own capability planning.

David Williams: On a point of clarification, I would have to check but my recollection from our Ajax hearing earlier in the year is that the SRO had said on the original planning timelines that our plan for IOC, at least for Ajax, was to start with Bowman and then transition to Morpheus.

Q108 **Mr Francois:** The problem with that, though, is that you have to do it twice.

David Williams: I get that. All I am saying is that our initial plan for Ajax had not been to enter service initially with Morpheus in place.

Q109 **Mr Francois:** I will ask a last couple of questions—quickly, because of the time—on the Clive Sheldon review. It is not into whether or not you can fix the vibration and make it work; it is on the information flows and to what extent, bluntly, Ministers were told the truth about what was wrong, in a nutshell. First, is that report still going to be published? The Department's public default position is that it will be. Secondly, is the report currently going through a Maxwellisation process, or will the KC simply publish his findings?

David Williams: I can confirm this separately, but my expectation is that the report will be published. I do not think that he is going through a Maxwellisation process. But we can get the gospel from him.

Chair: We always have a note after the meeting, so you can add it to that.

Q110 **Mr Francois:** In a sense, it is chalk and cheese—probably more chalk. My point was that the Sheldon review is not about whether or not you can get rid of the vibration; it is about whether or not Ministers were lied to, isn’t it?

David Williams: It is about the information flow within the project, it is about how issues were escalated, it is about how safety issues were dealt with. It is about ways of working, behaviours, culture, mindset, data flow; it is not about the project itself.

Chair: We will see what he says when he comes out with his review.

Q111 **Sir Geoffrey Clifton-Brown:** Mr Start, can I take you to paragraph 8 on page 8, about R&D figures and exploitation of that R&D? It refers to “£6.6 billion for research and development from 2021-22 to 2024-25, and £4.4 billion from 2025-26 to exploit this investment.” Those are very big figures; taken together, that is £11 billion. How much of that is covered in the plan, and will it be sufficient? We know that we are moving into a whole new era of warfare—space, drones, hypersonic missiles and so on. Where do these very big figures come from, and how will they be paid for?

Andy Start: I will have to defer to Charlie for the numbers, and then I can talk about capability.

Charlie Pate: The £6.6 billion is in the plan. That is for the spending review years. Currently, I think we have around £10 billion in future years aligned for research and development. The £4.4 billion we are currently holding outside of the equipment plan, so it is beyond the £242 billion. As General Magowan and Military Capability understand, as the R&D comes through, we will then put into the plan what we pull through and what capability we might require, but we have the £4 billion set aside specifically for that.

General Magowan: I can provide details on what we are spending that R&D money on if you wish.

Q112 **Sir Geoffrey Clifton-Brown:** In the interests of time, if you could let us have a note that would be really helpful.

There is one last issue that I want to raise: the funding of pay increases. The pay increase this year was 3.75%, but we know that every 1% unfunded pay rise over and above what was planned will cost approximately £1.4 billion over the following nine years. Are the figures that you have in the plan realistic given the current levels of pay and the current level of inflation? We do not know what it is going to be like in nine years’ time, but we know the OBR forecasts.

Charlie Pate: We have had a challenge this year with the pay settlement, and I suspect that we will have a considerable challenge next year as well. Partly to reflect that, the Treasury provided £700 million a year of resource DEL in spending review '21. That was to make our pay baseline more realistic than frankly we had allowed for in spending review '20, when the economic outlook was very different. Yes, if we go to higher numbers, that will absolutely be a challenge on the departmental budget. Of course, that is not in the equipment plan; that is the broader budget.

Q113 **Sir Geoffrey Clifton-Brown:** I get that. While we are on that subject, the percentage of financially qualified people has dropped this year. Without giving a great long answer, what are you doing to counteract that? We need properly financially qualified people to start to achieve some of the savings alluded to in this plan.

Charlie Pate: I couldn't agree more, and frankly your focus on this, Sir Geoffrey, has made sure that we are taking it very seriously. It is about two things. It is about bringing people in who are qualified. We have increased the number in the finance function but not the qualified number. We have, I think, 130 more studying this year than last year. To get to 60% we need 200 more studying, and that is my intent.

Q114 **Sir Geoffrey Clifton-Brown:** It is disappointing that it has dropped from 43% to 42%, when you would expect, with the amount of people being trained and qualified, that it would be going up, not down.

Charlie Pate: When you add the two together, we are at 53%. As I say, I need 200 more studying to give us a chance to get to 60%. I am still doing the work on career frameworks that we discussed earlier in the year, which is really important for this.

Chair: These things don't go as fast as anyone wants, but thank very much, Sir Geoffrey. The last word goes to Mr Nick Smith.

Q115 **Nick Smith:** Thank you, Chair. I think this is for Mr Start. What is your latest estimate of when Morpheus will be ready to go in Ajax?

Andy Start: Morpheus is actually a Charlie Pate/defence digital programme—

Charlie Pate: Charlie Forte.

Andy Start: Oh, I am sorry.

Charlie Pate: That is the second time we have been confused. It wasn't me earlier, either.

General Magowan: We have covered that. We cannot give a date today.

Q116 **Nick Smith:** What is your latest estimate about when it is going to be ready?

Sir Geoffrey Clifton-Brown: The General said the end of the decade.

General Magowan: From a military capability perspective, I am planning on the end of the decade, but for the record we are unable to give a date today. That is the point that I was making.

Chair: Yes, the General was very careful in what he said—from a capability point of view.

Nick Smith: I was trying to tease it out a bit more.

Q117 **Chair:** Mr Pate, is there anything that you can add from the finance—

Charlie Pate: I'm afraid not, and it was Charlie Forte in the digital hearing who was talking about it.

Chair: Okay, we will pursue that. We have seen this before, when one major capability is relying on another. The interoperability is clearly going to be such a big issue for the equipment plan as we go forward.

I thank our witnesses very much indeed for their time and for their candour, in some instances, about the real challenges ahead. A transcript of this session will be up on the website uncorrected in the next couple of days, and we will be producing our report, maybe in February. It depends; we have a lot of bank holidays and things to fit in. I thank our witnesses again for their time.