

Public Accounts Committee

Oral evidence: [Emergency Services Network: progress review](#), HC 1755

Wednesday 22 May 2019

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Members present: Meg Hillier (Chair); Sir Geoffrey Clifton-Brown; Chris Evans; Shabana Mahmood; Nigel Mills; Layla Moran; Anne Marie Morris; Lee Rowley; Anne-Marie Trevelyan.

Sir Amyas Morse, Comptroller and Auditor General, Linda Mills, Parliamentary Relations Manager, National Audit Office, Oliver Lodge, Director, NAO, and Marius Gallaher, Alternate Treasury Officer of Accounts, were in attendance.

Questions 1-188

Witnesses

I: Sir Philip Rutnam, Permanent Secretary, Home Office, Joanna Davinson, Chief Digital, Data and Technology Officer, Home Office, and Stephen Webb, Senior Responsible Owner, Emergency Services Network, Home Office.

Report by the Comptroller and Auditor General
Progress delivering the Emergency Services Network (HC 2140)

Examination of Witnesses

Witnesses: Sir Philip Rutnam, Joanna Davinson, and Stephen Webb.

Chair: Welcome to the Public Accounts Committee on Wednesday 22 May 2019. We are here to look at the Emergency Services Network. This is the new ground-breaking technology that is set to replace the old Airwave network, by which all our emergency services and many other bodies communicate in emergencies. That system works, but it is expensive. The Home Office hopes that moving to a new mobile-based system—the first in the world—will save costs, rather than being tied into an old technology. It will also give extra capability to our services.

We have been looking at this for some time now. I think this is the eighth time that people from your Department, Sir Philip, or various people responsible, have appeared in front of this Committee. The cost has increased by 50% and it is three years late so far. We predicted or were worried about some of those things when we first started looking at this issue. It is crucial that it works. We recognise that there is a big tension for the Home Office between cost and deliverability.

We have had the opportunity to see the private reviews that you undertook, Sir Philip. I thank your Department for sending them to us. A number of us have read those in private. We will refer to the generality of those issues, so you may get some questions on that. You have read them and we have read them, so we know of what we speak. I am sure you will be able to answer those questions. If you feel that for any reason you cannot, we would like you to explain why and then we may ask you to write to us, but we will not stray into commercial issues, if that is your worry. We think it will shed light on some of our concerns. We did not get a chance to warn you, Sir Philip, but we want to ask some questions on immigration issues, but we will touch on that in a moment.

I want to introduce our witnesses from my left to right. Joanna Davinson is the chief digital, data and technology officer at the Home Office. Welcome, Joanna. Sir Philip Rutnam is the permanent secretary at the Home Office. Stephen Webb is the senior responsible owner for the Emergency Services Network at the Home Office and has been from the beginning. That is rare, I have to say. We often criticise the civil service for having revolving doors, but you have stuck it out, Mr Webb, and have been in front of us six or seven times now. Make of that what you will.

I should also mention that this is the last Public Accounts Committee that Sir Amyas Morse will be attending as Comptroller and Auditor General of



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the National Audit Office. He has served for 10 years with distinction as Comptroller and Auditor General and turned the National Audit Office round. We will reserve his right to speak at the end. He has been a fantastic attender of this Committee, and a great contributor to our preparation personally, through the National Audit Office and in the Committee Room. We thank you very much for your service, Sir Amyas.

Hon. Members: Hear, hear!

Chair: We will not say goodbye, because I have a feeling that Sir Amyas might ride in on a white charger somewhere when there needs to be an inquiry into some project in Government or something. Sir Philip, we tempt you with that offer.

We very much look forward to some future Morse inquiry, but the civil service might be less enthusiastic, which says everything it needs to, Sir Amyas, about your reputation and achievements as C&AG. You are feared in Whitehall, but are a champion for the taxpayer. You are much lauded by many people out there—whistleblowers and others—who have welcomed your work and your laser-like focus on users and citizens. Thank you for that.

We want to kick off with some questions to you, Sir Philip, about immigration issues, and I am going to ask Shabana Mahmood to start.

Q1 **Shabana Mahmood:** Sir Philip, I want to start with your decision to dig in on your decision not to provide any physical proof of settled status for the EU settlement scheme. You have decided to rely on digital and have been challenged on that by Select Committees in the House of Lords. Why are you so confident that the digital solution will prove adequate, given everything we saw with the Windrush scandal?

Sir Philip Rutnam: It is obviously a decision that was taken by Ministers after very careful consideration, and they concluded that, first of all, digital status is what is needed. It will contain all the record that is needed for people to establish their indefinite right to remain in the United Kingdom under the settlement scheme. It is combined with the ability for employers and others to look up and check that digital status—with the permission of the individual—where that is appropriate.

I have to say, that is the general direction of travel. We have introduced digital status in relation to the EU settlement scheme. It's also our intention, in time, to introduce digital visas, for example. At the moment, there is a paper insert, which is pasted into somebody's passport, and in time we would expect to move to digital visas. We are moving to digital permissions in general. It is lower cost, it is quicker because it involves less logistics by way of exchange of documentation, and it provides the confirmation of the status that is needed, so we think it is the direction of the future.

Q2 **Shabana Mahmood:** But does it work? It may well be the direction of travel for the future but, at the same time as administering a digital system, you have also got people affected by the Windrush scandal



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getting physical proof of their status. When they interact with employers and various other arms of the state, they will be using physical proof.

You have got another tier of people using digital proof. Are you confident in your message that the people who will be accessing this data and information to verify someone's status will be able to handle different levels of proof in different forms? Would it not be easier for now, before you move fully to digital, to give physical proof of status?

Sir Philip Rutnam: You are right that communication is a really important part of making this change: communication to employers and to anybody else who needs to check the immigration status of an individual, and communication and reassurance to individuals.

The Department has been seeking, through multiple channels, to communicate the way in which the settlement scheme works. I have to say that, although there will always remain some risk, thus far we think that the settlement scheme has gone very well. We have had more than 600,000 applications received for the settlement scheme. Let's bear in mind that it opened properly only on 29 March.

I agree that communication is a key part of this. We have been using multiple channels. We have also recently announced spending a significant amount of money in order to try to reach the more vulnerable groups for whom the settlement scheme is relevant. We are working closely with community groups from the different nationalities covered by the settlement scheme, as well as community organisations, and seeking to communicate through every means that we can.

Q3 Shabana Mahmood: Will you make sure that lessons from the Windrush scandal, particularly around communication, especially with vulnerable groups, are being learned as you are doing the EU settlement scheme at the same time?

Sir Philip Rutnam: Yes. The Windrush scandal is obviously in a different context. It was in the context of a decision that was made ultimately by Government and Parliament back in the early 1970s to confer status on people who had arrived before 1973, simply through a declaratory route. It was a rather different context. Of course, there are lessons to be learned from it that are relevant to communication with all sorts of cohorts that we deal with. I would also say it is relevant to ensuring that we do our best to understand those customer groups; that we invest in research, not just in engagement, to ensure that we really understand how those groups see the Home Office and immigration system, and how we can engage with them more effectively.

Q4 Shabana Mahmood: I appreciate what you said about the context and circumstances around the Windrush scandal, but the substance of why that problem became as bad as it did, and why it had so many catastrophic consequences for people who should have been in this country, relates to poor communication and to data and systems at the Home Office that are out of date or can't talk to one another.

Those are problems that we see with various parts of the Home Office's



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day job on a very regular basis. You can see why I am concerned that, even though the context might be different, the substance of the problems are still the same. Are you taking that into account? I hope you don't rely on the fact that the context was very different.

Sir Philip Rutnam: No, I hear that and am well aware of the feelings that exist and the experience of people in relation to the Home Office, which can be very variable and sometimes not good enough. We are conscious of that. The other point I would make about the way the immigration system operates is the importance of simplicity. Simplicity is key to effective communication.

One of the lessons that I think will come out of the Windrush experience is that the system was immensely complex and really confounding to often quite vulnerable people who were trying to engage with it. They had probably never even heard of concepts such as indefinite leave to remain or no time limit, which was strictly the product that was most relevant to a large part of that population. Those concepts—the latter in particular—weren't even necessarily very well known within the Home Office.

There is a point about simplicity. That goes in truth partly to the legislative environment, which is extremely complex. People far more eminent than I am on the Court of Appeal and at the Law Commission have talked about that. That is one of the lessons we have been seeking to reflect in the settlement scheme by making it really simple—as simple as we possibly can—to apply and step through the process.

Q5 Shabana Mahmood: Are we confident that your digital status solution will not have any of the other problems we have seen with digital systems within the Home Office? Is it a working solution that can be relied on not to fall over?

Sir Philip Rutnam: I am going to ask Joanna to speak on that, because she is our chief digital officer in the organisation and has been closely involved with the settlement scheme.

Joanna Davinson: We have tested it very comprehensively. It started going into live beta testing in about autumn last year. It has been through several cycles of that. It went live, as Sir Philip said, at the end of March. So far, it has been remarkably consistent and reliable. As you would expect, it is designed to be resilient. It is designed to have adequate back-up. We had the advantage, with the EU settlement scheme—this is different from many of the legacy systems in the Home Office—of designing it completely from scratch, so we have been able to do something that is complete and takes advantage of the simplicity, as Sir Philip says, and is new.

Q6 Shabana Mahmood: Is that testing ongoing?

Joanna Davinson: It is a constant evolution, yes.

Q7 Shabana Mahmood: The extract of evidence to the Lords Committee says, "We will of course be keeping this under review to see how it works in practice".



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Joanna Davinson: There is a regular process of reviewing. We are still reviewing and updating as we find things that can be improved. That will continue through the life of the scheme.

- Q8 **Shabana Mahmood:** Finally, Sir Philip, since we last saw you, you have had the issue in relation to international students and accusations of people cheating in English language tests, with catastrophic consequences for some of the people who can speak English, who found themselves subject to removal. Can you provide us with an update on what the Home Office is doing to understand what has happened in relation to international students?

Sir Philip Rutnam: This is something that the Home Office, obviously, keeps under review. It has been the subject of some important test cases in the relevant immigration tribunals and, in fact, in the Court of Appeal. I am well aware that there is a National Audit Office Report coming out imminently. I do not think I should steal any of the thunder from that Report. I believe that I will be back here in early July for a hearing on the subject, so we will be able to talk about that then.

Shabana Mahmood: You can't blame a girl for trying.

- Q9 **Chair:** On the issue of digital footprints, are there any plans to digitise the process of biometric residence permits? It is a real issue for many people.

Sir Philip Rutnam: I am not aware of any plans at the moment.

- Q10 **Chair:** I have written to the Minister many times about why the Home Office does not advise people who have absolute legal leave to remain that they will need a biometric residence permit to meet immigration rules to hold down their job. They are advised by their employer, but by the time they have applied for it, they have often lost their job because of the delay in getting it.

There are two things there. First, they do not know they need one, because why would you? If you have legal status, you would not be searching on the internet to see if you need a bit of plastic card. Secondly, it is taking far too long for people to get them. I have seen livelihoods ruined by this; it is a real issue. I have been writing to the Minister regularly. When I ask, "Why can't you write to people?", they keep saying, "There are no plans to do this." Why are there no plans to do that? Is it something that you could add into your digital solution, which seems to be working well from what Ms Davinson said?

Joanna Davinson: We were looking at it in the context of the future border and immigration system, but as Sir Philip says, we have no active plan—we have not worked the plan through yet to deliver that.

- Q11 **Chair:** Sir Philip, do you think it is acceptable that people lose their jobs while waiting for a plastic card from the Home Office to prove the status they already have?

Sir Philip Rutnam: No, it is obviously profoundly undesirable. There are two issues there, as I understand the point that you have raised. The first



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is about communication to individuals about the need and benefits of applying for a biometric residence permit, and the second is whether we should shift to a digital solution. On the second, as Joanna said, we do not have any present plans. We keep that under review—

Q12 **Chair:** I am just thinking that digital might be quicker, for a start.

Sir Philip Rutnam: There are a number of benefits to a digital solution, but as has also been identified, we need to be quite careful in the planning and execution of a shift to a digital-only solution. The more general point you raise about communication is one that I am sure has been registered with Ministers. Having been raised here again today, I will take that away.

Chair: I was going to write to you anyway, but now I have raised it, I shall write and give you some specific examples. We want to move on to the sorry saga of the Emergency Services Network. I will ask Lee Rowley to take the first questions.

Q13 **Lee Rowley:** I want to ask you a series of questions specifically on ESN when you first got involved and up to the point of the benefit of the hindsight you have gained with the review that you have done over the past 18 months. For now, I am not interested in where it is going or what you are doing now; I am interested in your view at the time you took it over. Did you find a usable plan in place for ESN when you arrived at the Home Office?

Sir Philip Rutnam: I found a plan in place, but I had three things particularly in my mind in the first two or three weeks after my arrival in the Department. First, an additional nine months had been added to the timeline shortly before I arrived. Secondly, I cannot remember how quickly, but fairly shortly after I arrived, in my conversations with the programme team—part of my due diligence in the Department was going around to talk to people doing all sorts of different things—it was clear that this was a programme under strain and that there was a risk of additional time being needed, beyond the nine months. Given that the nine months had only recently been crystallised, that sounded a big warning alert for me. Thirdly, if Sir Amyas doesn't mind my saying, he had mentioned to me before I arrived in the Department that he thought this was a programme I should pay particular attention to. I had those three things in my mind. There was a plan, but the question was, how robust was the plan?

Q14 **Lee Rowley:** When you looked at that plan, were there obvious problems? Were there gaps? Had even the most cursory analysis been made? In the first couple of meetings you had, was it clear that there was a problem with the plan?

Sir Philip Rutnam: One needs to bear in mind that in an organisation like the Home Office, the permanent secretary can really only spend a modest amount of time on any one topic. There is an enormous array of things—

Chair: We are aware of that.

Lee Rowley: You told me that you invested a significant amount of time



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in this.

Sir Philip Rutnam: What I am leading up to is that the truth of the matter is that I am unable to do extensive due diligence on a programme plan. I have to make a judgment based on a range of other factors. If, in particular, the programme team are telling me that they now think that nine months is not enough by way of additional time—

- Q15 **Lee Rowley:** There is a difference between usability and deliverability, so let us talk about deliverability in a minute—the timelines. I am asking, was the plan usable? Was it understandable? Did it make sense? Was it in order, irrespective of whether the timing assumptions were correct? Did you have a plan, which you as the senior stakeholder could pick up and say, “Okay, yes, this looks reasonable from my high-level cursory analysis”?

Sir Philip Rutnam: Was there a plan that had a series of lines on the chart that cohered in the sense that one followed the other in a logical order leading to an endpoint? Yes. Was there a significant amount—I cannot remember how much—of programme documentation underneath that plan? Yes. So, it was “usable” in that sense, but the question one is looking for is, what assumptions underlie this and how robust are those assumptions? A plan—a Gantt chart, PRINCE2, or whatever it is—is a useful tool, but what you are trying to get at is the heart of the programme in terms of its robustness, the level of risk within it, and the extent to which that level of risk is understood.

- Q16 **Lee Rowley:** What was your assessment of the assumptions initially? You must have thought that they were unreasonable or—

Sir Philip Rutnam: I was concerned. What I was trying to get at, Mr Rowley, was that the particular reason I was concerned—the thing that really sounded a warning to me—was that we had just added nine months into the programme and now the most senior people in it were saying, “That might not be enough.” That was a real concern to me, because in my position you can understand that from time to time there is the need to reset a programme, but the resets need to be thorough, deep and get to the underlying issues—my point again—and allow a stable framework to be created within which the programme can then operate and thrive. The thing that concerned me was that we had bad news coming so quickly after the additional nine months.

- Q17 **Lee Rowley:** Was that bad news obvious? Was it freely talked about, openly discussed or clearly brought up, almost immediately?

Sir Philip Rutnam: It was obvious. I do not know how freely discussed it was in the organisation at large—I don’t think it was particularly. But it was obvious in the sense that it was being raised with me, which I have to say I take as a good sign.

- Q18 **Lee Rowley:** How long did it take you until you assessed that it wasn’t a nine-month change—that it was a three-year change?



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Sir Philip Rutnam: That takes us into the work that we have done since. The first thing I decided I should do, which takes me back to the amount of time that I realistically have to devote to due diligence on a programme like this, was to commission an independent reviewer—somebody who had not been involved in the programme, had the relevant background and skills, and could approach this with a fresh and independent mindset. That was the first substantive action I took on the programme.

Q19 **Lee Rowley:** So what was the timeline? What was the number of months before you did that?

Sir Philip Rutnam: I arrived in the Department in April 2017 and I think the independent reviewer, Simon Ricketts, a former CIO of Rolls-Royce, was appointed in July. The series of events was: have a discussion with the team, identify the need for review, talk to a few people about who might be a suitable person to do that—

Q20 **Lee Rowley:** Just roughly though, what was the timeline before you got to the point where you realised it wasn't nine months, but five times nine months?

Sir Philip Rutnam: The actual timescale of moving to the reset? I think it would have been well into 2018 before we fixed upon a new timeline. I am afraid I can't recall.

Q21 **Lee Rowley:** So it took roughly a year to get to the bottom of this problem.

Sir Philip Rutnam: Let me just ask Stephen, who has been on this journey throughout. When did we move to December 2022?

Stephen Webb: From our point of view, which is reflected in the planning, I think it was mid-2018. Simon Ricketts' report early on indicated that he thought that that would be the likely timescale that would be required, and that came out in September 2017.

Q22 **Lee Rowley:** Was the governance that you inherited in terms of surfacing specific issues and resolving problems adequate?

Sir Philip Rutnam: I thought there was clearly a need for tighter governance. The first thing was to get Simon Ricketts to do his independent review. I thought that was likely to surface a series of things, including issues around governance, the operation of the programme board and the engagement of the user community.

I also thought—and I reached this view, as I recall, quite quickly and independently—that we needed to strengthen the leadership within the Department. We were at that point in the process seeking to bring on board a new chief digital, data and technology officer, which is now Joanna, and I took the view that this programme, as a major technology programme, should report to our chief digital officer. As part of strengthening leadership and strengthening the programme board, both of those things were in my mind.



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Q23 Lee Rowley: I'm going to take that as a no, there wasn't adequate governance.

Was there an integrated plan in place? I will save you the paragraph—the answer is no, because there still isn't an integrated plan.

Sir Philip Rutnam: One of the things that Simon Ricketts' report showed was that there was not an integrated plan in place.

Q24 Lee Rowley: A couple more initial questions. Do you think there was a clear understanding of user acceptance criteria? Again, the answer must be no, because we have interacted on this previously.

Sir Philip Rutnam: Well, you've already given your answer. I would want to ask Stephen—

Lee Rowley: I seek your endorsement of it.

Sir Philip Rutnam: I think there were user acceptance criteria in place. Were they sufficient and were they as clear as needed? I am not sure.

Stephen Webb: We had extremely detailed user requirements. How exactly that was going to be tested, evaluated and trialled hadn't been worked out at that time and is being worked out now based on the new product incremental approach. I think we had an extremely clear idea on what the users wanted and expected.

Q25 Lee Rowley: You had an idea what they wanted and expected, but in the documentation that I have read, there is a quite damning statement that says there was no structured methodology for confirming what that criteria were.

Stephen Webb: I think Simon Ricketts' report talked particularly about the way that you were tracking individual requirements to the product, so that you could demonstrate that they had definitely been delivered. I agree that there was a weakness in the way the programme was doing it—what you call the requirements traceability.

Q26 Lee Rowley: You weren't really sure what you were delivering. I have a couple more questions on the same broad framework. Do you think there was sufficient programme assurance?

Sir Philip Rutnam: No.

Q27 Lee Rowley: Okay, great. Do you think there was sufficient senior oversight, even to the most senior levels?

Sir Philip Rutnam: I think I have already implied that the answer is no. I referred to my appointment of a new chief digital and data officer in that context.

Lee Rowley: Thank you, that's helpful.

Q28 Chair: On acceptance, which we have talked about before, it would never be rolled out until users were content with it. We thought then that it seemed like a bit of a wide definition, and we have had considerable



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evidence in the time we have been looking at this from different parties—Ms Mahmood will go into more detail about current concerns. As it got delayed, there was less confidence about it. It becomes a vicious circle—the more the deliverability slips, the less confident people are, so they will not accept it. At this point, do you think you have bottomed out what that user acceptance profile will look like? Can you give us a bit more detail on where you think you need to go with that?

Stephen Webb: I think by moving to the incremental approach we are in a much stronger position. The previous approach was, essentially, that nothing would happen until everything was ready. The entire process of operational user acceptance, operational trials and so on was going to happen at the very end. We have now moved towards a process of incremental delivery. That means that you can do a lot of validation, testing and trialling as that process goes along. In July, the plan is to deliver Direct 1.0, which is the first increment of push-to-talk, with priority and pre-emption.

Q29 **Chair:** How many users will be using it?

Stephen Webb: At that stage, it will be 120 or so, largely in the immigration enforcement area. The point is that to validate that the technology works, that is a reasonable number. You then bring in data with the Connect product, which will come in in September. Direct 2.0 expands to make it a richer product with interworking with the Airwave solution and with integration into the control rooms. These are things we will be able to test some way before the final product.

Q30 **Chair:** Can you help us by taking us through the picture? You have 120 people, mainly in the immigration enforcement area, using push-to-talk in the next few weeks. Can you tell us how you see that trajectory going? Make it live for the people out there who are wondering when they can have a hold of this fantastic bit of kit.

Stephen Webb: The numbers in the early products will be relatively small, because we will spend a lot of time evaluating how it works and feeding back if there are any changes.

Q31 **Chair:** What is the timeframe? You have 120 in the next few weeks.

Stephen Webb: That is something we really need to work on with the user. I am not being evasive, but generally, the users need to decide when—particularly the three emergency services. The emergency services do not really want to go operational until the latter versions of the product, but they absolutely want to see how it works. We would expect to get most of immigration enforcement on as you get into Direct 2.0, which is at the very end of the year in November. You might be getting up to 1,000 or so users.

Chair: You say mainly immigration enforcement—

Stephen Webb: Mainly immigration. We are working with others—Border Force and others.



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Q32 **Chair:** But there are only 120 to 1,000—really, you are testing in one sector?

Stephen Webb: It is relatively small, but we are looking to test the whole end-to-end experience, including how it works with police Airwave systems. It will be incredibly valuable in demonstrating whether this does work. In parallel with that, the Assure process will go out there and give real data about coverage, to address all the concerns out there about whether the coverage is really going to work. It is not that we expect a straight-line trajectory from here to 300,000 users by the time Prime goes live—it will be rear-end loaded—but we will have been able to test and demonstrate an awful lot in the meantime, which is something that under the original plan we did not really have the ability to do.

Q33 **Chair:** We know that. We saw the reviews, and I appreciate that they came to us quickly because we needed to see them before this hearing. I was interested in the cost aim and benchmarking, and the examples they chose for that benchmarking. Was that something you suggested, or did they come up with that? Why was it those particular options?

Stephen Webb: It was a bit of both. When you look at the Government's major projects portfolio, we looked at the 150 or so programmes in there that seemed to be the biggest and that had similar areas of complexity, particularly a combination of technology and multiple stakeholders. Those are the sorts of ones we were looking for.

Q34 **Chair:** Did you suggest them, or did they come up with the idea?

Stephen Webb: Both. I suggested some and they came up with others. Some of them I did not know much about; some of them we suggested.

Q35 **Chair:** I am partly raising it because the restoration and renewal of this beautiful Parliament building was in there. The Bill only passed yesterday, so it is in the very early stages. We would not for a minute parade this as an example of a project that is working or from which lessons have been learned, because it hasn't got going yet. I was interested to see that that was in there. That is not a great secret that I am revealing from the papers. Why was that seen as a good benchmark for the Emergency Services Network—a huge technical programme with multiple platforms and users?

Stephen Webb: It is an enormously complex programme with physical and technical infrastructure, and a very wide stakeholder base. It is particularly about the governance and how you get the user assurance and confidence. As I say, I wanted to have as many benchmarks as possible. I accept that some of them are more relevant than others.

Q36 **Chair:** Yes, well, we will see. Maybe we will learn, as we go on with restoration and renewal, how relevant the two are to each other. I can't see it myself.

Can I ask Sir Philip about the balance of responsibility between the Home Office and your contractors? You have the commercial side of it—Motorola and EE—and you have your own team in the Home Office. When things



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go wrong, are you clear who is responsible for that? We have seen some shilly-shallying on this in the several times you have been in front of us. Who do you blame for some of the delays?

Sir Philip Rutnam: Well, I adopt two general principles. First, we hold our suppliers to account, and we are fair but demanding customers. Secondly, the ultimate responsibility for a programme like this rests with the customer.

Q37 **Chair:** Given what the Ricketts review said about the relationships with one of your major suppliers—Motorola—is it fair to say that they were being held properly to account?

Sir Philip Rutnam: I believe that, as we have progressed this programme in the last two years, we have very much held Motorola to account. Indeed, through the renegotiation of the contracts—the contract change notices—we have effected a much clearer and sharper division of responsibility, so some things that were unclear have now been clarified. One update since the NAO Report is that we have now signed the contractual change with Motorola. That is something that is now contractually all agreed and in place. Yes, we do now have a very clear definition of responsibilities between us and our principal suppliers.

Can I just make one other point? It is worth noting that the contractual structure here is unusual. As a consequence of the situation pre-2015, when the procurements were put in place, there is a highly disaggregated approach to the delivery of this programme. That leaves the Department, which is always going to have an important role, in the even more important role of systems integrator with responsibility for managing a multiplicity of suppliers. There is no prime contractor, in the same way as you might be familiar with from other contexts.

Q38 **Chair:** Were either of you surprised with the conclusions of the Ricketts report?

Stephen Webb: No, I think it was a very thorough and fair report.

Q39 **Chair:** We considered it a rather useful document—one of the clearest documents we have seen from the Government for some time—but it was not a surprise to us either. Sir Philip, you were new in the job and had asked for the Ricketts report. You commissioned it by July, and it was out by the autumn. Did it tell you things that you didn't know?

Sir Philip Rutnam: Yes, it did tell me some things I didn't know. Obviously, Simon had the opportunity to go into much more detail than I ever would have, so it unearthed a range of things. Was I surprised by the overall conclusions and recommendations? No. Was I surprised by some of the detail along the way? Yes.

Q40 **Chair:** This is what is slightly puzzling to us. The Ricketts review is a really clear document that outlined some of the concerns that we and others had raised. We are a bunch of rank amateurs; perhaps with the exception of Mr Rowley, we are not experts in ESN or this sort of technology. Yet he could do that when commissioned by you, but it



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hadn't come to the fore before. Why do you think that was the case, Sir Philip?

Sir Philip Rutnam: I think there was an opportunity presented by the fact that the programme had identified that it needed extra time, and then identified that it needed some more time still.

Q41 **Chair:** So that was the red flag for you.

Sir Philip Rutnam: That created an opening to get into the heart of the programme in a way that wouldn't otherwise have arisen.

Q42 **Chair:** But your predecessor was in front of us not that many weeks ago, and he told this Committee that the ESN programme's timetables were too optimistic. Do you agree?

Sir Philip Rutnam: With hindsight, yes, certainly.

Q43 **Chair:** So if he knew that then, why did the Home Office not commission a similar review at an earlier stage?

Sir Philip Rutnam: I am not sure whether he was saying that he knew that then. I thought he was saying that he certainly recognises it now.

Q44 **Chair:** As I say, we are a bunch of rank amateurs—we are just MPs, and we are simple people—but we could see it. The National Audit Office's 2016 Report had a very useful chart. I do not have a copy, so maybe it is a bit unfair of me to refer to it, but figure 12 shows the transaction activity by region as at August 2016. It was said that this would all be rolled out by December of this year, but we said that it was looking very tight and very difficult. We raised those concerns at that point. Your predecessor said that he thought that it was optimistic.

You have answered Mr Rowley's questions about how you came in with fresh eyes as a new permanent secretary. Did it surprise you that no one had done a review in the nature of the Ricketts review before your arrival?

Sir Philip Rutnam: What your comments show, and what the Report shows, is the value of a fresh and independent perspective on something that can appear very complicated, but the fundamentals of it—

Chair: Actually, the Home Office had the fresh and independent perspective of the National Audit Office—on how many occasions, Mr Lodge?

Oliver Lodge: This is the second Report; the first was in 2016.

Q45 **Chair:** And of course it has supported the Committee and looked at this between Reports. It has been in the Home Office providing expert and independent opinion and facts.

Sir Philip Rutnam: You will know that one of the characteristics of programmes is that they—and the people running them—tend to optimism. The optimism has a very positive side, because it is what helps



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to get people through challenges, but it also has the downside that it can narrow the perspectives to which they are open.

Q46 **Chair:** Mr Webb, were you too optimistic? Did you narrow your perspective?

Stephen Webb: Undoubtedly, when you look back on it, we made some—I think we consciously always said that it was an ambitious timescale. We thought that if you needed more time, you would be able to buy it, because you would be able to extend the contracts.

I think the really material thing that happened around the time that the permanent secretary arrived was when, having done the nine-month reset to CR110, the new software hit testing for the first time. We had some really significant problems with it—we had a series of new information that revealed a whole series of problems with the programme that would not have been obvious until we had seen that. The Ricketts report very fairly unravelled how that happened. The challenges between us in defining requirements properly, the different interpretations that the two suppliers had about the underlying technology—all those things came out in spring 2017 and made it clear that we had a much bigger problem than we had realised.

Q47 **Chair:** Were you not aware that you had two major suppliers working on different technical criteria?

Stephen Webb: I don't think that we had realised how major an impact that was going to have.

Q48 **Chair:** Just to be clear, does that mean that you knew about it, but that you did not think that it was as big a problem as it really was?

Stephen Webb: Yes. We knew that Motorola had used release 10 and EE was assuming release 12.

Q49 **Chair:** Even in my simple world, where I use things like Windows, if I used a different technical system from my children, from Mr Rowley or from Sir Geoffrey, we would not be able to communicate with each other. We would find it quite challenging—people would get wrong versions of documents, and things like that. I would find that quite hard. For a major project like this—UK-wide, first in the world, using new technology—when you knew that they were working with different technological criteria, did it not ring a bigger alarm bell?

Stephen Webb: Until we actually saw it live in testing, it was not clear how big the problem was. I completely accept that.

Q50 **Chair:** Ms Davinson, from your perspective as a digital officer, should it have rung bigger alarm bells?

Joanna Davinson: Probably, with hindsight, yes.

Q51 **Chair:** Mr Webb, the review of the programme board that was undertaken for you by Costain raised some findings about the board's oversight of your team, your reporting to the board and so on. You commissioned that



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report. Did it reassure you? Did it tell you what you knew already?

Stephen Webb: I was concerned about whether the programme board was working as effectively as I wanted it to, which is why I commissioned the report—absolutely.

Q52 **Chair:** Did you need to commission a report to tell you some of those things? It was not a terribly surprising thing to those of us who are familiar with it from our independent perspective.

Stephen Webb: No, but it was useful to have that independent perspective and to see how these programme boards are working in various areas.

Q53 **Chair:** The key word there is independent. Is there an issue in the Home Office, in terms of governance, such that you felt you could not raise these concerns elsewhere or to a more senior level without the backing of an independent report? Some of this, to put it quite crudely, is the bleedingly obvious in terms of what was happening. It would have been obvious, certainly in your position, I would have thought.

Stephen Webb: Having somebody who had the capacity and experience and was able to talk to a number of us was generally useful. We had had a number of discussions within the Home Office with colleagues about whether this was working in quite the way I wanted, but I thought it was a useful thing to ask somebody to do. It came up with helpful recommendations that we have acted on.

Q54 **Chair:** Do you know how much that particular review cost? You could write to us if you don't.

Stephen Webb: I will write to you.

Chair: You have had two reviews by Costain that we have seen. I am going to bring in Mr Rowley on this point.

Q55 **Lee Rowley:** I just want to check a couple of things. Your general narrative there was that it seemed to be going okay, although there was a level of risk associated with it, until we discovered a series of problems half way through. But that is not really what Sir Mark Sedwill has told us, nor what is in the documents that we have read.

If you look at what Sir Mark Sedwill told us on 1 April, he was quite unequivocal: "I was always uneasy about a level of ambition and the pace of the ESN programme." Without quoting directly from some of the documents we have seen, at least one of the documents said perfectly bluntly that this kind of level of programme and level of solution was extraordinarily demanding.

I struggle, like the Chair does, in saying that these things were not noticeable or that the governance should not have been put around it to a greater level than clearly was, in order to identify problems early on.

Stephen Webb: We've learned a lot from this; I certainly accept that. We had some international best-in-class suppliers who were confident that



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they could deliver by this time, who also had a strong financial incentive to do so. We had difficulties in the mobilisation that led ultimately to the CR110 reset.

Then the testing revealed that the work that needed to be done on the technical solution was even greater than we expected. Some of that no doubt could have been foreseen, but we made decisions that seemed reasonable at the time on the information that we had in front of us.

- Q56 **Lee Rowley:** On that point, is it not the case that at least one of your suppliers was telling you that you had a discrepancy in technical standards, many months before you confirmed as a programme that that was the case? I recall reading one of those documents where it said that.

Stephen Webb: I think so. We knew early on that there was a distinction between the release 10 and the release 12. What we didn't understand was how fundamental that was going to be in making the system work over a commercial, as opposed to a private, 4G network, and just how many problems it would cause later.

- Q57 **Lee Rowley:** What did you do to try to align those two discrepancies between 10 and 12 at the time?

Stephen Webb: In a sense, that was the work that CR110 was designed to do. It was designed to bake that in, but it turns out that the codes continue to perform and the way the priority and pre-emption in particular was working was causing a lot of problems in testing. That was not the only issue; there were a number of quality and other issues with the main supplier's software that were also becoming increasingly clear in testing.

- Q58 **Lee Rowley:** Forgive me for pushing it. I obviously don't know the context in which this was raised, but when one of your suppliers says, "I'm doing this," and one of your suppliers says, "I'm doing that," that would have been articulated in some environment—a committee, a governance, a paper, or whatever—and there would have been a problem identified. What happened in terms of problem x position, analysis, options, conclusion, tracking, output? You can't just say that this got broader and broader. Either it was dealt with or it was not. I don't understand the difference.

Stephen Webb: I think one of the lessons was that, as we did the procurement, we probably didn't allow the suppliers to spend enough time talking to each other about their respective bids. There are certain rules about keeping the various bids separately. But that probably had some problems, because it meant it wasn't really until the two suppliers both turned up that we immediately realised how big a mismatch there was in those particular assumptions. Did we track and escalate that adequately at the time? Clearly, during the course of 2016 and early 2017 we had some problems with that, I accept.

- Q59 **Lee Rowley:** Why did you not co-locate suppliers or teams within the suppliers, so that they could talk to each other?



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Stephen Webb: On reflection, we probably should have done that. We thought through the planning. We thought the arrangements that we had to work with the suppliers would be good enough. On reflection, that does not appear to have been the case.

- Q60 **Chair:** It reminds us of the aircraft carrier programme, which brought suppliers together in a forcible way and actually delivered some efficiencies, savings and technological improvements. Maybe there is a wider lesson there. What do you think is the likelihood that your costs are going to increase further?

Stephen Webb: The business case we describe now as a P90 one. We have put a lot of thought into contingency. There are really two components to it: there is delivering the technical solution and there is a user transition to the point at which you can turn Airwave off. The part we have the most direct control of is delivering the fully working product. That is one where I think we now have a reasonably high level of confidence that there is a lot of progress being made. The dates have been stable for about the last year. There are some milestones going through. As I say, there are some big deliveries over the next few months.

The second part is the bit we will need to revisit by the end of the year. At the moment in the business case, we have left the transition period at the 27 months that it has been ever since the beginning of the programme. That was based on a completely different model of transition. It was based on a series of regions transferring and taking 10 months' or two months' contingency per region, then staggering through. We are now doing incremental delivery, which means that transition is working in a different way. Some of the users have reported to the NAO and us that they think they might need more time. At the moment, we do not really have the information from user deployment to be able to say whether we need more or less time. There are three big drivers. How long will it take you to enrol users, train them and so on? How long will it take to fit your vehicles? How long will it take to integrate with your control rooms? We have a lot of work between now and November or so, when we will have a final deployment plan. That will enable us to make a decision about that 27 months. Note that the 27 months refers to what we call the national shutdown at the end of '22, but it is actually a "not before date". The £9.3 billion figure in the business case here has a load of contingency and is really premised around an end of '23—it assumes it will probably take around a year longer. That is our current assumption. Once we have worked with the users, we will have a better sense of how realistic that is.

- Q61 **Chair:** So in simple terms, those costs include a year's contingency on keeping Airwave going.

Stephen Webb: Basically.

Oliver Lodge: Just to say, it's not quite that straightforward. The amount of contingency in the £9.3 billion is around £714 million. That is based on probabilistic analysis and a number of assumptions, one of which is a potential one-year extension. Clearly, the cost of extending Airwave by

three years was about £1.4 billion. That will give you an indication of the likely cost of extending it for one year.

- Q62 **Chair:** How far do these costs have to go up before it would have been more cost-effective to keep paying, even though it is a monopoly supplier and a different system? Keep preparing Airwave for push to talk, and allow the emergency services to use off-the-shelf for maps and things they have not secured.

Stephen Webb: If you believe that this is technically possible at all, there is almost no circumstances where it would make sense to remain with Airwave. We have done some contingency analysis. If we had known at the beginning of this programme everything we know now—so, build all the costs back in there—you would still have an extremely high, positive NPV for pressing on. That would still be the case even if you excluded all the productivity benefits in policing and just relied on the cash. Even if you assumed that it were possible to keep TETRA going well into the 2030s—I do not think anybody actually believes it is going to last for that long—and assumed that you would never have to transition during that period, you would still have a better NPV than what we have done.

The big drivers of cost in the transition will not really change if you do it now, in five years or in 10 years. A lot of it is capital costs around things like building the additional masts for the underground and so on. It is possible that aspects of the solution will be easier to do and that the push-to-talk functionality will become more COTS, but that is not really a major cost driver. I would say that the only circumstance it would make sense not to do this is if you believed it was not technically possible to deliver it at all. As I say, we are more confident than we have ever been that ultimately this is going to be technically deliverable.

- Q63 **Chair:** Sir Philip, the main reason this system was cheaper—not that price was everything, but it was one of the major drivers—was that it didn't rely on a private network, so we weren't held to ransom by one monopoly supplier. But if the same functionality is not available—it is not delivered, and it is not reliable—does the value-for-money case fall away? Does the business case still stack up?

Sir Philip Rutnam: If you look at the business case, the value-for-money case, in the financial context we continue to anticipate very large financial savings associated with being able to switch off Airwave and rely on the new network—of the order of halving.

- Q64 **Chair:** But that is if it is delivered on time and is reliable. A question about that—how far on the scale—

Sir Philip Rutnam: Clearly, it has to be reliable and it has to achieve the quality standards that we require, because this is a mission-critical, safety-critical and safety-of-life-critical service. There is absolutely no question of compromising the quality that we require. The principle variable, which we have just been talking about, is whether it can be delivered by the end of 2022. Will it take longer? If so, how much longer,



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and what does that do to the business case? As Stephen has been saying, we think that the business case continues to be resilient in that scenario.

There are a couple of other points that I would add. First, from a practical perspective, if we lose courage now and stop this process—which I don't think we will, but if we were to—I would predict that it is not a question of relying on Airwave forever; I would predict that at some point, in a smallish number of years, the Government of the day would come back to this and to the question of how to replace Airwave. My second point is linked: it is interesting that you refer to the fact that this is world-leading, and it is world-leading, but as the programme has gone on, more and more countries have started to do the same thing—France, Finland, the US, Denmark—

- Q65 **Chair:** That is it exactly. You have almost pre-empted my question. When this started hitting problems and the delays became apparent, had you even paused it, it is possible that another country might have led the way, is it not? You would have been more buying it off the shelf—slightly tailored, but pretty much off-the-shelf stuff—rather than this. You have got 5G coming, and it was interesting and heartening that the Ricketts report said that the slicing of the spectrum is possible and is the way forward—we were heartened by that—but we still went first and it has cost a fortune to the British taxpayer. If we had slowed down a bit or gone at it differently, we might have been able to get other people to take the pain while we got the gain.

Sir Philip Rutnam: There are definitely costs to being at the front of the pack, I accept that. There are some benefits as well, though. The UK plays an absolutely pivotal role in designing and developing the international standards—the 3GPP standards—for this service, so that they are more suited for our needs. As the programme has gone on, as I say, more and more countries have come in behind us. Indeed, there is now a Europe-wide move towards this. So the reality is that this is where most countries will be—by the latter part of the 2020s, the UK will be a bit ahead, and there will have been some extra costs associated with that, but there will also have been some benefits.

Chair: “Some extra costs”—quite a lot of extra costs. Ms Mahmood will pick up on some of the impacts for people out there on the ground a little later. I ask Sir Geoffrey Clifton-Brown to look at the commercial side.

- Q66 **Sir Geoffrey Clifton-Brown:** Sir Philip, good afternoon. When you came into the Home Office in April 2017, you did your due diligence of everything that was going on in your new Department. When you got to this ESN, did you realise at that time that this project was so massively out of kilter—£3.1 billion more than the originally estimated cost, or 50%? Did you realise at that time that it was so massively out of kilter?

Sir Philip Rutnam: Not in April, no. I think, as I recall, that Simon's initial report, which was delivered in the early autumn, included a figure that was not very far away from £3.1 billion—I think it was £2.8 billion. He is a very clever guy, but that was on the basis of some relatively simple—



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forgive me—arithmetic, and he got to a figure that is not very far distant. Obviously, we then did a huge amount of further work to test the assumptions and to develop the business case further, but I realised fairly quickly that it might be of that order. There was a lot of challenge within the organisation—“Does it need to be quite that much?”, “Surely we can do things more cleverly and more smartly”, and, “It could be a lot less than that.”

Q67 Sir Geoffrey Clifton-Brown: When you did that due diligence, were you aware of the Peter Edwards report prepared in the fourth quarter of 2016?

Sir Philip Rutnam: No, I’m afraid I was not. The Peter Edwards report on what exactly, sorry?

Sir Geoffrey Clifton-Brown: Into the problems with ESN, in particular in relation to suppliers.

Sir Philip Rutnam: I do not recall it. It may have been drawn to my attention, but I’m afraid I do not recall it.

Stephen Webb: It was an internal report done on the programme. I have not seen it either.

Q68 Sir Geoffrey Clifton-Brown: You have not seen it either, Mr Webb—the documents tell us that. Why have you not seen such an important report? As somebody who was in charge of the team—a senior responsible officer—why had you not seen that report?

Stephen Webb: I don’t know. I was surprised to read it in Simon’s report.

Q69 Chair: Who commissioned it?

Stephen Webb: The programme leadership at the time.

Q70 Chair: That is the board?

Stephen Webb: The programme director. It was a report to him about how he should best improve the governance. I think he probably saw it as a bit of an external assurance. It probably would have been better to share it with me, but that was not done at the time.

Q71 Sir Geoffrey Clifton-Brown: “Probably would have been better to share it”? That report said that dialogue between suppliers, notably EE and Motorola, only started after the effective delivery dates. The report highlighted that there was not clarity regarding dependency on the interface providers, and that caused something of an impasse. It also alluded to the fact that that remains one of the most serious issues and is not showing any signs of resolution. That was in 2016, in that report. Had that report been disseminated, would we still be in the position that we are today?



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Stephen Webb: I think that we would have wanted to bring forward the sort of review that the Home Secretary commissioned, and we would have done it at an earlier date.

- Q72 **Sir Geoffrey Clifton-Brown:** Why did you need to? You would not have needed to commission another review. You could have started getting to the root of the problem there and then if you had seen that report.

Stephen Webb: Yes.

- Q73 **Sir Geoffrey Clifton-Brown:** That is the sort of historical context, but how sure can we be now that this thing is actually going to come into commission in 2022?

Stephen Webb: 2022 is the earliest date at which we would shut off Airwave. The point at which the system and products should be ready is 2020.

- Q74 **Sir Geoffrey Clifton-Brown:** They will not be fully ready—bits will be ready, won't they?

Stephen Webb: Yes, the core parts: the push-to-talk system and the Motorola software over the ESN network. There are one or two other things that are still being completed. As I said, it comes down to the level of technical confidence, which is growing. The software is performing well. For the Direct 1.0 product, the milestone has been approved, so we are on track for that launch in July. I have got a pretty high degree of confidence on that. The challenge, as we discussed, is the user deployment and roll-out.

- Q75 **Sir Geoffrey Clifton-Brown:** Because if it is not delivered, you will lose the fixed-price contract of keeping Airwave going with Motorola, and that price will probably go up. If it is not delivered or switched off by 2022, you have the likelihood of a considerable further increase of costs that is not yet alluded to in this report.

Stephen Webb: That depends slightly on the reasons. We still have the deal of recovery on the Airwave contract if the delay is caused by failures on Motorola's part.

- Q76 **Sir Geoffrey Clifton-Brown:** But you do admit that if it is not switched off by 2022, you will have to pay Motorola for continuing to run it, and that is at a fixed-price at the moment of £620 million a year, which is likely to increase considerably because Airwave will need investment by that stage.

Sir Philip Rutnam: I think Joanna should speak about the commercials.

Joanna Davinson: Yes. We had a choice to make at the end of last year about the length of extension that we were going to agree with Motorola for the Airwave contract. We settled on the period up to the end of 2022. The reason for that was that a longer period gave us the opportunity to negotiate discounts, and we negotiated a discount on the existing price for the future years.



Q77 Sir Geoffrey Clifton-Brown: Can I stop you there? I am so sorry, Ms Davinson. Sir Philip told us earlier that you had signed the contract with Motorola.

Joanna Davinson: Yes. There were two contracts.

Sir Geoffrey Clifton-Brown: Did that incorporate this 5% discount?

Joanna Davinson: Yes, we have locked that in now. As Stephen says, to a certain extent, what any follow-on extension contract covers will depend on circumstances. One of the reasons why we did not go for a longer extension was that we did not want to lock ourselves in. If we reach 2022, are part rolled out and already have ESN operating in large parts of the country, which is where we would hope to be, we would want to have a conversation with the supplier, Motorola, about the terms for extending Airwave and whether the whole system needs to get extended or if we look at partial extension. That is a conversation we have had with it previously. Obviously, that would have to be negotiated, but we would have some flexibility to look at how much needs to be extended and under what terms.

As Stephen says, there are provisions in the Airwave contract that limit the extent to which Motorola can put the price up unreasonably, and as you say there may well be some investments required in order to keep the system going for another one or two years. We will have to talk to the supplier at the time about how much of that it is prepared to invest it in, versus the risk of the time that we need to keep the system going.

Q78 Sir Geoffrey Clifton-Brown: To be absolutely clear, you have some control over costs with Motorola if the Airwave contract has to be extended.

Joanna Davinson: Yes, it is an open-book contract.

Q79 Sir Geoffrey Clifton-Brown: And will that be on the same terms as the present contract?

Joanna Davinson: Not necessarily. It will be a negotiation, but we will have to agree with Motorola the scope of what needs to be extended—is it everything or is it part of the solution? If we are already rolled out in parts of the country, we would not want to extend the entire network. We will have to agree the price, and that will depend on whether there needs to be further upgrade or enhancement of the Airwave system for tech refresh reasons. Some of that will depend on whether we are extending to 6, 9 or 12 months, because that will be a very different conversation from if we have to extend further than that.

Stephen Webb: It is worth pointing out that quite a lot of tech refresh will go on in this extension period. We have had this discussion with the PAC before: because there is more tech refresh, we would not accept that means we have to pay more, because the amount we are paying for Airwave at the moment reflects the old PFI, which basically amortised the original capital investment over the whole period. We would argue that it should absorb—indeed, we secured a reduction in the cost of Airwave



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despite some very significant tech refresh, including the time division multiplex, which we have discussed on various occasions in front of this Committee.

- Q80 **Sir Geoffrey Clifton-Brown:** I have a lot of ground to cover, but it seems to me that if you have any substantial amount of Airwave usage left, Motorola will inevitably say to you, "I'm sorry, we have to invest a lot of money to do this. We are putting the price up considerably." You have lost your leverage, haven't you?

Joanna Davinson: We will have a negotiation.

Sir Geoffrey Clifton-Brown: You will have a negotiation, but you have lost the leverage.

- Q81 **Chair:** Who will lead that negotiation?

Sir Philip Rutnam: For the negotiation that we concluded last year in the contract change notice just signed, we assembled a very good team, comprising the Government commercial service, which is headed by Gareth Rhys Williams.

Chair: Some central Government resource.

Sir Philip Rutnam: Yes. Some resource in the Home Office; there is a very good commercial director who is dedicated full-time to this, as well as Joanna, who has a 30-year career from IBM on the other side of the table, if you like; and we also have very good legal support. I am confident we can assemble a very good negotiating team.

- Q82 **Sir Geoffrey Clifton-Brown:** Can I come back to Motorola? Mr Webb, you had a high-level delegation to visit Motorola in Chicago, which dispelled myths. Could you tell us a little about what those myths were? Were they around the organisation of Motorola corporation Chicago's communications with Motorola Europe, in particular the software drops and the reporting back to UK Motorola? Was there a problem with poor-quality software?

Stephen Webb: Yes. As often happens with programmes, relationships become fractious around testing. People on both sides assume the worst of each other. I think that was quite a seminal meeting with the top team in Motorola. I was talking to the chairman and chief executive, and Simon Ricketts came with us on that visit. It brought home to them the scale of the concern from our side. They were able to dispel some of our concerns—they acknowledged some of the problems they had with early quality and explained what they were doing with their testing organisation in the US to improve the quality of the software before it left the US.

We made a lot of progress on what was concerning us at the time about the route to standards, particularly the security architecture. That remains a considerable concern, and was the drive behind the later shift to Kodiak. We almost set out at the beginning of the visit what would success look like at the end, and then we reviewed at the end whether we achieved it. It was a good session, and we made a lot of progress.



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We also made a lot of progress about clearing out and really trying to lock down the design where there was still uncertainty—where we thought we had been clear about exactly what we wanted and they were arguing that we had not. Again, that was causing a lot of friction between the teams.

It started the process of putting the relationship between us on a better footing. Ultimately, the route we mapped out went first into the incremental delivery and then into changing out the software altogether. When we were there, they had literally only acquired Kodiak a week or two previously, so they had not really done their own strategic thinking about the where that was going to sit within their product map in future.

- Q83 Sir Geoffrey Clifton-Brown:** We will come on to Kodiak in a minute. Wouldn't you have expecting this scoping, as I call it? Given that we have already discussed the problems of the interfaces, wouldn't you have expected, when managing a project of this size and complexity, to have had those sorts of discussions direct, face to face with the chief executives in Motorola before you even signed a contract, not a year in, once you had started to discover there were problems?

Stephen Webb: Again, I think the lesson is learned. In similar circumstances I would certainly start those engagements a lot earlier than we did, because they were very fruitful.

- Q84 Sir Geoffrey Clifton-Brown:** And you now have a regular Friday telephone call—I think that is referred to in the Report.

Stephen Webb: Yes, and face-to-face meetings.

- Q85 Sir Geoffrey Clifton-Brown:** Isn't it fairly elementary that you pick up the telephone to one of your major suppliers when there is a problem?

Stephen Webb: Yes.

- Q86 Sir Geoffrey Clifton-Brown:** Isn't that just something that should have been done?

Stephen Webb: I am not saying there were no contacts before. There was a bit of a crisis going right up to the top of the organisation, because by that stage, with the problems in testing, that was the one stage in the whole programme where I was having real concern about whether this was going to be technically deliverable at all. To escalate to them to make it clear to them we really were losing confidence in their ability to deliver it at all was extreme. That is not the sort of engagement you expect to have frequently on a programme.

- Q87 Sir Geoffrey Clifton-Brown:** Can we come on to Kodiak? You discovered in that visit that they had acquired this company which had this push-to-talk—PTT—apparatus. How well is that working in trials at the moment and do you have confidence in it?

Stephen Webb: Yes. It has a million users already. They are in what you call the "orange light" set—the push-to-talk users who are not necessarily in the three emergency services. It does have about 50,000 to 100,000 emergency service users as well, who tend to use it when they are out of



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area, to integrate with their colleagues back at base, so it is beginning to move into the emergency service space. It is a well-known product.

We did know the product. They had engaged in the original procurement, but they did not end up with a partner, so they did not end up being part of the solutions that made it to the end. But we knew about it and we knew it was a highly regarded product. The decision we took in shifting from Wave to Kodiak was that, although in a way that took us a step backwards—certain bits of work had to be redone—we had a lot more confidence that Kodiak was going to get us into a place where the issues around security would be dealt with. It was fully standards based, and, as I say, it was a product that had a track record of delivering and regular upgrades, whereas Wave had a much smaller customer base. Most of all, Motorola had decided that this was going to be their strategic product. I think they originally thought that they would run Wave and Kodiak for slightly different customers, but they once they had really assessed Kodiak and realised how close it was to the standards we had been working to develop, as the permanent secretary said, they decided that would be their main strategic product in future.

- Q88 Sir Geoffrey Clifton-Brown:** Can we try to look for some more good news in this, on the whole, pretty sorry saga—negotiating with EE? According to the NAO Report, EE seems to have fairly good coverage at the present time, with a relatively small number of masts. What scope is there for renegotiating with EE to reduce their contract because they have managed better efficiencies than they had thought when you originally signed the contract?

Stephen Webb: We have not signed, but there is no suggestion that we will be able to change the price. This is an open-book contract and we know what margins they are making. It has cost them slightly more than they were expecting, so they are not making huge amounts of money out of this. For them, the main profit in the contract will be when people start using data to any great extent, so they are also incentivised to deliver the programme and start getting people using it. I would not hold out great hopes of getting any reductions in price for this contract life.

Sir Geoffrey Clifton-Brown: The Chair referred critically to the fact that you are not going to switch Airwave off until all of your users are satisfied that the new ESN is working properly. How will you satisfy yourself that that is the case? How will you test this thing under a really severe emergency situation, before you are fully satisfied of that fact?

Stephen Webb: There is a lot of work going on at the moment called validation and evaluation, including some major trials at events like Notting Hill Carnival and New Year's, just to test the network.

Even with the relatively small numbers—even with Direct 1—that is already a product that will be going out with priority and pre-emption, so you will be able to test that those users are able to get a service at the times of the most extreme congestion. Certainly all the modelling we have seen against the most extreme law enforcement scenarios we have been



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able to pick up has given us a high degree of confidence. Because you are talking about a network with maybe 300,000 users and 30 million consumers, and voice doesn't take very much data compared to the total amount out there, EE are extremely confident that we will actually have a better ability—

Chair: That doesn't quite answer Sir Geoffrey's question. How are you actually going to test it? The examples you raised are just big social events.

- Q89 **Sir Geoffrey Clifton-Brown:** I am thinking about a big terrorist event, perhaps in multiple locations, God forbid. How will you be sure that it will work under those circumstances?

Stephen Webb: For that sort of thing you really have to model against past events, and precisely that has been done against a number of the recent terrorist events. We said, "What would have happened in those scenarios?"

There is a series of degrees of escalation in the system. I think there are five degrees. At the highest degree, what happens is that, if the emergency service use becomes absolutely enormous, members of the general public are taken off 4G for data and put on to 3G.

The most testing scenario we were able to identify only got to the third level of escalation. We don't believe the general public would even notice that, and certainly the emergency services would not notice. So that was very encouraging indeed.

- Q90 **Chair:** Who else are you liaising with? You are obviously the Home Office. You have access to all the top police and of course these days fire as well. Who is involved? Have you got a gold group for the testing end of that?

Stephen Webb: Yes.

- Q91 **Chair:** Who is in that?

Stephen Webb: The police lead. A deputy chief constable is leading for us and developing that plan. He is representing both the National Police Chiefs Council and is sitting within the programme, helping us to develop a plan that will really give them confidence that this is going to work.

- Q92 **Sir Geoffrey Clifton-Brown:** Another problem that seems to be emerging from the evidence we have received from the police and elsewhere is that not only are they going to have to pay the cost of ESN, but they are going to have to pay the cost of things like control rooms and equipment, and they don't know what those costs are.

What discussions have you had with these 370-odd organisations that will use the ESN about what their total bill is likely to be? How much more are they likely to have to pay for the new system compared with the present?

Stephen Webb: The business case does include all those costs. It includes the costs of upgrading their ICCS systems in their control rooms. It includes their costs of devices. The business case covers the end-to-end



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process of going from where we are now, where we have the Airwave system and commercial broadband, all the way through a period of dual running into the steady-state period. All the costs are covered in there. On the local costs, the data we are using in the business case comes from the users. It is how many devices they are planning to use and what mix of devices, and how big a team they need for local implementation.

I can understand that what is more frustrating for local finance leads is that to get that down to the level of, "What it is going to mean for my particular force?" will depend on some local decisions that they have not yet made. They need to understand exactly what the device mixes look like and where they are going to be in the transition phase. We need to talk further with them, but I am not aware of any element of cost that is going to fall on them that is not covered in the business case, and our data is based on the information that they have given us.

Chair: We have some examples to bring in a little later.

- Q93 **Sir Geoffrey Clifton-Brown:** Can I turn to you, Sir Philip, on the governance of this whole thing and, in particular, KBR? You basically downgraded them so that the Home Office took control of this overall project management. Why are you still continuing to employ them and how much money are you going to pay them?

Sir Philip Rutnam: We are not expecting to continue to employ them for much longer. Their activity with us is steadily shrinking. It is in run-off essentially. I have to say the KBR experience was very mixed. The contractual arrangement has proved useful in that it has enabled us to access a range of other resources—not necessarily resources provided by KBR directly, but a range of specialist resources that we can access via them. The resource supplied directly by KBR proved to be less experienced and less valuable than we needed, and that is one of the reasons why we have, in practice, replaced some of the resource they provided with our own staff. It has not been a very happy episode, and it is definitely one that we are bringing to an end shortly.

- Q94 **Sir Geoffrey Clifton-Brown:** How much money are you going to pay them?

Sir Philip Rutnam: To date I believe we have paid them in total £60 million.

- Q95 **Sir Geoffrey Clifton-Brown:** It is £50 million. This is paragraph 3.23 on page 40 of the Report. You have paid them £50 million, and the contract is £73 million, so I am wondering how much of that £73 million you are still going to pay them.

Joanna Davinson: We have spent about £73 million overall on partners—not all of that to KBR—but we will get back to you with the precise number. It is in the £60 million range.

- Q96 **Sir Geoffrey Clifton-Brown:** Could you write to us? Sir Philip, on page 45 of the NAO Report, in the bottom box, it says: "The Home Office does not yet have a robust and sufficiently detailed plan that demonstrates



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that it understands the challenges faced by emergency services in introducing ESN, and it is also not clear how the various programme components of ESN will be integrated successfully.” That is a pretty damning indictment of your stewardship at the Home Office, and particularly of the project management under Mr Webb, isn’t it?

Sir Philip Rutnam: I wouldn’t characterise it like that. I would say those are two of the core challenges that we have in taking the programme forward. Building user confidence is probably the most important task ahead of the programme. Building user confidence requires us first to show them that this is a product that will work and will provide them with the services they need. We have not been able to do that for some time, mainly because of the shift from the Wave solution, which was the original technical solution, to the Kodiak solution. We were in the process of demonstrating Wave in the early months of 2018, but the decision to move away from Wave has injected many months of additional need to develop the Kodiak solution to the point where it can be demonstrated.

I completely understand the need for the police and other emergency services to see a product in reality. That will start to be possible in July, when we roll out the product that Stephen Webb referred to as ESN Direct—the handset, in pre-production phase, with pre-emption and priority over the EE network and with the Kodiak software on it. All those things will be available for the first time in a real product in operational use, at least on the scale of 120 people.

I completely agree that we need to build user confidence. That is partly about demonstrating the product; it is partly about working through with them, in great detail, the plan for operationalisation. It is all very well having the technical solution, but how is it going to be deployed, to which forces, to which emergency services and in what order? How are the logistics of upgrading control rooms, fitting vehicles, rolling out devices to officers and training all going to be worked through? That is an absolutely core task, which is in train now. It is an absolutely fundamental task—it is hugely important.

The third thing with users is dealing with the issues around local affordability, which have been touched on already. The costs are in the business case, but as Stephen has said, it can feel very different if you are the finance director in a local force.

Q97 **Sir Geoffrey Clifton-Brown:** The problem is that the Report goes on to say, “This lack of understanding creates a risk that poor decisions will be made and further ‘resets’ will be needed in future.” How do we know that we are not going to be here in a year or two years or three years’ time with this project going further over-budget and being further delayed? How can we have any confidence that this thing is going to be resolved?

Sir Philip Rutnam: I am not going to deny that there is risk. There is risk. This is a very challenging, complex and risky programme. It remains such. The level of technical risk in the solution is declining. That is very welcome. We have made a series of other important changes, which are



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positive, but this remains a challenging and difficult programme. User confidence is the next big challenge we need to address. The other one, as you touched on in that paragraph, is systems integration. Because of the contractual structure that exists, we are the systems integrator. That is not naturally the role of a Government Department, but we have that role in this case and we need to build our capability in that respect.

- Q98 **Sir Geoffrey Clifton-Brown:** Are you satisfied you have the skills necessary to do that systems integration and ensure that it actually happens, given that it has now been brought totally in-house, or increasingly being brought in-house?

Sir Philip Rutnam: We have some of the skills. We have made some changes in the team beneath Stephen, which increase our skills in that area. Do we need more skills? Yes. We are at the moment in a procurement, which should provide us with a delivery partner that will have capability in systems integration. Going back to some earlier exchanges, ultimately the responsibility rests with us, so I think we need more investment in skills in the organisation.

Stephen Webb: I can give an analogy from another programme I am responsible for. We have a track record of delivering integration in some challenging areas. With the national ANPR service, we have an integration challenge between the camera estates in forces, five different vendors in the management service, two networks and a new national system that has two different suppliers. In testing, all sorts of quite fundamental problems have come up. There has been root cause analysis and that has been dealt with. The system is live and this morning the 38th of the 43 forces went live. There are some analogies there. I believe that within Joanna's organisation the skills are there. Clearly, we need to strengthen them in the programme but this is not a new thing; we are doing it.

- Q99 **Sir Geoffrey Clifton-Brown:** One final question. Mentioned in the Ricketts report is currency risk, which I have not seen mentioned anywhere else. Given that a large chunk of this project is to be paid in dollars to Motorola, is that something that concerns you? You are shaking your head, Mr Webb. Why not?

Stephen Webb: It is not paid in dollars. Motorola were very upset because they were getting paid in pounds and they weren't worth as much at that point.

- Q100 **Sir Geoffrey Clifton-Brown:** So, why does the Ricketts report say that it is a problem?

Stephen Webb: From Motorola's point of view, it made the situation even more acute for them. They were losing money on the contract and the money they were getting was worth less in their accounts.

Chair: We are relatively happy that the problem was with Motorola and not the British taxpayer.

- Q101 **Shabana Mahmood:** If I could take you back, Sir Philip and Mr Webb, to user confidence in the system. We just heard a lot from you in response



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to questions from Sir Geoffrey. You accepted that building user confidence is the next big thing that you have to do on this project. I would say it is mission-critical: if they don't have confidence, you are never going to switch off Airwave.

Why is it that it was only in late 2018 that you carried out an exercise with three police forces trying to understand what their needs actually are? That was very late in the day suddenly to think, "Oh, we'd better work out what police forces actually need." Why did it take you so long?

Joanna Davinson: That was not the first engagement we had had with them. We had had a lot of engagement through an extensive network of contacts that we have with all the emergency services. That particular set of events at the back end of 2018 was around the reset plan, which we delivered around September. That was a reset approach around how we now needed to look at the deployment based on the reset, in an incremental approach.

Q102 **Shabana Mahmood:** Yes, but engagement is very different from carrying out exercises, even though it might have been occurring in the context of a reset. I would have thought that you needed to hardwire into the DNA of this project the user experience and what police forces, fire and others actually need from you. That seems now to be coming up on the horizon so you are trying to focus on it, but it should have been there right from the onset.

Joanna Davinson: There has been a lot of engagement right from the start, but to be effective that engagement has to be keyed around some products that we can actually show the users. It has to be a real conversation with the users, rather than a nice, "This is how we are going" type of discussion.

We are now at the point where we have a plan for delivering the technical solution, in which we have more and better confidence in than ever before, and we are delivering a set of products. As we have said, the first major product is going out within the next two months. Around those real things, we can then start to have a conversation with the users about how this real product plugs into their real-world environment, and that is the conversation that is now happening.

Q103 **Shabana Mahmood:** But if you have had so much engagement throughout this troubled programme, then why is the confidence in the programme so low?

Joanna Davinson: Because it is the difference between a warm conversation and actually being able to have a real conversation about what does this mean; and I think that is the difference.

Q104 **Shabana Mahmood:** Were you expecting the police and particularly the fire service to produce their own acceptance criteria? Had you programmed that in as you were trying to work out how to move people across?



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Joanna Davinson: They will, of course, have their own requirements for what they feel is necessary locally in order for them to accept the programme.

Q105 **Shabana Mahmood:** They have all developed service acceptance criteria before they would be happy for Airwave to be switched off and for them all to be using ESN. Is that something you had planned for? Were you expecting that? Did you have conversations with them on their acceptance criteria?

Joanna Davinson: We have had a lot of conversations with them.

Stephen Webb: You want to know what target you are aiming at. We see it as an absolutely positive thing. They say what it will take for them to be satisfied with the product, and in many ways that is a debate that we have wanted to have. We are getting to a much better place now.

Q106 **Shabana Mahmood:** What is your assessment of the acceptance criteria that you have received, for example from the police and the fire service, and where are you in terms of being able to meet them? Is that going into your business case? Do you think about that when you do your planning?

Stephen Webb: It is going into the deployment plan and the work around evaluation and validation and so on. We need to understand what events and testing we need to put in place to tick those boxes to give people confidence that we have done enough. That will feed into the work that we are doing for the rest of the year, which in turn will feed into any revision of the business case regarding whether we have the appropriate amount of transition time.

Q107 **Shabana Mahmood:** What is your programme for engagement to build that confidence? You will be right up against it with your new set of deadlines on this revised, sort-of-reset business case.

Joanna Davinson: We have a regular set of interactions at all levels.

Q108 **Shabana Mahmood:** Are you going to turbocharge that engagement? What is the plan? Give me some details, Ms Davinson. When will that happen?

Joanna Davinson: It is happening. We already have very regular meetings across the whole of the emergency services organisations, at the regional level and at local level. We have a programme of demonstrating the capabilities as they emerge. Community members are invited to events where they can see the products as they are delivered. As Stephen said, we have a programme of going out and proactively looking at deployment issues with each of the individual customers out there. That will come together into an overall plan that we will then consult on very widely with the community over the rest of this year.

Q109 **Shabana Mahmood:** Have you met all those users?

Joanna Davinson: Not me personally; there are a lot of them.

Chair: There are a lot.

Joanna Davinson: But we have a broad engagement strategy through a set of regional teams that are staffed by emergency services personnel. We engage with each of those regional teams.

Q110 **Chair:** When you say you meet every customer, is that every type of customer? Literally every customer, every local authority and every bit of the armed forces?

Joanna Davinson: Every type of customer, through the regional network.

Q111 **Chair:** Right. So you might go to one local authority and ask how it is going for them, and that counts as meeting that customer.

Joanna Davinson: It is through the regional network. There is a regional network of customers.

Q112 **Shabana Mahmood:** Who is in this regional network? When you say it is through regional networks, what do you actually mean?

Joanna Davinson: Emergency services users; mainly the police, fire and ambulance services.

Q113 **Shabana Mahmood:** So in every region there is a network of all emergency service network users covering all the local authorities in the region and all other would-be users as well?

Stephen Webb: No, it is focused around the three emergency services. The other users fall into a number of categories. There is a group of non-Home Office police forces that use it in a similar way to the police and are represented in the NPCC but have different funding, such as the Civil Nuclear Constabulary and the British Transport police. You then have a group that largely use it for civil contingencies or occasions when they need to interact with the police—

Chair: Like local authorities.

Stephen Webb: Like local authorities. It is fair to say that we have had more light-touch engagement with them, but we have forums where we meet their representatives as well. The big users, such as the non-Home Office police forces, we tend to see alongside the Home Office forces.

Sir Philip Rutnam: Can I just add that a very important milestone is due in August this year—the integrated deployment plan? That goes back to the point I was trying to make earlier about the logistics of the deployment across the multiple user types, including the fitting of vehicles, deployment to individual members of staff and training and the sequence of events in control rooms. It is a really important deliverable, which is well underway, as I understand it. I

There is an awful lot of good work going on at what you could describe as working level, although that is not a phrase I particularly like. Between the working leads on ESN deployments in all those organisations and the team, where we will need to win hearts and minds is with the leadership of



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those organisations—chief constables, the NPCC, the equivalent for the National Fire Chiefs Council. They are all aware of this programme and some are quite sceptical, partly because it has taken longer, has cost more and has had lots of bad press. We need to spend a lot of time with them, understanding their concerns and helping to make sure the leadership is aligned with this programme. That is a key element.

Q114 Shabana Mahmood: Have you been in personal contact with all those heads to discuss the reset and the delay, to reassure them?

Sir Philip Rutnam: I have been to the National Police Chiefs' Council and had a very frank discussion with them in February; I have been to the National Fire Chiefs Council when it met in Cardiff. We are in regular touch with the leading figures in law enforcement, including the commissioner of the Metropolitan Police and the chief constable of Wiltshire, who has taken on the role of lead in the National Police Chiefs' Council for this programme.

Q115 Shabana Mahmood: That is helpful, thank you. We have had some evidence from the police and crime commissioner for Bedfordshire, who told us: "At present I have seen nothing to give me assurance that this will be delivered by the end of 2022, as currently proposed." What would you say to Ms Holloway, the PCC for Bedfordshire?

Sir Philip Rutnam: That reminds me that I should have mentioned the police and crime commissioners as well, as another extremely important group in this context and whom I have also spoken to at a joint APCC and NPCC event. I would say to her that the end of 2022 is our target for the earliest date at which we would be able to shut down Airwave. We are making good progress in delivering the technical solution for the new network, but our fundamental commitment is to ensuring that the emergency services have access to the mission-critical communication services that they need. We will do nothing to compromise that. I would also offer a meeting with Ms Holloway and the team or with me personally.

Q116 Shabana Mahmood: I will come back to the issue of the Airwave switch-off in a minute. Ms Holloway also told us that the solution they are currently using is stable, but the longer it remains operational, the more likely it is that it will need infrastructure and applications upgrading. In particular, she tells us that Airwave supports Windows 7 only, which goes out of Microsoft support in February 2020. A national answer will have to be found to that. Who will be responsible for the cost of that?

Joanna Davinson: That sits within the Airwave contract.

Stephen Webb: Yes, I mean it is something—

Shabana Mahmood: Sorry, Ms Davinson, you said something that I could not hear.

Joanna Davinson: Airwave the company is accountable for delivering a service that meets the service levels that we hold them to. It is contractually responsible for ensuring that the service meets our requirements through to the end of 2022.



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Shabana Mahmood: So the cost will fall entirely to Airwave, because it has to deliver you something that works. The upgrade from Windows 7—

Joanna Davinson: The thing I do not understand in detail is where that upgrade sits—whether it is an upgrade in the forces' own systems or whether it is an upgrade in the—

Stephen Webb: I do not know anything about this issue, but we can look into it.

Shabana Mahmood: It would be helpful if you could write to us.

Chair: Ms Mahmood is roundly demonstrating that what users need to know is quite detailed stuff. It is all very well meeting the chiefs and I am not saying that is not important, but this is critical but basic stuff.

Q117 **Shabana Mahmood:** Ms Holloway also tells us that in the joint Bedfordshire, Cambridgeshire and Hertfordshire perspective, they will have to procure new Airwave handsets to see them through the ESN transition. That will cost them £1.4 million across those three areas over the next two years. Who will pay for that? Where does that cost fall?

Stephen Webb: That would be what we call a non-core cost that falls locally. What a number of forces have probably done over the last few years in anticipation of ESN has been to slow or stop acquiring Airwave, and they have not had to incur spending. Now, as the fleet is getting very old, they are having to decide whether they have to procure something new.

Obviously, they would be spending something anyway; if the programme had not been delayed, they would be buying ESN devices. I absolutely get that the problem for them is if they buy a new Airwave device that has a seven-year life, and then a year or two later they need to buy an ESN one, that provides a challenge. We have worked with the NPCC to see what scope there is for pooling devices if people have devices that are still usable, that could be transferred around; but there is a certain amount of refreshing of the Airwave fleet going on, as a result of the delay, and that is unfortunate. It is incurring costs that fall locally.

Q118 **Shabana Mahmood:** It is not just unfortunate, is it, Mr Webb? They probably made the mistake of relying on the original programme and timescales that they were told were going to be met, and that is why they delayed the investment in upgrading Airwave. Now they are having to make it. You can understand why police and crime commissioners and other finance leads in police forces are pretty hacked off. How can they trust what you are telling them is going to happen with this programme reset?

Stephen Webb: I do accept that. Clearly in an ideal world they would have been able to plan perfectly and they would have been able to do that migration. It is a complex migration.

Q119 **Shabana Mahmood:** Have you got the power to stop renewing Airwave



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even if the emergency services do not want you to?

Stephen Webb: You mean could we turn it off?

Q120 **Shabana Mahmood:** Could you turn it off even if, say, for whatever reason any part of the emergency services team is not happy for you to switch off Airwave? Could you still switch it off anyway, if you thought—

Chair: We have discussed this point before and answers have been equivocal.

Sir Philip Rutnam: Obviously we are not going to leave the emergency services without emergency services communication.

Q121 **Shabana Mahmood:** That is a different question that you are answering. I have no doubt that you would never leave them in that position, and you will think that ESN is working and it is fine. What I am saying is, what happens if any part of the emergency services family is not happy for you to switch off Airwave but you consider ESN to be fully operational and doing everything that Airwave does?

Sir Philip Rutnam: The reality is that what will happen is more discussion and more effort to reach a resolution. *[Interruption.]* No, that is the reality. We are not going to be in the business, I think, of threatening to deprive emergency services of their vital communication. This is the nature of the relationship, whether we like it or not, between the Home Office and the emergency services. We are both dependent on each other, which is why building user confidence is so fundamental to the—

Q122 **Chair:** That is now the project, isn't it, because back in 2016 when we were looking at this we said "Who is going to decide?" and there was all this "Well, we won't turn it off until they are ready for us to turn it off," which we thought was a bit of an open goal at the time. It has proved to be a very long, extended open goal.

Sir Philip Rutnam: There are other aspects of the project, as well, which also concern me, but it is a fundamental aspect, yes.

Q123 **Shabana Mahmood:** As we discussed earlier, the fire and police services have their acceptance criteria. Are they the judges of whether their acceptance criteria are met, or does it come via you guys as well?

Joanna Davinson: We have a voice, but we work within an extended governance structure, and all the stakeholders are represented there. We are one voice.

Sir Philip Rutnam: This goes, really, to the nature of the relationship, and obviously this is an example which brings the whole nature of the relationship between the Home Office and the police, if you like, to vivid life; but it is true of the wider relationship. We are mutually dependent. We have to invest in the relationship on both sides, in trying to ensure that trust is built. Trust is built upon delivery. The police—I like them very much; they are very practical, delivery-oriented people—will believe us much more or, really, only when we are able to show delivery.



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Q124 Shabana Mahmood: On the police, specifically, then, Sir Philip, can I move you on to this issue about the largest economic benefit as envisaged in relation to the ESN programme, which is police productivity? This is estimated on the basis that ESN can save each officer five minutes per shift through administrative efficiency improvements; but the police have not signed off on your methodology or your calculations there, so how concerned are you? As you say, this relationship is critical and the police do not agree with the assumptions behind the ESN's largest financial benefit.

Sir Philip Rutnam: No, and in this and some other areas we do have a lively discussion with the police about efficiency and productivity assumptions on a range of fronts. I think on this particular point, as I understand it, it is worth being clear that the assumptions in the business case are conservative, so they assume, for example—we have assumed in our business case—that already before ESN is deployed every police officer would have a smartphone, so 100% coverage of smartphone capability, so that the only additional benefit from ESN in this context is the fact that they would all be able to operate off the same platform, as opposed to different platforms. In fact, penetration of smartphones across policing is much less than 100%: it is lagging, compared to the assumptions built in the business case. We continue to stand by our broad estimate of the productivity benefits to be had from this platform. They are obviously only part of the business case. The other thing I would say about that, and this is mentioned in the NAO Report, is it is very important that we invest the right level of effort in tracking, and if it is realisation, monitoring those and the evaluation of the programme is something we will be taking forward.

Q125 Shabana Mahmood: If I could just move on, Sir Philip, to this issue about the EE roll-out of physical infrastructure, which has been a lot slower than anticipated. It was supposed to be finished, I believe, in September 2017 and now will not be done until next year. Were you too optimistic?

Sir Philip Rutnam: I am going to ask Mr Webb.

Stephen Webb: There are one or two areas where I think, certainly if you look at some of the regional metros and what we call the annex E sites there, which have taken longer than expected. In some others, because the programme was shifting anyway, EE might otherwise have been able to deliver it quickly if they absolutely had to, and they spread out investment over a longer period, to fit in with their wider investment.

Q126 Shabana Mahmood: I was rather asking whether the Home Office was too optimistic on that timescale, and should have challenged EE more.

Stephen Webb: Could they have done it to their original timescales? I think they probably could have done more of their masts to the original timescale. I think they would probably have struggled to do all the Glasgow, Tyne and Wear metro and so on. With some of those, they and we were probably being over-optimistic that they could complete them on time.



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Q127 Shabana Mahmood: Why have you made such slow progress on the 290 masts that are still outstanding from the 292 that you are supposed to have?

Stephen Webb: Yes, that has been a challenging area, where acquiring the land—getting planning permission has been a problem that we forecast, but getting the agreement of land owners has been more difficult than we were expecting.

Q128 Chair: Sorry, so the planning permission was easier than getting permission from land owners?

Stephen Webb: Planning permission has been a long process, but ultimately we have got everything through.

Q129 Chair: You had that planned in; it was not different from what you expected?

Stephen Webb: It has taken a bit longer, but what has really taken longer has been acquiring the sites in the first place and getting the agreement. There have been a lot of issues around the code and the planning laws around acquiring land for telecoms. There have been some legislative changes that seem to have slowed up the process of acquiring sites as well.

Shabana Mahmood: As any constituency MP would know.

Chair: I could have told you that.

Shabana Mahmood: We could have all told you that for free, Mr Webb, that planning processes take longer and there is always a question mark over land ownership and land acquisition.

Chair: Plus demonstrations against the masts.

Q130 Shabana Mahmood: Why did the Home Office not have the information that any constituency MP has readily available to them, just from life experience?

Stephen Webb: We knew; obviously we had a team, including people who have worked in the mobile infrastructure programme over in DCMS, who were well aware and very familiar with the issues. It has taken a while. During the reset we slowed down the delivery process. While we working hard on getting the paperwork in order, we were not necessarily accelerating the build of sites during that period. To an extent, we made a slightly conscious decision to slow.

Q131 Chair: We understand from our colleague who represents Berwick that some masts have gone up in her area, but they are not switched on. Do you know why that would be? That would be quite useful for local residents while you are waiting to get the ESN going. There seems to be no other benefit.

Stephen Webb: Yes, we have 12 or 13 passive build, as they call it, that have not been activated yet. The priority is to get them ready and do the



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difficult physical stuff. In a sense, if you put infrastructure on that is not going to be used, it is just going to depreciate. You want to put it on at the point you really need it. We can have those discussions.

Chair: I am sure she will be writing to you.

Q132 **Shabana Mahmood:** Oh, I am sure she will. We have had correspondence from one of our other colleagues, the Member for Thirsk and Malton, Mr Hollinrake, who has a couple of sites in his constituency that are also EAS sites. He is concerned that the delayed switch-off of Airwave is going to slow down progress on sorting out what is going to happen on these sites. Can you give us some indication of when sites that have already been highlighted might be pressing?

Stephen Webb: We are looking to press on with the EAS sites as soon as possible, because that is going to be necessary for people to agree to start the transition process. We are progressing. I do not know exactly when those are scheduled to be finished.

Joanna Davinson: There is a build programme this year or next year, so it depends. We need to look at when those particular masts—

Stephen Webb: We would be happy to correspond with him about—

Shabana Mahmood: I am sure Mr Hollinrake will write to you directly on that point as well.

Stephen Webb: But we are not slowing it down. We are pushing those on as quickly as we can.

Q133 **Chair:** On coverage, I want to ask a couple of quick questions. You just brushed past a reference to the underground, the Glasgow—I call it the Clockwork Orange, but I think it has a different title in reality; I assume it is still orange—and the Tyne and Wear metro. You said there is obviously some difficulty there, which is a big glossing over. Where are you actually at? We understand from the NAO that the underground is getting to a better place, but what about the other two?

Stephen Webb: The regional metros have now been completed. The Tyne and Wear one is the one that has been—but some very good progress has been made in the last couple of weeks, so we are expecting again to complete that, I think, this year.

Q134 **Chair:** You said that they were always going to be challenging, but you always knew, and that EE should have known, that this was going to be part of the requirement. So what lessons have you learned from the fact it is only just being sorted now? We raised it with you a couple of years ago.

Stephen Webb: From EE's point of view, they had not maybe had the experience of working in these environments before. They are difficult to get access to—getting access to the sites can be difficult—and in some cases there was major refurbishment going on.

Q135 **Chair:** But there was a network provider, a rival to EE, that did it on the



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London underground for other reasons, quite straightforwardly, with the agreement of TfL. Do you think they overpromised without realising what they had to do to start negotiating to get things in?

Stephen Webb: With the London underground, that was obviously wifi in the stations, which is a slightly different solution. On the regional metros, the annex E sites, they did underestimate how difficult those were going to be to complete. They had a lot of experience of doing the masts, and they performed pretty well on those, but those ones have certainly been challenging. The London underground is separate, and that was not part of their contract in the first place.

Q136 **Chair:** We recognise that there are different issues around that. I would like to go into it more, but we could segue into underground services, and I would like to talk a little about air. You mentioned earlier that there are challenges about the ground-to-air cover. I did not record that you gave us a time for when that would be resolved.

Stephen Webb: We are hoping, within the next month or two, to award contracts for the devices to go into aircraft. We are in a procurement and we have some good—

Q137 **Chair:** Okay, so that is the devices. When will—for example, we often hear the police helicopter here, and London's Air Ambulance is not far down the road which does excellent work—they have access to something that will mean that they can communicate with colleagues on the ground, particularly in an emergency, of course?

Stephen Webb: The plan for that is during 2020-21. There are two elements to that: the ground network and the devices in the planes and actually in the airframes—

Q138 **Chair:** I think we know what technically needs to be done; we are just wondering why it has not been. Would you be able to send us a list of key events and dates over the next two years, so we can keep track? We have you in quite often, so it might make your life easier if we know what questions we should be asking in advance.

Stephen Webb: Yes.

Q139 **Chair:** On that point, can you tell us when you expect the business case to be finally approved?

Sir Philip Rutnam: We are expecting to finalise the revision to the business case in the latter months of this calendar year. That will take account of, in particular, the new deployment plan that I mentioned earlier, which is to be done by August. I would expect the new business case to have been approved by November or December.

Joanna Davinson: We are targeting by the end of the year.

Q140 **Chair:** Let us just be clear about the approvals process—the Treasury, internally?



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Sir Philip Rutnam: Obviously, Home Office Ministers, our own investment committee, advising Ministers, the major projects review group, which is chaired jointly by the Treasury and Cabinet Office, and I think it would probably go to Treasury Ministers.

Q141 **Chair:** Just to be clear, it will be signed off by all those by the end of the year.

Joanna Davinson: We have set a target to do that. That governance over the turn of the year could well slip into the new year.

Q142 **Chair:** If there is a delay to that, does it cause any problems to the timetable that you have set out and that the NAO have reported on?

Joanna Davinson: I do not think it affects our delivery. The really important thing that we need to understand is—

Q143 **Chair:** Basically, it is going ahead anyway. You said earlier, Sir Philip, that it is not going to stop now. Just to be clear—for the record, it would be useful.

Sir Philip Rutnam: I still think the business case is an important part of the process, because—

Chair: Clearly, because it could go on forever at this rate.

Sir Philip Rutnam: It helps to define, critically and formally, the envelope within which we are working, albeit that is set informally at the moment, and it gives us additional challenge, which is welcome. It is a very important part of the process, and I would hesitate to say that the programme will go ahead regardless, but we are continuing to make real progress on delivery on a whole array of fronts.

Q144 **Chair:** A couple of things concern me, having listened to all of this. One is the fact that there wasn't a very clear and realistic plan in the beginning. We were pointing that out. How are you going to make sure that you have learned the lessons from this for other programmes? Could you answer that first?

Sir Philip Rutnam: Obviously, I have been thinking about this. I think there are many lessons from a programme like this. You have already identified the most important, which is around the realism of programme planning at the outset. I would link to that the need to create, in the way a programme operates and the environment that surrounds it, enough challenge, and open-mindedness to challenge. We touched earlier on whether there was strong enough assurance for the programme. I said no. I think that creating a culture in which people recognise—you need the optimism, you need the resilience and you need the tenacity to get things done, but you also need to be open to the fact—

Q145 **Chair:** Can I make you an offer that we have made to other permanent secretaries? We would love to look at a programme before it goes £3 billion over budget and is several years late. The next time you are doing a big project, we would be very happy to be part of that early assurance,



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with the support of our colleagues at the NAO, and look at a project before it wastes all of this taxpayers' money. There is an offer for you. Is there anything on your mind that you would like to throw our way?

Sir Philip Rutnam: Let me take that offer away!

Q146 **Chair:** I have to tell you that when I raise this with Ministers—I am not talking about your current Ministers—and with Secretaries of State, they are often very enthusiastic. Mysteriously, they come back from their next meeting with their permanent secretary and they are a lot less enthusiastic. We hope that you will be one of the vanguard in this.

Sir Philip Rutnam: All right.

Q147 **Chair:** The other question is why you didn't have an incremental system from the start. We have pointed out some of those problems all along. The big bang approach clearly did not work. Mr Webb, now you look back, why didn't you do it in that incremental way from the beginning?

Stephen Webb: The users were very anxious that the system should demonstrably do everything that they needed before they were prepared to start the process of transition so, in a way, I think it came in discussions with them.

Q148 **Chair:** Do you think you challenged that enough? Looking back, do you think that was realistic? You are saying, basically, that you wanted to please the user and give them everything they needed at one hit. Realistically, for a project of this complexity, were you letting that lead?

Stephen Webb: I think that is a fair challenge. Should we have pushed them further on that?

Joanna Davinson: It changed around about the time I arrived, but I think a lot of our users are still saying that they are not prepared to make the transition until they have got confidence that everything is there. I am not sure that position has particularly changed. That doesn't mean you cannot take an incremental approach to delivering the product, as we are now doing. That gives you a longer lead time to trial it, test it, improve it and build confidence. I think we probably just got ourselves into a mindset that because we had this goal of everything having to be there, it would become a big single lump of things that would get handed over. It is just not the way to deliver a programme as complex as this.

Stephen Webb: I think initially the way that we understood the software was that we were expecting it almost to be all in one drop. We thought it was a lot closer to our requirements as a COTS product. As it became clear and that became bigger and bigger, we started thinking about breaking it up into parts and products and making it incremental.

Q149 **Chair:** That was possibly predictable for a big software project, first in the world, large scale, that covers the whole of the UK.

Stephen Webb: The suppliers were confident that they had something that was close.

Chair: Suppliers are always confident. We have had rather a lot of them in front of us. Now, having refreshed themselves and changed their leaderships, they say, "Well, we didn't ask the right questions at the time", or "We were chasing the money", but we and you could probably see that at the time.

Q150 **Lee Rowley:** I'm a bit confused, and would like some additional clarity. You were just talking about product drops and incremental approaches. Your words were, "This gives us the opportunity to trial it, test it, improve it." Incremental product drops are not necessarily about that. They are about de-risking the delivery, not changing delivery, as you will know from your experience. What is it we are doing here? Are we adopting some kind of quasi-agile methodology, or are we de-risking the approach? You know they both have very different cost consequentials.

Joanna Davinson: It is more about de-risking. We define discrete modules of functionality that we can get out into the hands of users sooner rather than later, and then we build on that.

Q151 **Lee Rowley:** If it is more about that, then actually there isn't a great deal of opportunity for amendment, is there?

Joanna Davinson: There is a feedback loop. In terms of the core push-to-talk software, we have three different versions of that—9, 9.1 and 10—as we go through delivering the full product suite, but thereafter there is a release cycle for improved and new capabilities.

Q152 **Lee Rowley:** Just so I am clear, is that feedback loop to change things that have been delivered in error—that is, the design requirement has not been delivered as required—or is it to improve on top of the accepted and approved design that has been delivered as specified?

Joanna Davinson: It is certainly to deal with any error, but it is also to deal with any aspects of the user experience that don't meet the criteria that we have agreed with the users.

Q153 **Lee Rowley:** So what proportion of your budget is for "improvements"?

Joanna Davinson: Do you mean in terms of different functionality or new functionality?

Q154 **Lee Rowley:** I am trying not to get too staccato with people, as I do sometimes in this Committee, but the conversation we are having is worrying me. Either we are in a quasi-agile place where we do not know the endpoint—you know how agile works—and therefore you will have put the budget aside to say, "We can spend x amount of money getting as close to the user requirement as necessary," or we are not. You are not being clear about which one it is.

Joanna Davinson: We are not in a quasi-agile place. We have a clear set of requirements that we have been working with the users on for a very long time. Our goal is to deliver the solution to that set of requirements. We know what the endpoint is.

Q155 **Lee Rowley:** Okay, so there is limited opportunity for change.

Joanna Davinson: In delivering that core set of requirements, yes.

Q156 **Lee Rowley:** So on that basis, your requirements are locked.

Joanna Davinson: Yes.

Q157 **Lee Rowley:** Okay. You know what you are delivering. You have locked the requirements. Who has signed them off?

Joanna Davinson: Stephen can speak to the process we went through in defining the requirements.

Q158 **Lee Rowley:** Who are the users?

Stephen Webb: The three emergency services and their senior representatives. There is a senior user representative for each.

Q159 **Lee Rowley:** They have signed off on behalf of every single person in that emergency service.

Stephen Webb: Yes.

Q160 **Lee Rowley:** They have signed off both the technical delivery and the operating model around it.

Stephen Webb: The operating model around it? The technical delivery, certainly.

Q161 **Lee Rowley:** You can sign off design requirement documents—I used to do it for 10 years—then you have to build a TOM around it. Have they signed off both the high-level design and the detailed design? Have they signed off the target operating model around it?

Joanna Davinson: They have signed off the functional requirements, the non-functional requirements and the service levels that we need to deliver against. If your question is around whether we are clear about how this will be operated and who will operate the solution into the future, we have not locked that down yet.

Q162 **Lee Rowley:** How do you know what your requirements are if you do not know what your “as is” is and you do not know your destination?

Joanna Davinson: We do know what our “as is” is, and we have clarity around what we need to deliver functionally and what we need to deliver in terms of the operating parameters of the system, the non-functionals, and we understand the service levels we have to deliver against.

Q163 **Lee Rowley:** But the functional requirements fit into a wider target operating model, right? This person will use this to do that. Functional requirements are a function of that—they are not the endpoint in themselves. How can you have signed off functional requirements without knowledge of what your target operating model is? This is classic projects—I am not telling you anything you don’t know. You are much more senior than I am in this.

Joanna Davinson: I just wonder whether we are talking about something different.



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Q164 **Lee Rowley:** I am talking about wanting to avoid—we might as well draw it out now—you saying all these wonderful things are coming from July onwards and then you being back in front of us next year saying, “Actually, it did not work for 50% of our users because we forgot to actually ask them what they wanted.” The statements that you are giving me scare me quite a lot.

Joanna Davinson: I am still trying to understand what the thing is that you are concerned about.

Q165 **Lee Rowley:** How will it be used? Does the project know how these things will be used in the 470 x n operating models across your users?

Joanna Davinson: We have done a lot of work around core use cases with policing, fire, ambulance and a number of other users. What I cannot say to you is that we have bottomed out every single use case that we are likely to experience.

Q166 **Chair:** What if you are a police officer chasing someone in a long underpass, for example, or you are a firefighter in a concrete block of flats trying to rescue somebody? They are pretty basic things, I would have thought. Have you tested those? Are they all fine?

Stephen Webb: Those sorts of use cases—the ability to hand over to do an 80-mile-an-hour car chase and be able to keep the signal and all that sort of stuff—are absolutely down there. The challenge we face, and one of the things that made it so difficult technically transposing, in a sense, the requirements taken from TETRA into 4G, is that the users really wanted to be able to do everything that they are doing now on a different technology base. In a sense, their target operating model is to carry on with ESN as if, in operational terms, nothing had changed. For all the voice stuff, as I say, they should be able to do what they are doing now.

Q167 **Lee Rowley:** But that is impossible—that is functionally impossible. You will have a different piece of kit in front of you; it will operate in a different way—however nuanced, however slight, however almost, there will be changes to the operating model. You cannot just avoid the operating part; you cannot avoid how it is going to be used. These are the classic examples in projects of where you get to an endpoint having spent lots and lots of money, and the users do not like it and are not having it.

Q168 **Chair:** How would it work in an underpass, for example—under the Blackwall tunnel?

Stephen Webb: The Blackwall tunnel is one of the annex E sites; it will carry on working as normal.

Q169 **Chair:** Okay, right. I am not going to give examples of every tunnel in the country, but there are a lot. Is EE going to build guaranteed coverage in every underground situation?

Stephen Webb: Again, we have to demonstrate whatever coverage is in the contract, so basically we are matching Airwave’s coverage. If Airwave



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has it at the moment, ESN will have it. If it does not, there are alternatives, like the device-to-device, off-network approaches.

It will not work in exactly the same way, but there is a history in this. If you look at the way that TETRA was set up, in many ways some of the non-functional requirements that drove a lot of cost and complexity were to emulate the way that the old VHF push-to-talk could work before, hence the incredibly short latency period. People wanted it to behave in the same way. It is a fair challenge to say, "Maybe that's driven cost and complexity, both as you went into TETRA and now as you go into 4G," but we had users who are very attached to these. They are very good systems. They are critical systems; they are life-saving ones. They want us to be able to demonstrate the same functionality.

Lee Rowley: I accept you are probably not going to be able to answer this now, but I would like confidence that you are thinking about it. Where you are, which is not necessarily a function of all your responsibilities, is that you have a series of requirements, which you defined a long time ago in a project that has been very difficult. The problem I have is that I cannot reconcile—genuinely; I am not trying to be difficult—those requirements against the testing statements you are making, which seem to suggest that there is an element of change, amendment and improvement possible, with the other statements that you have made, which are basically open-ended, "We will not push this out or switch the other thing off until the users are happy."

All those things taken together, in an extreme scenario, mean that you will never sign this off, so what is the point in doing it? You will be running Airwave forever, because out of those 470 organisations, at least one will say no.

Stephen Webb: We had that discussion earlier. Ultimately, we are in a collective endeavour. There is only one pot of money. It is going to have to make sense to the users. There will be a point at which they will say that it is not worth going for change and improvement because of the cost of dual running.

We might have given the wrong impression if we thought that we had a system that was about change and improvement. There is a feedback loop—the ability to make some changes both in future feature drops and in patching in between. That is really about fixing things that are either errors or just user experience things that can be changed fairly straightforwardly.

Q170 **Lee Rowley:** That is an emphasis point. It is great if that is the case, from purely a project management perspective, but that means that you have to play hardball more with your users, and you are saying that you are not playing hardball with your users.

You cannot reconcile all these statements. I do not mind which one you change, you just cannot reconcile them, and we will be here in two years' time saying, "There's another £0.5 billion cost here," if we are not careful. You may be doing this, but you need to give me more confidence



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that you are doing it, because I can see a brick wall coming, and it has not been adequately explained today.

Stephen Webb: I understand where you are coming from.

Sir Philip Rutnam: I recognise the challenge that you are presenting. However, ultimately at the heart of this is the confidence of the users, and a more mature understanding of the benefits the programme will bring.

It will not, of course, be identical to Airwave; it will not operate identically to Airwave. It needs to provide the functionality which they regard as essential, and we will need to have, ultimately, a conversation about the benefits of this thing in the round, in much the same way—and it was a difficult process—as Airwave was introduced, 20 years ago. The same kinds of concerns came up—“It’s not going to operate exactly the same way as VHF”—but actually, overall, it was a better solution that allowed more lives to be saved and costs to be saved, and provided better functionality.

Q171 **Lee Rowley:** I hope that is the case, given we are £9 billion in the hole, but ultimately in order to get there, a hierarchy has to be established. Somebody ultimately has to say, “Heard you, understand you, get your challenge, but ultimately we can’t do that and you need to push forward.” I have not heard the hierarchy point, and I think underneath you are the hierarchy—I think you are the top level, but you just don’t want to say it, because you don’t want to have the problem with the users at the moment.

Sir Philip Rutnam: Our priority is building user confidence in this solution.

Q172 **Lee Rowley:** My follow-up question, therefore, is how much cost do we have to assume that prioritisation will take before you flip on to the other priority? Do we lose another five years on the Motorola Airwave contract?

Sir Philip Rutnam: We have, in the business case and in the way the programme is being organised, significant financial provision—enormous financial provision—to deliver the functionality that the emergency services need, and a commitment to working with them in the way that this is rolled out to give them confidence and assurance. I understand the risks you are talking about, but obviously you will understand that I am trying very hard, and we are trying very hard, to avoid this crystallising into a stand-off. That would be bad, I think, for all parties.

Q173 **Chair:** But at some point, the amount of money they have to shell out—you’ll stop backfilling that, and they’ll just be forced into it for financial reasons. If not, could you just say—there are other subtle ways, or less than subtle ways, of forcing the pace, aren’t there? I mean, you must have that up your sleeve.

Sir Philip Rutnam: My experience, as permanent secretary at the Home Office, is—

Chair: Money talks, in the end.



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Sir Philip Rutnam: There is an enormous level of mutual dependence between the Home Office, the police, other emergency services as well, and we need to work collectively—so a lot of emphasis on collaboration and working collectively.

Q174 **Chair:** So who is in charge, ultimately?

Sir Philip Rutnam: It depends what issue exactly you are talking about.

Q175 **Chair:** Well, you are, aren't you?

Sir Philip Rutnam: Obviously, Ministers ultimately have accountability. Anyway, you are pushing me towards trying to crystallise this.

Chair: Ultimately, someone has to make the final decision. Mr Rowley has hit the nail right bang on the head, as he often does.

Q176 **Lee Rowley:** And your prioritisation is implicit within the NAO Report. Figure 4 demonstrates you have reduced the roll-out time from 42 months to 27 months, so you are loading a timeline that is more aggressive than it initially was, which suggests that your prioritisation only goes so far.

Sir Philip Rutnam: I would say that the revealed preference of the Home Office is to ensure we can demonstrate that the mission-critical services needed by the emergency services are provided. At the end of the day, that has to be the priority.

Q177 **Lee Rowley:** My view is that you guys get to decide that, but my question to you, which I'm still not sure I have an answer for but we'll leave it, is about when we get to a point where this thing has problems—and it will have problems. A £9 billion project, even with a good reset, will have problems. Is it the Derbyshire fire service that I should look to which has the ultimate control at the end of the day—the absolute endpoint to say yes or no—or is it you guys? I do not know the answer to that, but we will perhaps rest it there.

Sir Amyas Morse: I will offer a glimpse into the future: it all depends on where the bulk is. If you get to a point where quite a lot of people are buying the system, it is going to get more and more difficult for the remaining people to stand out against it, and there will be more and more pressure on them to get on with it. That is what always happens. The idea of taking the extreme example, which is one authority could hold up the whole thing—you're not going to let that happen; of course not. On the other hand, there is a tipping point you need to approach where the consensus moves to acceptance rather than rejection, and then you are in a completely different game. We all know that is how it works, really.

Q178 **Lee Rowley:** Yes, absolutely. I appreciate this is difficult, but there are two additional things.

I am confused about your numbers. The NAO Report says that the ongoing benefit of ESN when it is rolled out will be about £1 million a day: £1.7 million on Airwave versus £0.7 million cost. It is about £1 million a day, so that means you are saving on an ongoing basis about



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£350-odd million a year. I don't understand how the benefit of 2029 has come about, because £350 million a year on a £9 billion sum cost means it is the best part of a quarter of a century before this things pays back. Where am I misunderstanding the numbers?

Stephen Webb: The £9 billion total cost of the service end-to-end is not an investment cost. That is the cost of running the existing system.

Q179 **Lee Rowley:** That is a relatively small number. A lot of this is up-front capital cost.

Stephen Webb: No, actually, the bulk of it is the cost of the existing contracts—well, not the bulk, but a high proportion. Indeed, you are running for a steady state. You are running for 15 years the whole cost of this service. That is all in the business case as well. It is the full cost of running the existing system for the early years, the investment cost, dual running, and then 15 years of steady state. That drives the £9 billion.

Q180 **Lee Rowley:** So what is the total project spend on this?

Stephen Webb: There are lots of different ways of counting that. It is certainly more than £1 billion. Our core costs are—

Q181 **Lee Rowley:** You can write to us.

Stephen Webb: I am trying to think.

Chair: It might be better to write to us.

Stephen Webb: Yes, I will write to you.

Q182 **Lee Rowley:** Finally, figure 6 in the document says that 100 devices have been in use since November 2018. Why have the other 900 devices not been in use?

Stephen Webb: We are phasing them in. We are bringing another 500 in in July and the rest by the end of the year. We have had a process with the Assure product: there have been various teething issues with the first 100 and we have been understanding how best to use them. There were issues around security accreditation and the number of devices we could use, but that has now been resolved, and it made sense to ramp it up over that period. By the end we will have—

Q183 **Lee Rowley:** I thought the initial 1,000 was a pilot, anyway. So you are doing a pilot in a pilot.

Stephen Webb: Yes, the Assure is basically a coverage testing tool. It is to give us really rich information about how good the coverage is.

Q184 **Lee Rowley:** So it was your explicit decision to do a pilot of a pilot, or you could not go beyond those 100 for some reason.

Joanna Davinson: The Assure product was about getting 1,000 devices out there. It has an app on it that enables us to test what the coverage is in whatever location that device is in.

Q185 **Chair:** So they are just carrying it round.

Joanna Davinson: They are just carrying it round and it is sending back data to us. We put 50 of them out there. As Stephen said, the real thing that stopped us getting the rest out there was a security accreditation issue. We have resolved that now, so the rest will go out.

Q186 **Lee Rowley:** So if you had a security issue, why did that issue not apply to the 100?

Joanna Davinson: Our accreditor was happy for us to do a limited run.

Q187 **Lee Rowley:** So broadly this product is not actually a full product. This is part of a process. It is not really a product. It is a testing stage.

Joanna Davinson: It is a testing stage, although I think we will want to keep something like this in the solution going forward, because we will need to make sure that coverage remains at the right levels throughout the life of the—

Q188 **Chair:** But it is not exactly a functional thing.

Joanna Davinson: No, it is not a functional thing.

Chair: Sir Amyas Morse—you get the last word.

Sir Amyas Morse: My very short last words. It has been fabulous being an officer of the House. I cannot tell you how much I have appreciated the lovely people I have worked with, and I mean the House authorities and all of you guys sitting over there, so thank you very much. And I also thank the Clerk. It has really been good.

Never ever underestimate the value of doing this job—my job—properly and the alliance with the PAC. I compare this to the Cour des Comptes in France, where people write terribly elegant reports and have very nice lunches. Nobody has to pay any attention to their work at all, and, largely speaking, they don't. Whereas here, because of the follow-up, they really do. I am very grateful for that.

Independence is vital to doing this job properly; I absolutely put it at No. 1. I am particularly pleased that you are sitting here, Philip—I am sure you are not—because I think Philip represents a very good model of a modern accounting officer. It is therefore nice to have you here.

Finally, Marius and I have sat looking at each other many times—we turn up much more often than the Treasury Officer of Accounts—listening to the mournful sounds of the Brexit protestor, which sounds quite like a howler monkey you hear echoing, giving a faintly jungly atmosphere.

I have really enjoyed myself. I have learnt a lot about how this country works and I am really grateful to you. Thank you very much indeed.

Chair: Thank you, Sir Amyas. As I said at the beginning, we never say goodbye, because I am sure there will be a Morse inquiry at some point. We are rooting for it, Sir Amyas.



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Thank you very much indeed. The transcript will be up on the website in the next couple of days and our report will be out in due course, possibly as early as June.