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Chair

Mr. James Bezan

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● (0850)

[*English*]

The Chair (Mr. James Bezan (Selkirk—Interlake, CPC)): Good morning, everyone.

We're going to continue with our study of readiness under Standing Order 108(2). Joining us today from the Department of National Defence is the commander of the Royal Canadian Air Force, Lieutenant-General André Deschamps.

Welcome, General. First of all, I want to congratulate the air force on the great results in Libya, the fantastic show of force in theatre, achieved under the command of General Bouchard. We're looking forward to your opening comments. You have the floor.

[*Translation*]

Lieutenant-General André Deschamps (Commander, Royal Canadian Air Force, Department of National Defence): Thank you, Mr. Chair.

Mr. Chair, committee members, I am pleased to have the opportunity to discuss the Royal Canadian Air Force's readiness with you today.

[*English*]

Success in operations, my number one priority, rests on a foundational pillar of readiness, that is, our ability to act and to deliver the right air effect at the right time and at the right place. It demands that our capabilities exist in various states of readiness. Since no two national or international operations are ever the same, the question becomes how we ensure that our country has the right stuff to respond quickly and effectively. It boils down to a mix of the right people with the right training, the right doctrine, and the right equipment.

In terms of readiness, the RCAF generates relevant, responsive, and effective air power to meet the defence and security challenges of today and tomorrow. In other words, we equip, train, and sustain air power to carry out operations for the force employers who actually employ our people and assets to conduct the missions. These force employers include Canada Command and NORAD for continental operations, and Canadian Expeditionary Force Command for operations oversees.

The strategic, operational, and tactical effects that we achieve nationally and internationally are the ultimate test of our readiness. We have passed that test with flying colours.

As we approach the end of an extraordinary year, we look back at an unparalleled number of domestic and international operations, including engagement in combat operations in two separate theatres.

[*Translation*]

Operation Mobile was one of our most recent demonstrations of our readiness. The morning after the United Nations passed its resolution on Libya, our CF-18 Hornet fighter jets were en route to Italy to take part in the operation. CC-150 Polaris air-to-air refuellers and CC-177 Globemasters loaded with personnel and equipment followed immediately. And a few days after leaving Canada, our aircraft were in the skies around and over Libya, working side-by-side with our coalition partners.

During our mission, we also had Aurora long-range patrol aircraft, Hercules refuellers and Hercules transport aircraft in the air, as well as a Sea King helicopter embarked with our frigate in the Mediterranean. All of our airmen and airwomen fulfilled their duties with the professionalism that has been the hallmark of our RCAF service through the years, and I was extraordinarily proud to welcome them home last month.

[*English*]

The rapidity with which we responded was due entirely to our readiness. Our equipment was ready. Our highly professional people were trained and ready. And our logistical support was robust. Moreover, during this period, our air wing in Afghanistan was still active, delivering air power to the Canadian and allied commanders under extremely demanding situations.

Around the same time that Operation MOBILE began, we deployed six CF-18s to Iceland to carry out an air policing mission under the auspices of NATO.

In August, we deployed Griffon helicopters and crews to Jamaica to conduct search and rescue training and to support the Jamaica Defence Force during hurricane season.

[*Translation*]

Closer to home, we responded to threats from Mother Nature. We evacuated residents of several communities who were in danger from wildfires in northern Ontario and evacuated others from flood threats in the Richelieu Valley in Quebec. We continued to deliver on our domestic no-fail task of protecting Canadians from air threats through NORAD. And we continued to fulfill our very demanding search and rescue mandate, assisting Canadians in peril.

[*English*]

In this extremely busy—I might even say unprecedented—period of activity, we delivered excellence in every area of responsibility. In fact, there was a point this spring where every one of our operational capabilities, in varying numbers, was committed to operations. Throughout my career, I have never seen this level of engagement.

In addition to ensuring our people and fleets are ready to carry out missions such as those I have described, we have certain tools at hand to aid us in ensuring that we can turn our readiness into action effectively and efficiently. In particular, I want to make note of a true success story, the Canadian Combined Aerospace Operations Centre or, as we call it, the CAOC.

[*Translation*]

The centre is located in Winnipeg.

This entity was established a little more than five years ago and is having a significant, positive impact on our ability to deliver operational effect at home and abroad. The CAOC supports our air component commander, enabling him to exercise centralized command and control, and facilitate decentralized execution of air power at home and around the world.

As a result, we can exchange information rapidly and accurately throughout the air force and the Canadian Forces, with other government departments, and with our allies. The CAOC allows us to effectively allocate and rapidly re-group and re-task capabilities to force employers and thereby better support operational commanders.

[*English*]

Now, it goes without saying that airplanes are fast, that is, faster than any land- or sea-based capabilities. Therefore, the inherent nature of air power allows us to respond rapidly. Our agility and resilience are important organizational values that are foundations of our readiness.

So what is the state of readiness of the RCAF?

All of our capabilities have a high-risk component that enables us to respond rapidly to developing situations. In fact, the air force maintains the highest overall readiness of the three environments. Most of our forces are either ready for or conducting operations. I want to give you a few examples of our readiness in our aircraft fleets by way of illustration.

Our CF-18 Hornets maintain high-alert states to support NORAD and Canadian airspace control. They could be airborne in minutes on any given day. Our readiness assignment for the Globemaster III ranges from 24 hours' notice to 21 days for humanitarian assistance missions. Our CP-140 Aurora long-range patrol aircraft maintain readiness to respond within 12 hours for domestic operations conducted under the auspices of Canada Command. Our tactical transport communities, which include our helicopters, maintain a number of platforms at high readiness by region for domestic emergency response, ranging from 30 minutes to 24 hours' notice to move. For example, the C-130 Hercules readiness is the shortest, at 30 minutes for search and rescue, 24 hours for domestic operations, or 3 days for unforecasted support to the Canadian Expeditionary Force Command.

● (0855)

[*Translation*]

Maintaining this level of readiness requires a significant level of planning, effort and resources. Moreover, as we look to the future, we will be challenged to maintain our readiness. We need to ensure that our ability, creativity and innovation—the factors that enable our readiness—are institutionalized.

We have always been able to adapt to new technologies, procedures and techniques, largely because of our flexible, highly competent, and extremely knowledgeable airmen and airwomen.

[*English*]

For instance, our personnel at the air wing in Afghanistan acquired a very sharp focus in high intensity multi-fleet combat operations. In this operational petri dish, the learning curve was tremendously steep; but our people adapted wonderfully, often learning in days or even hours what might normally take months or years. Our lessons learned from Afghanistan are being analyzed and institutionalized to guide our doctrine and training for years to come, and thereby further strengthening our readiness.

[*Translation*]

In addition, we have made tremendous investments in our human resources over the past decade. We have revamped several of our occupations to ensure career structures are optimized, that training, experience and tasks are aligned, and that opportunities for career advancement are improved.

Moreover, we are creating efficiencies in personnel training and seeing promising improvements through the use of technology such as networked virtual training in simulated environments. We are also transforming the training system for our technicians: training more students in less time but graduating them with an even greater degree of technical competence. We need to continue to carry out this type of self-examination and refinement in the years to come.

[*English*]

With regard to our aircraft fleets, we are facing tremendous opportunities, but many will challenge our ability to maintain readiness. Very soon we will integrate the Cyclone into our fleets. We will have personnel availability challenges, training challenges, as well as the growing pains that can be part of bring any [*Inaudible—Editor*] into operation. The new CH-47F Chinook will bring similar challenges, although our experience in Afghanistan should facilitate its entry into service.

In late 2016, we expect to start taking delivery of the F-35 Lightning II, our next-generation fighter.

[*Translation*]

We know that some of the threats faced by the CF-18 Hornet in the 20th century have faded, some have continued and new ones have emerged. There is no reason for us to doubt that we will continue to see similar fluidity and evolution in threats as the century unfolds. Acquisition of the fifth-generation F-35 will enhance our readiness, giving us the flexibility to face the threats we know and, just as importantly, the threats that have yet to emerge.

[*English*]

In conclusion, ladies and gentlemen, we face many challenges every day in the Royal Canadian Air Force, but we see these as opportunities to strengthen the institution. Supported by a robust operational command system, relevant equipment, effective training and education, and rich operational experience, our airmen and airwomen are willing to take on whatever domestic and global security challenges our nation may face, today or tomorrow.

The Royal Canadian Air Force is ready.

● (0900)

[*Translation*]

Thank you again for the opportunity to speak with you about readiness; I look forward to your questions.

[*English*]

Thank you very much.

I'm open to your questions.

The Chair: Thank you, General.

We're going to go with our first round of seven minutes.

[*Translation*]

Ms. Moore, you have the floor.

Ms. Christine Moore (Abitibi—Témiscamingue, NDP): Thank you, Mr. Chair. I have several quick questions about the F-35s.

We have heard that there are plans to go ahead and purchase 65 jets. I'd first like to know how it was determined that 65 was an appropriate number. We have more than 65 CF-18s. As a result, we are reducing the size of our fleet of fighter jets.

Furthermore, what is the distribution plan for these various aircraft on the ground?

I'll let you answer that question. We'll continue with the others afterwards.

LGen André Deschamps: Thank you for the question, Mr. Chair.

With respect to the number of aircraft, an analysis was done over the years. It was based on the prerequisites that were expected for the end of the decade, when the F-35s will be ready.

The aircraft has various technologies that are currently found on the CF-18s. I'm talking about the aircraft equipment, what it's capable of doing and how it is maintained. Technological advances enable us to get more flight capabilities with fewer aircraft. So we can keep the same number of skilled pilots, if we want, with a smaller fleet of aircraft.

In addition, the simulation available with the F-35 will enable us to use virtual training. Once again, we will be able to reduce the number of outings required to maintain the skills of our pilots. This is why the number is lower than 77, which is how many CF-18s we currently have. Actually, the technology allows us to have an equivalent capacity with fewer aircraft.

Ms. Christine Moore: Before talking about the distribution of aircraft on the ground, I'd like to come back to the matter of simulators. Right now, Canada doesn't have its own simulator. So we will use subcontracting and will do business with the American armed forces.

Would having our own simulator be a major advantage? If not, would not having one be considerably detrimental to us?

LGen André Deschamps: The training capacity is subject to the definition of the project. It's clear that, initially, the first pilots will be trained in the United States, our partner. That's where the institutions with the required capacity are. We intend to repatriate our training to Canada in the future, once we have the capacity and infrastructure needed to support a training model.

What will this model represent? It needs to be defined. It must be financially affordable, with operational support. We plan to have our own simulators in Canada. We also eventually expect to repatriate basic training to Canada.

Ms. Christine Moore: Where will you instal the simulator?

LGen André Deschamps: It would be at two bases, the ones in Bagotville and in Cold Lake.

Ms. Christine Moore: Could you just tell me how the fighter jets will be distributed on the ground?

LGen André Deschamps: Normally, the distribution would be equal. We will need to see how many aircraft will be available for operations and how many will be used for basic training. Once we have defined the basic training invoice, we will redistribute the aircraft equally between the two squadrons, in Bagotville and in Cold Lake. The training model has not yet been determined. So I can't tell you the number of aircraft. Normally, the distribution would be equal between the two squadrons.

Ms. Christine Moore: So there aren't any fighter jets in the Arctic?

LGen André Deschamps: As is currently the case, our aircraft can be deployed to our forward deployment positions. We have a number of bases in the Arctic, and we use them for operations in that region. Our operations are run from main bases in Cold Lake and Bagotville, and we deploy throughout Canada, be it to the south or to the north. The model will be the same.

Ms. Christine Moore: The F-35 does not travel as fast as the CF-18s we currently have. We could see that they lost in simulated combat situations. I'd like to know what impact the speed of this aircraft will have on its fighting capacity and on its ability to meet operational requirements.

● (0905)

LGen André Deschamps: Thank you.

The brochures published by companies that sell aircraft all indicate maximum speeds, such as Mach 2 or Mach 1.8. With the F-35, we're talking about Mach 1.8. The immediate reaction is to say that it is slower than other combat aircraft, but there is a fairly important distinction to be made. To attain the maximum speeds indicated in the brochure, these aircraft must be completely empty. So, in a combat situation, the F-35 can fly at its maximum speed. In retrospect, the other aircraft can do so only in the context of a test plan, in other words, without combat arms. When those are added, the speed of those aircraft decreases fairly considerably. This means that our F-35s will be able to operate at their maximum speed at all times, while the other aircraft must reduce their speed once they are transporting operational loads.

Ms. Christine Moore: Are aircraft empty during simulated combat?

LGen André Deschamps: No. Normally we carry out simulations precisely to determine an aircraft's capabilities in all conditions. The simulations we have access to showed that the F-35 had an imposing advantage over the other aircraft currently on the market.

Ms. Christine Moore: We've been told that there is currently an annual shortage of about 125 pilots, given that 20% of them are going to retire.

What strategy have you adopted to train more pilots to handle these upcoming retirements?

LGen André Deschamps: For many years now, producing pilots has had its challenges. We were dealing with technical problems related to certain training fleets, which delayed our production. This year, we intend to just raise the curve. We hope to turn out a total of about 105 pilots a year. For years, there has been a shortage of about 250 pilots overall in the Canadian Forces. Positions should normally be filled by pilots. We hope to get this number to 125 over the years so we can start to fill the gap and absorb normal losses, like the ones caused by retirements and career changes. The current shortage of 250 pilots has existed for at least 10 years, but we are managing this situation regularly. It isn't posing any costly problems for the moment, but we are trying to fill these positions.

The Chair: Thank you very much.

[*English*]

Mr. Strahl, you have the floor.

Mr. Mark Strahl (Chilliwack—Fraser Canyon, CPC): Thanks, Mr. Chair, and thank you, General Deschamps, for being here.

I just want to add my voice. It was a great honour for me to be in the Senate chamber for the event marking the successful Libya mission and to see General Bouchard honoured as he was. He is truly a Canadian hero.

My grandpa, Bill Strahl, also served with the RCAF at the end of World War II, so I've always had an interest in the air force. I was interested when the Norwegian Secretary of State for Defence was here. It was a one-off meeting, not pertaining in particular to our study on readiness, but he talked about the F-35. He made it clear that, from the Norwegian perspective, that there was no contest between the three planes they had run through the testing.

He said:

> I asked my people there, our pilots, "Are we doing the right thing? What do you feel about the F-35s? Do you miss the F-16s when you are cooperating with Lockheed Martin and all the partners in Texas?" The answer from my pilots is that this is the best air fighter they ever have seen. All the test results so far are even better than they thought three years ago, when Norway selected the F-35s.

He goes on to say that the pilots from Norway believe this is the best thing that could happen to the Norwegian air force.

Perhaps I'm asking you to give the Canadian perspective. Do you share those sentiments about the F-35? Is it the best plane? What will it mean for our air force, in terms of future readiness?

LGen André Deschamps: Thank you for the question.

Mr. Chair, I think it's fair to say that much like other air forces around the world that have looked at their future requirements and how they can meet those requirements, we've come to the same conclusion, through a lot of analysis and discussion with our partners, that the F-35 remains by far the most capable and sustainable platform available to us out there.

I understand that we're at the early part of the program and there are always those early developmental issues that will cause some concern, but we remain absolutely confident that the platform will mature and deliver unparalleled capabilities to Canada for decades to come.

● (0910)

Mr. Mark Strahl: You said in your presentation that we can't be sure what the future holds. We weren't sure what the future held when the decision was made to go to the CF-18s. I've done some reading and found that very similar criticisms were levelled against the CF-18—that it was Cadillac, that it couldn't operate in the Canadian environment—and obviously we've seen that is not true.

While we're not sure what the threats are, we do know that other nations—China, and Russia—are developing a fifth-generation fighter. Why is it necessary for Canada to have a fifth-generation fighter as opposed to a fourth-generation?

LGen André Deschamps: Thank you for the question.

I think it's fair to say that it goes back to the premise of manned fighters versus other options. Most industrialized and modern nations have come to the conclusion that for their future national sovereignty and defence needs, a manned fighter remains the primary tool.

In addition, it's about understanding the challenging threat environment out there, that sophisticated systems on the ground and on the sea and in the air will threaten manned fighters. Therefore, advanced countries have been working hard to achieve fifth-generation capabilities, which is the only reasonable way of dealing with the very sophisticated threats that are evolving as we speak.

Mr. Mark Strahl: Could you speak as well of the necessity of this next generation fighter having stealth capability?

LGen André Deschamps: Thank you for that question.

The stealth capability in and of itself is certainly an advantage, but it's also what it comes with, the overall package that the fifth-generation aircraft brings to any sort of conflict. Stealth allows you to have a low probability of detection. Ultimately, all airplanes can be eventually found. What you're looking for is the advantage of time and space. Stealth lets you observe without being observed, and also lets you take action where opposing forces will have minimal time to react, if at all. This means you have a significant tactical advantage in all cases.

Clearly that links back to survivability, going into very complex and dangerous environments where unpredictability is the nature of the beast. Stealth allows you to have additional assets on your side, which buys you the time to make the right tactical decisions to either act or avoid being engaged and destroyed. Stealth is a fairly winning hand in any modern conflict. For us not to go that route would be to spend a lot of money on equipment that would be fairly marginalized as far as complex environments are concerned.

Mr. Mark Strahl: You also mentioned there were some other options that were tested, perhaps a newer model of the CF-18. Or an F-22 would be.... We've heard that said, but could you elaborate on why that's not an option?

LGen André Deschamps: As far as the option analysis phase, we've been looking at this for almost 10 years. The F-22 is not available for foreign sales, and so it wasn't part of the list of aircraft we looked at. Also, the F-22 is optimized for air combat only; it's not a multi-role platform.

Canada cannot afford to maintain several fleets that do different missions. That's why we're acquiring an airplane that is multi-role. It can do the air sovereignty role, but it can also support our troops or naval operations across the world.

Mr. Mark Strahl: I have one final question. We've heard a lot of criticism, as well, that the F-35 will not be able to communicate in the Arctic. Is there any way that the F-35 will be less capable than the CF-18 in terms of communication or capability in the Arctic?

● (0915)

LGen André Deschamps: Should the F-35 show up tomorrow, it would have the same capabilities as our F-18s have had for 28 years of their service life in the Arctic. We will have beyond line-of-sight communication on the F-35 by the time we reach our operating capabilities in 2020. The modifications for beyond line-of-sight will be integrated in the aircraft in what's called the block III series, which is beyond 2018 and 2019, and it will be retrofitted to all the other aircraft that have been produced beforehand.

We did 50 years in NORAD without having beyond line-of-sight communications. As I said, our F-18s have only had it for two years. So we know how to do the business. Beyond line-of-sight adds an additional flexibility factor that is certainly welcome, and it certainly would be part of our future fleets but I have no concern as to the F-35's ability to deliver NORAD mission tomorrow, should it have to.

The Chair: Thank you, Mr. Strahl.

Mr. McKay, you have the last of the seven minutes.

Hon. John McKay (Scarborough—Guildwood, Lib.): Thank you, Chair, and thank you General Deschamps for coming this morning.

When General Natynczyk was here, he said that we absolutely needed 65 airplanes. He was quite forceful, in the way that General Natynczyk can be quite forceful. Yet, we have the minister this week saying there's still time before 2013 to decide on the final number.

The problem is that if you fix your budget at $9 billion and deal with what seems to be an ever-escalating number—the latest of which is $141 million to $145 million per plane, which the U.S./U.K. purchased from Lockheed Martin in a batch of 30 aircraft—you'll end up with about half the number of airplanes you said that you needed. Something has to give.

Could you under any scenario survive with 30, 35, or 40 airplanes?

LGen André Deschamps: Thank you, Mr. Chair.

To answer the question without speculating—and, of course, a lot of this has to do with speculation about what the future may hold—first of all, I'd just like to put into context the issue of cost. Of course, much ink has flowed over the cost of aircraft, both in the U.S. and abroad. It's a complex program that has three different variants of the aircraft. The U.S. tends to measure their costs based on the summary of those three cost lines and they include all the research development. That's part of the reason why one always tends to see differences in the costs when the U.S. talks about its costs versus what we expect our costs to be.

All that is to say that when we procure the aircraft, the strategy is to procure the aircraft at the best production time, which is high rate production. Right now, as you pointed out, we have a slow rate, of 30 airplanes in a year versus 300 to 400 a year. So the cost will be higher if you buy in the low rate year. Our plan is to purchase the aircraft when it's at its peak production and, therefore, the best value for our dollars.

As to the number of aircraft, as I expressed previously to your colleague, 65 is based on our analysis of what we can generate as far as capabilities and the capacity to deliver on the defence missions that we have currently. We stand behind that. That was our recommendation to government. Government has accepted that, and that's what is in the Canada First defence strategy.

Beyond that, we will execute the mission with the number of platforms that government buys for us. Ultimately, that's government's decision.

Hon. John McKay: Pushing the date out, which seems to be the argument here.... You said it would be 2016 in your speech. We've heard 2018. Buying the argument that the more that are produced, the cheaper the cost will be doesn't always follow, but let's say that it does. It puts strain on your F-18s. The minister said at one point that around 2016, the F-18s will start falling out of the sky. In order to be able to get the price that you seem to want and to get the number of aircraft that you want, you're essentially going to have to delay or postpone your purchase.

Is that the position of the air force at this point?

LGen André Deschamps: Thank you for the question.

It goes back to having the time to make the right decisions. The previous government also invested in the F-18 renewal, which started in 2002 and was completed in 2010, with a fairly significant investment in modernizing the F-18. We have an advantage where other countries have not had an advantage: we've renewed our F-18 fleet so it's sustainable until the end of this decade without concern.

● (0920)

Hon. John McKay: So they won't be falling out of the sky?

LGen André Deschamps: We would never fly our planes that would be at risk for falling out of the sky, sir.

However, there is an end of life to the F-18. It depends on how much you fly it. But currently, with the investment we've made, we do have flexibility to adjust our acquisition of the F-35 to suit our needs.

Hon. John McKay: You're, in effect, keeping the binder twine and the duct tape going for the F-18s for as long as you need to go in order to be able to get to your price point around 2018 or 2020 for, if you will, cheaper versions of the F-35.

The Israelis have taken a different route. They've essentially said they can't live with the uncertainty of the F-35 program and so they're upgrading their F-16s. Now, they live in a different environment, obviously, than do we. Is your plan B, effectively, like the Israelis, to upgrade your F-18s to keep them in the air longer?

LGen André Deschamps: I will just go back to the first point you made. Our F-18s are absolutely safe and viable. That's why government spent billions of dollars on the upgrade. The airplanes will fly. When they fly they will be at their best capacity. The issue is, as everybody understands, that as airplanes age, the required maintenance goes up.

When they do fly they will be effective, as we saw in Libya.

What the Israelis are doing is this. Again, because different fleets have different ages, they have to continue investing in their current fleets, and they also have a mixture of capability, given, as you point out, the environment they live in. They have to have a range of options available to them, so the government can defend themselves as best they can. Therefore, they make a slightly different decision from what we may make, based on our circumstances.

Hon. John McKay: Their threat environment is obviously far greater than ours, yet they seem to think that they can maintain a strategic advantage over those who might attack them simply by doing upgrades to their F-16s.

It seems to be an argument that makes some sense to me, but in our situation, where our threat environment is not nearly as extant, are you able, in effect, to maintain our readiness out to 2018 or 2020, if necessary, with the F-18s?

LGen André Deschamps: Yes, sir.

We are confident that we will be able to maintain our current commitments all the way to 2020 with the current fleet of F-18s.

Hon. John McKay: Is that, in effect, the plan B, to do the upgrades of the maintenance then?

LGen André Deschamps: I'm not sure what the plan B notion is for us. We have a commitment to a program, like we do for any other programs. Whether it's the C-17 or C-130, we're proceeding with that program with due diligence, as fast as we can. We will make the right decisions. It's the most effective way of doing a transition to a new fighter fleet.

Our F-18s remain viable. That's why we've invested a lot of money to make sure they remain viable as a combat platform to the end of the decade. At some point they will need to be replaced.

The Chair: Thank you. The time has expired.

Mr. Norlock, you're going to kick us off in the five-minute round.

Mr. Rick Norlock (Northumberland—Quinte West, CPC): Thank you, Mr. Chair.

And through you to our witness, welcome here, General. We always like to see you because you were our first base commander when we were first elected in Northumberland—Quinte West.

I would like to talk about the C-17s, because the folks who live where I live get a big lump in their throat when they see that big bird flying over Trenton. We can recall a time when our ability as a nation was limited because of our aging fleet. Now we are not saddled with that.

I'd like to discuss the readiness of the RCAF and the CF, and how the C-17s have complemented the CF's readiness as a whole—and, if you wouldn't mind, discuss how this aircraft enhances our ability not just internationally, but specifically domestically. Why did we choose that particular model of the C-17?

And if you have a few minutes left, could you could talk about the difference between what I call the older Hercules and the new C-130Js and their extra capability, both domestically and internationally?

● (0925)

LGen André Deschamps: Thank you for your question.

I'll go with the basic enhancement that the C-17 has brought to the CF and, of course, to Canada. What the C-17 embodies is the ability to respond quickly and effectively to either domestic situations or international situations, whereas in the past we had to pull together a different option package based on the tactical lift we had available, plus contracted lift, plus support from our allies. The C-17 has allowed us now to be able to initiate a response to any crisis on our own time and at our own speed, if you will. The airplane provides the range and the load capacity to pretty much take anything we need to bring to bear in any sort of situation. It can even carry our massive Leopard 2 tanks, which are pretty heavy vehicles. It's a platform that has opened up new doors for us, in being able to respond to our security needs. As you've seen in the last couple of years, it also has great potential for employment in the north, in the Arctic, in bringing to bear the capacity to bring outside cargo and personnel, whether CF or government agencies, that need to be in the Arctic for whatever reason.

We're also looking at its capabilities in the future. Up to now, we have used the C-17 mostly as a strategic platform to deliver those big payloads to Afghanistan and elsewhere. It's been used in the Arctic for re-supply. Clearly, the platform has potential that we have yet to explore and exploit. It can airdrop just about everything it carries. For domestic use, there is great potential for immediate reaction, and for bringing support and succour to those in need in Canada, through either landed or airdrop operations. So I think it holds great potential for us that we have yet to explore.

In the C-130 tactical fleets, the J model is, of course, a more robust and modern version of our very reliable C-130s. It brings with it greater load capacities. It's a slightly larger and faster aircraft that is more fuel efficient, with very reliable engines and systems, and, of course, it can be operated by very few individuals. So, from a resource perspective, it represents a far more manageable long-term sustainment bill for the air force to pay. It proved itself almost upon arrival. We took delivery of our first airplane only a year and a bit ago, and yet within a week or two from arrival, we were deploying it forward into Afghanistan because of the needs there. The airplane did wonderfully.

We have two platforms that have changed the game, and I see great things down the road for both platforms. We've seen them in action for the last two years and seen what they can bring to bear.

The Chair: Thank you. We have about 20 seconds.

Mr. Rick Norlock: Well, thank you, General, and, as I say, folks in Quinte West and Trenton are extremely proud of the men and women who work at CFB Trenton, and we look forward to a very long, fruitful, and expanded role for that base.

Thank you.

LGen André Deschamps: Thank you.

The Chair: Thank you, Mr. Norlock.

Moving along, we now go to Mr. Kellway.

Mr. Matthew Kellway (Beaches—East York, NDP): Thank you, Mr. Chair, and through you, thank you, General, for coming today.

Like Mr. Strahl, I have ancestors from the RCAF. My father joined the RCAF in 1942, and ended up as a navigator in a Lancaster bomber until the end of the war.

I want to come back to the issue of F-35s. This is no surprise, I'm sure, to those opposite. Mr. Strahl has already anticipated this. On our side of the House, we stand up and ask questions fairly frequently about the F-35, and it usually ends up with our asking government when they're going to put this contract out to tender. It is our hope that at some point in time, given all the news that's coming out of the United States with respect to the F-35, that's what this government will do.

In the meantime, the question for you, General, is why did this particular contract never go out to tender in the first place?

LGen André Deschamps: Thank you for the question.

I can't really speak to the process with tenders and competition. That's really not my domain. Mr. Ross would be better placed to explain the rationale and process. All I can say is that in 2010 we completed the statement of requirements and the option analysis, and made recommendation to government that the F-35, from our point of view, was the best platform for Canada, both from a cost point but also, more importantly, from an operational effectiveness point in the decades to come.

The process of acquisition was then passed over to outside the air force, and the decisions that were made were based on the best judgment from government.

● (0930)

Mr. Matthew Kellway: The 2016 date that you used in your comments this morning with respect to the purchase of the F-35s doesn't seem to have changed at all. Yet we keep hearing news out of the United States that there are significant delays in the production of the F-35. Even last week there was news of the discovery of hotspots and that sort of stuff. As best I can figure from all the news I read on this matter, we have a delay period of three to five years.

I'm wondering how the year 2016 in your comments enters into the equation. On what basis, in light of all the news, can you still reasonably anticipate 2016 as the delivery date?

LGen André Deschamps: Thank you for the question.

The year 2016 remains one of our planning figures as far as a goal to negotiate towards and start from is concerned. As I pointed out previously, Canada has flexibility as to when we actually launch into full-rate production and acquisition. The year 2016 was more of our start point in that process. There was only going to be one airframe procured that year. The big numbers for us come at the end of the decade. Really, 2016 is that first check mark to validate whether that's the year we're going to start. It's still, as part of our planning process, what we are driving at. Whether, when we get to the contract negotiations, that's the year we acquire the first airplane is yet to be determined. That's why we're still aiming at late 2016 as that first decision-point for looking for that sweet spot of acquisition.

Mr. Matthew Kellway: If 2016 is still just a planning concept and we add in the delays, most of the acquisition is intended to follow that by about three years. If we have a delay of three to five years, we'd be well into the 2020s for the purchase of what I think you referred to as the block III purchase. They are presumably, or at least theoretically, the lower-cost airplanes. That is well beyond the lifetime of the CF-18 that you've described today.

In terms of readiness, these planning concepts are great, but when we're talking about having planes in the air and national defence, the timing seems well out of whack by five years at least. What are you doing to account for those very real possibilities?

LGen André Deschamps: Thank you for the question.

Again, Mr. Ross would probably be in the best position to answer questions about timelines for procurement. My understanding right now is that although you're hearing all kinds of different numbers in regard to project delays, we are not concerned at this point. You're using three to five years. I don't think that's what we're understanding as the issue. There's probably a pessimistic view out there.

The Chair: You're out of time, Mr. Kellway.

LGen André Deschamps: The point is that we understand the challenge of any production delays, and we're watching that very closely. We have flexibility in our program. The year 2016 was a start point for us, but it's not a fail point, if you know what I mean. We can actually increase production in certain years to make up for a slightly later start. At this point in time, we're not concerned that this will become problematic for us. But we are watching it closely, as all of our allies are, to ensure that we are able to adjust our production timelines to our needs, as far as the transition goes.

The Chair: Thank you, General.

Mr. Daniel, you have the floor.

Mr. Joe Daniel (Don Valley East, CPC): Thank you.

Thank you, General, for being here.

My questions will be all over the place, as it were, but let's start with the CF-18.

I understand that the airframe for the CF-18 has a limited life, and that a number of the airframes are therefore no longer available for flying. In terms of upgrading and keeping them up, it doesn't seem to make sense, since they're already about 28 years old.

Can you comment on that?

● (0935)

LGen André Deschamps: Thank you for the question.

We initially bought 138 CF-18s. That was in the early 1980s. We still had a fairly large footprint in NATO bases in Europe and so on. With the consolidation in early 2000, when we brought those assets back from Europe, there was a decision made that only 80 aircraft would remain in our operational fleet and be modernized. In other words, the reinvestment was based on our current defence needs and not on the ones from the early 1980s. We have modernized those 80 airplanes, although we've lost three since then. The 77 aircraft remaining are good until, I'd say, the end of life of the F-18. The numbers will remain firm all the way to the end of the decade. As we get into the next decade, obviously, we'll have to start retiring the airplanes as they run out of those operational hours. But right now, our transition plan allows for that transition between the operational fleet as it ages out and the new fleet as it comes online.

Mr. Joe Daniel: So you clearly will be able to maintain your operational readiness through to the period when you pick up the F-35s.

LGen André Deschamps: That is correct. The intention is to overlap between the two.

Mr. Joe Daniel: There has been a lot of talk about the price of the F-35s. Could you share with us the actual cost or cost ratio of the maintenance of it? Clearly, this aircraft is very sophisticated. There are a lot of sophisticated electronics. You will need a lot of automated test equipment and software support systems. Can you tell us a bit about that?

LGen André Deschamps: I'm probably not in the best position to talk about the details of in-service support and long-term maintenance. Mr. Ross would probably have more details. My understanding is that the cost of long-term in-service support will be in the range of $250 million to $300 million per year. It's a fairly solid understanding of the costs, which are going to be the same as what we would pay for the maintenance of a generation 4.5 fighter. I think we're confident that the costs will be in that range, and therefore affordable in our current budgeting.

The technology will require less maintenance, but I think as everybody understands, the components are probably more expensive. In the end, that's what the cost drivers will be, that is, the overall cost of the work on the airplane and the cost of the components that need to be replaced.

Mr. Joe Daniel: The aircraft contains a lot of software. Are you going to work with the partners on the software upgrades so that we don't have a uniquely Canadian aircraft that requires special maintenance?

LGen André Deschamps: That's one of the powerful incentives of this program. There are a couple things that the F-35 does differently from previous fighter fleets. One is that the airplane never becomes obsolete. Nine nations in the partnership have invested in long-term software upgrades. It's a jointly led program funded through the partnership, and is part of the in-service support costs. Every two years, the aircraft softwares will be upgraded and retrofitted to all the fleets. You're never more than two years out from the latest software upgrades for the airplane, and this is something that we've never had with any of our fleets.

With the F-18, we had to spend a significant amount of money on software upgrades and hardware improvements to bring the airplane, after 20 years, back up to international standards. The F-35, throughout the life of the aircraft, will always be within two years of the latest aircraft coming off the factory floor, which is something we've never had before. That's leading-edge technology for the life of the program.

Mr. Joe Daniel: It will help to maintain the fleet and reduces the overall cost for the F-35 in the long term.

LGen André Deschamps: It would give us a combat-ready airplane from the day we acquire it to the day we retire it.

Mr. Joe Daniel: Thank you.

The Chair: Thank you, Mr. Daniel.

Who is next on our list?

[*Translation*]

Mr. Brahmi, you have the floor.

Mr. Tarik Brahmi (Saint-Jean, NDP): Thank you, Mr. Chair.

I'd like to ask the general a question.

As part of the F-35 decision-making process, Boeing proposed the Super Hornet to the Royal Canadian Air Force. One of Boeing's criticisms at the time was that the Canadian Forces did not consider the stealthiness of the Super Hornet.

I'd like to hear your comments on the matter. I'd like to know how the Super Hornet's stealthiness is not as good as that of the F-35.

● (0940)

LGen André Deschamps: Thank you for the question.

As I mentioned previously, we started to really look at this in detail around 2003 to 2005. We saw that we had to replace the CF-18s with an aircraft that had to be manned. The study done in 2003 determined that the only thing that could replace a fighter jet was another fighter jet.

Since then, and even today, we are looking at the options available on the market. We took part in an analysis. We talked to our partners, particularly our main partners, the ones we do a lot of business with. And the working group that was set up conducted analyses. Each nation did its own analysis, but the information on the intelligence and capacity of the aircraft was shared. So we have a fairly in-depth understanding of the capacity of the fleets available on the market. We are very confident: we have the information required to make decisions.

As for the stealthiness, the Super Hornet CF-18 is a very good aircraft. It's a very reliable aircraft, and we really like it. But, although it's a very good aircraft, it isn't the aircraft that Canada needs for the coming decades, 2030, 2040 and 2050. Its stealthiness is not as good as that of the F-35.

Mr. Tarik Brahmi: Boeing was complaining about the fact that the actual stealth of the Super Hornet was not even studied in the analysis that the Canadian Forces did.

Do you refute that? Was stealth taken into account, or was Boeing right in saying that this parameter had not been studied?

LGen André Deschamps: You can rest assured that the parameter was studied in depth. As I said, we have dealt with allied governments that use those planes. So we have quite a thorough understanding of the capabilities of the planes, although the company might have not provided us with all the information it had, as you pointed out. After discussing it with our allies, we have gained a significant understanding of the plane's capabilities.

Mr. Tarik Brahmi: Let's talk about the fact that the Super Hornet has two jet engines whereas the F-35 has only one. That's something my colleague and I informally discussed with pilots at CFB Trenton last September. In fact, I would like to congratulate you on the excellent parliamentary program that you have developed. We had informal discussions about it with a number of pilots.

How can an aircraft with two jet engines, like the Super Hornet, provide greater safety?

LGen André Deschamps: Thank you for your question.

The debate on the single-engine versus the two-engine plane is nothing new. There has already been a debate about the CF-18. It is a debate that resurfaces all the time.

There are usually two reasons why planes have more than one engine. To start with, in the 1950s, 1960s and 1970s, engines didn't have the power they have today. Planes needed two engines to get off the ground. That was one of the reasons.

The other thing is that engines were less reliable. Having two engines enabled pilots to handle mechanical problems successfully. So people wanted two engines because one engine was not powerful enough to get the plane off the ground and it was also not as reliable.

We have come a long way since the 1950s, 1960s and 1970s. The same goes for today's generation of engines, like the ones in commercial planes—there used to be four, now there are two. The technology is so reliable now that, statistically, there is no significant difference between engine failure in a two-engine plane and engine failure in a single-engine plane. The fail-safe systems of F-35 engines are impressive. We have estimated that thousands of hours went into that.

We have to remember that operators around the world, who are also facing stringent conditions like ours, have opted for the single engine with confidence. Just think of Norwegian and U.S. navy operators.

● (0945)

[*English*]

The Chair: I have Mr. Opitz.

Mr. Ted Opitz (Etobicoke Centre, CPC): Thank you, Mr. Chair.

General, thank you for being here today. It's a delight to have you.

I have a couple of questions. First of all, how has the RCAF contributed to the development of the joint strike fighter? How much of Canada, and other nations, is in this aircraft? For example, I have personal friends, like Colonel Zans, who worked on this project. Can you describe to us what contribution Canada and its pilots have made to the development of this fighter overall?

LGen André Deschamps: Thank you for the question.

We've had a next-generation fighter capability team that's been together since probably 2005 or early 2006. It's not a big team, but there have been folks on this issue for, say, nearly half a decade, so they form a core nucleus of knowledge that we've certainly leveraged with our allies. We also have folks in the U.S., embedded inside the joint procurement office, who are our eyes and ears inside the U.S. system and provide Canada's inputs to any deliberation that occurs within the production office of the U.S. Air Force.

So I think we certainly have great connections with our allies, but mainly with the U.S. Air Force, in terms of production of the F-35. We get as good a situational awareness as you could probably expect. We have good knowledge resident in the air force right now, in the ADM Materiel. A lot of that team has gone over to the project office now for procurement.

Mr. Ted Opitz: I'm going to get into industry benefits, but I'm first going to read a quote from your article in a military journal from 2010:

> Canadian companies will have an opportunity to provide products and services for the entire global JSF supply chain. Considering that this will apply to as many as 5000 aircraft, herein rest huge opportunities for the aerospace industry in Canada over the operational lifetime of the F-35. It is estimated that more than $12 billion in potential industrial opportunities exist for Canadian companies to deliver the F-35 to our partners. Furthermore, acquisition by other nations will result in further benefits for Canadian companies.

Can you elaborate on that, sir?

LGen André Deschamps: Thank you for the question.

Again, that's probably something that Industry Canada and the ADM Materiel would be in a better position to give you any certainty on. My understanding is that's still valid; the assessment that was done still rings true, to our understanding of the future production of the aircraft. But beyond that, I can't really speak to the detailed numbers of contracts.

Mr. Ted Opitz: Do I still have a little time? Great.

On the aircraft itself, the pilot's operation of it, we talked about situational awareness within the cockpit and the different situations to be faced, i.e., total darkness and the data processing capabilities of this aircraft, which then is a force multiplier for what the pilot can do with the aircraft versus a fourth-generation fighter.

Can you talk about some of those efficiencies that pilots will realize in terms of the technology this aircraft provides?

LGen André Deschamps: Thank you for the question.

The best way to contextualize the difference between the F-35 fifth-generation and all the other platforms that are out there—which are great platforms—is that the F-35 brings a whole different set of skills to any conflict. The big difference is the way the airplane integrates information. The platform itself—the air frame or the airplane itself—doesn't have any extra magical powers. It can turn as well as other airplanes, but as far as manoeuvring and dogfighting are concerned in the traditional sense, other airplanes are also very good.

Where it really earns its paycheque is in that sensor suite that it brings to any fight or any conflict. The awareness bubble that this aircraft can project out is significantly different from anything else that's out there. Also, the big advantage of this aircraft is that it networks. I'm not sure if people are familiar with a version of *Star Trek* that had an entity called the Borg, a being that had a semi-human, mechanical sort of minds. The point was that whatever the lowest soldier saw, the collective saw, and vice versa.

The F-35 is very much in that network-centric world, where any airplane that sees anything out there can instantly share that information with all other airplanes on that network, and that works laterally. That's the big shift from what we do right now with our F-18s, which are great airplanes. We have a data link system that allows us to share some information, but it's still labour intensive. The pilot still has to manipulate sensors, collect information, make sense of it, and then post it on those links. The links are also detectable.

With the F-35 the big game changer is the way it reaches out for information, gathers it, makes sense of it, and presents it to the pilot without the pilot having to worry about it. It is transparent. All the sensors inter-operate—they talk to each other. If they don't have enough information, they'll reach out and go find it through the other network sensors. This is where this airplane operates on a different level from what we see currently on the market, and therefore projects a net of information that's massively larger than what we can do right now.

Mr. Ted Opitz: [*Inaudible—Editor*]...our allies.

LGen André Deschamps: That's the other issue. Any F-35 that joins the network—and it doesn't matter from what country, as we don't even have to know who they are, as far as where they are in the formation—as they come into the network, they automatically share the information they have and instantly get what the formation has gathered in terms of information.

● (0950)

The Chair: Thank you, General.

I just hope we don't have to have questions about *Star Trek*.

Mr. Christopherson.

Mr. David Christopherson (Hamilton Centre, NDP): Thank you very much, Chair.

Thank you, General, for being here today and for the information you're providing us.

I have to pick up on the *Star Trek* thing. It's the last day, possibly the last few days of the sitting. When you mentioned *Star Trek*, all I could think of instead of a minister being in a basket, it'll be "Beam me up, Scotty," but I'll leave it at that.

Voices: Oh, oh!

The Chair: Order.

Mr. David Christopherson: It's a morning meeting, come on.

Having said that, I really was going to go there anyway—no more *Star Trek* stuff—except that I was going to ask the following question because I'm very interested in this. What exactly is the current and anticipated role of the Royal Canadian Air Force in space?

LGen André Deschamps: Thank you for that question.

Mr. David Christopherson: The final frontier.

LGen André Deschamps: Yes. But no, I was going to go there.

Voices: Oh, oh!

Mr. David Christopherson: Notice, that was government. That wasn't us.

LGen André Deschamps: Space of course is a joint domain. Clearly, we use space as an entity, because we travel through near space and we need space as far as enablers are concerned—communications, navigation, intelligence—so space is a very important part of our future, "our" being the Canadian Forces.

We certainly are getting better at space. Projects are coming forth in this decade that will augment Canada's capacity to operationalize space through radar, satellite, architecture for the high Arctic, and communications. So, yes, we are very interested in space.

I don't own it as an environment, but I certainly make great use of it, and it is absolutely essential to our success. The F-35, for instance, needs that precision in navigation, so space is part of that domain that we need to be able to reach into to draw the information, and also for the connectivity that we need to operate anywhere in the world. So it's an important domain.

Mr. David Christopherson: Thank you.

I assume when you said it's not your environment, you meant not your responsibility. Whose responsibility is it?

LGen André Deschamps: In the Canadian Forces right now, space resides under the Vice-Chief of the Defence Staff in development and policy. The implementation of space is done through different agencies.

The air force, through NORAD, has some operational space activities, such as tracking space objects, and so on. We share information with NORAD, in that we're part of that network. Other folks do communications through other commands. So right now space is driven policy-wise from the centre, and the operational parts of space are shared across the three services. Transformation is under way, and one of the discussions is where does space go in the future transformational agenda to make it even more effective.

Mr. David Christopherson: I have another question in this same area. Does the Royal Canadian Air Force have any involvement right now with the international space station?

● (0955)

LGen André Deschamps: Other than the fact that Chris Hadfield is one of our former test pilots and a great supporter of the RCAF.... We also have a pilot who was just selected to go to the space agency to train. So we remain one of the providers, as part of the greater Canadian gene pool, to provide folks.

Mr. David Christopherson: So our involvement with the space station is limited to that? We have no involvement through our air force at all?

LGen André Deschamps: The air force is not involved in the space station, other than providing the gene pool.

Mr. David Christopherson: I realize it's not your forte, but still, at half a billion dollars, I suspect you'd have some idea about a new satellite system that's currently under way. It's close to half a billion dollars and it may or may not have something to do with the ability of the F-35s to communicate in the north. Could you expand on that a bit for us, please?

LGen André Deschamps: Again, it's not really my domain, and I don't have great knowledge on this. But what I can say is that the Mercury Global project is intended to create that network, much like the C-17 did, with Canadian solutions and autonomy. This is part of that process of creating more flexibility for Canada when it comes time to act, whether domestically or internationally, where this gives you certainty of access to those space channels where you need to communicate and pass information on. It is critical to future success. So other than where it fits into that constellation of capabilities we need to develop over time, it will play an important role in giving us that autonomy that we've always strived for.

Mr. David Christopherson: I have another question in the same area and, again, I respect that you're limited in how you can respond. Given our close allied relationship with the U.S., what is our involvement with the U.S. space initiative, which is vast and leads the world by leaps and bounds?

LGen André Deschamps: Again, from a military and air force perspective, we don't have a big investment, if you will, in space itself other than what I mentioned before. We are closely linked with the U.S. Air Force, clearly, through our NORAD and other links with them, understanding where they're going with space development and maintaining a keen interest in it. As for what Canada's industry does in space, we have strong connections that I'm aware of, where our industry is very competitive and very active in the space domain. We have examples out in B.C. where MDA is a very strong player in the space domain.

Mr. David Christopherson: Great.

Thank you, General.

Thank you, Chair.

The Chair: Mr. Hawn, you have the floor.

Hon. Laurie Hawn (Edmonton Centre, CPC): Thank you, Chair. It's good to be here.

General, it's good to see you again.

I'd rather talk about the F-35s, but let's bring it down to earth a little bit and talk about the stressed trades and the things that make the air force and everything work, meaning its people. Do we have trades under stress in the air force right now, and how are we dealing with that and the whole issue of recruiting and sustainment going forward?

LGen André Deschamps: Thank you for the question.

We talked about it a little bit earlier on pilot production. The air force currently is responsible for 26 trades inside the bigger Canadian Forces package. Of the 26 trades, we have seven that are still under stress. We define “under stress” as being the trades that are 10% short of the preferred manning level.

That's better than last year. Last year, we had nine trades in stress. We're down to seven, and that trend is improving fairly rapidly. My sense right now, assuming conditions don't dramatically change around us, is that we will see the air force by and large being in the green as far as trades are concerned within the next three to five years. The pilot trade will probably remain a stressed trade because we have to make up for the gaps that we've had over the decades, and also to make sure that we can still produce and adjust for any sort of attrition that may be driven by the economy.

I'm fairly confident that we will close the gap on those remaining trades. In the pilot trade, we're okay. We're going to produce as fast as we can. Right now, I don't have any undue concerns about our being able to hold the line on our current production. We've improved a lot of our processes, which allows us to produce folks faster, and have had great success certainly in the trades. Our aircraft technicians used to take three to four years after coming off the street before being able to fix airplanes and sign for the work they did. We got that down to two and a half years, which is a tremendous improvement. We did this through technology. The use of the virtual world has helped us move things along a lot faster. We're very satisfied with where that's going. We're going to keep looking for those increased efficiencies, but by and large, we're doing okay.

The biggest issue we will have is a bit of a demographic issue, which a lot of the services and departments face. We have a fairly young demographic. Over 40% of the air force has less than nine years of service, and we have a fairly large proportion of folks in the older demographic, let's say with 20-plus years of service. We have a bit of a shortage of folks in that 12 to 20 years of service bracket. That was due to major adjustments that were done in the mid-1990s as part of that decade's worth of economic adjustments that we had to make. We're feeling that demographic pressure coming through right now. Part of our challenge is that we're training a lot of new, keen, and smart folks, but the mentorship piece is a bit of a challenge, as we have to keep distributing the experience that we have in that middle crew to those eager young folks who need to be mentored and developed so they become solid air force members.

You know what? We've deployed on operations, as they say, across the world with those young folks, and they've done tremendously well. The training we provide them has certainly served them. Again, we call them our pipeliner veterans, because they've been out there doing the business and have done it extremely well.

● (1000)

Hon. Laurie Hawn: Thank you for that.

Another challenge is going to be operating in the north, specifically search and rescue in the north. There has been a lot of emphasis on that with a couple of aircraft accidents and so on. Can you talk about the challenge and how you envision doing that?

People want us to base aircraft all across the north. Of course, there are some obvious practical limitations to that. Could you talk about that a little bit? And just with respect to the stressed trades, where do you sit specifically with SAR techs, which I know is a bit of a challenge at the moment?

LGen André Deschamps: Thank you for that question.

I'll answer the last question first. The SAR trade is actually healthy. It's slightly over establishment, in fact. We have no problem recruiting our SAR techs. We're slightly ahead in numbers, which is good, because it is a trade that's prone to injury, as I think we're well aware. But the trade itself is healthy, which is good news.

SAR, writ large, is clearly an important mandate that we have on behalf of Canada to provide the ability to respond across our vastness both in land and ocean. We are the biggest SAR region in the world because of our ocean approaches on three fronts, plus our land mass. We have 18-million square kilometres to be able to react inside of. Over the last 64 years, we've been mandated to do SAR, since just after World War II. Our system of search and rescue has evolved. We've learned as we've done it, as we've expanded the mandate and our capabilities. We've become a lot better at doing SAR over those decades.

I think what we find right now is a system that's in balance. We have highly skilled individuals with good platforms—although we definitely want to refresh those platforms so they're viable into the decades ahead. But the system works: It's a good system, and world class. I have no doubt I can put up our SAR crews against anybody in the world and they will do extremely well.

So the question becomes our responsiveness. I believe we have the agility right now to respond in a way that meets the general demand. Clearly the Arctic is a challenging area. As we saw recently, only a few weeks ago we had to do probably one of the toughest SAR missions I've ever seen and, of course, it cost us the loss of one of our SAR technicians, but we saved those who were at risk. The Arctic is an unforgiving place. Therefore, we are looking at our training and equipment to make sure that when we're called upon to operate in the Arctic, we will do it to the best of our ability and so that we can ensure success when we go out the door.

All in all, I think we are in balance. We are where we need to be, writ large, to be able to deliver SAR across the full spectrum of the demands in Canada, and in a way that is both resource-sensible and, in the end, that's able to actually save lives.

The Chair: Mr. Alexander, you're batting cleanup on the second round.

Mr. Chris Alexander (Ajax—Pickering, CPC): Thank you very much, Chair.

And thank you, General.

You mentioned that the workforce is not ready yet and you described its components: the equipment, people, training, doctrine. How those components interact sometimes evolves very quickly. As you mentioned, the Kandahar environment was a petri dish from which innovation can arise. We certainly saw innovation in the Libyan theatre as well. You and I both had the pleasure of welcoming some pilots home, who described what they had learned in the air and on the ground about dynamic targeting and so forth.

I think all of us are very much aware that success in a combat mission in the air involves not just having the right aircraft and pilots but also working against and suppressing air defences. These are capabilities that we've always expected to be provided jointly among allies within NATO. Could you talk a little bit about that challenge going forward and what we're doing to continue to be ready to deal with it when we put our men and women in aircraft over a territory where the opposing forces have some of these capabilities?

● (1005)

LGen André Deschamps: Thank you for the question.

It goes back to readiness. Why have we been able to achieve what we have this year as far as the speed of response and the quality of response are concerned? It's because we've maintained a significant investment in the training part of maintaining fully combat-capable forces. That's really the crux of how much investment needs to be made.

To maintain those robust skills across a reasonably benign spectrum to a very complex and dangerous spectrum requires a fair amount of investment in time and energy to expose our folks to the environments in the right kind of training setting—safe but demanding—and to build that confidence and skill set so they can go out the door on 12 or 24 hours' notice, do the business, and do it successfully. For us, it's really about finding the balance in how we do that.

We have great domestic exercises that we participate in. Maple Flag is the air force flagship of high readiness training, in which we integrate individual skill sets into collective training that is very demanding, where we play out those complex and very demanding scenarios where there are threats, both in the air and on the ground. Therefore, strategies to overcome them need to be worked out, and then you also get a chance to exploit your technology and see how it works under demanding circumstances.

But we've also expanded our operations with our allies in big coalition exercises and work very closely with the army in Wainwright at their big training centre. We have a rapprochement between us right now, where several times a year we have big exercises when we deliver the same sorts of air effects that we did in Afghanistan with the army. That is one of the lessons we've learned, that we need to make sure we maintain those skills with our joint partners so we don't have to relearn them on operations in a live setting. Also, of course, it's great training for both the army and us.

We're also working with the navy to expand again and recreate a strong skill set with it as we go out to RIMPAC, which is a massive exercise out in the western Pacific that exercises all the elements of sea and air power—and some land, in fact—in a joint setting.

We are investing in those kinds of great training opportunities to make sure our people are at the leading edge of skills and are also aware of the technology they will face out there.

Mr. Chris Alexander: My final question is about drones, for lack of a better term, and in particular the joint unmanned aerial vehicle surveillance target acquisition project that is being pursued within the Canadian armed forces. What is the potential, as you see it, for drones, unpiloted aerial vehicles, to contribute to readiness on the part of the RCAF in the Arctic and in the NORAD mission, but also in an expeditionary context?

LGen André Deschamps: Thank you for that question.

On unmanned aerial vehicles or drones, we've seen over the last few years how critical they can be in any battlefield setting. They have fulfilled the initial mandate given to them to do the dangerous, dirty, and dull jobs where you don't have to put a person at risk. They've done that well.

I think we've seen the technology come forward very quickly. It's exploding in many sectors. We've seen micro drones through to the big drones. There's an absolute plethora of airplanes out there right now and they cover a wide spectrum of different kinds of capabilities. So this is certainly a tool in the tool box; it's a capability that we need to have, because it does provide us with the ability to have persistent surveillance over either land, or, as we see right now, the maritime domain, where we're experimenting with small tactical drones to extend the view of ships.

I think they play an important role in having capabilities to collect information and provide the commanders on the ground with the best information possible, either to avoid risks, whether it's IEDs or other threats, or to take action as part of that intelligence-gathering process. They're very valuable. As we move toward our procurement of long-term capability in the CF, I think you can expect to spend a lot of time making sure that it's the right capability for both domestic operations and international offshore operations.

● (1010)

The Chair: Thank you.

Before we start the third round, I have a couple of questions, General.

You mentioned Wainwright. The committee had a chance to visit Wainwright and witness the interoperability between the Canadian army and the Royal Canadian Air Force. Some of us were in both the Chinooks and the Sea Kings. When I was out in Wainwright earlier this summer, I was up in a Griffon. Can you talk about how the addition of the new Chinooks is going to enhance the overall readiness of the Canadian armed forces?

LGen André Deschamps: The Chinooks are of course a tremendous platform. As we saw in Afghanistan, the arrival of that airplane opened up options that we didn't have before, as far as mobility and a far more secure way of travel are concerned. There is also their tactical effectiveness. You can surprise folks because you can arrive in their backyard at a moment's notice. It has great tactical advantages that are significant in any sort of conflict area, whether in full spectrum operations or peacekeeping and peacemaking.

On the humanitarian side, it carries a huge amount of stores that can either be hoisted or landed. It provides the versatility we lack. It can certainly play a big role in any of our domestic security or humanitarian emergencies. It can respond almost instantly to any of our needs. Because of its range it can cover great expanses by itself, without a lot of support. It is capable of operating in the Arctic. It's like the C-17; it's a game-changer in the tool set we have available to plan around and execute missions at home and abroad. It will be tremendous.

The Chair: You were talking about stressed trades and pilot training being big concerns, and about trying to address that shortfall. It's my understanding that to become a helicopter pilot, you require extra hours in the air on fixed wing aircraft before you can ever move to helicopters, plus you require advanced education versus the other pilots. I believe there's a high attrition rate, because helicopter pilots are in such demand in the private sector that a lot of our air force pilots who fly helicopters are getting poached away by private trades.

Is there any way to adapt some of the criteria so that we can have an expedited process to bring in helicopter pilots in a more robust way than we're doing right now?

LGen André Deschamps: As to way our training system works, there is a basic selection that occurs, where all pilot candidates have to go through a filter to ensure they can learn at the speed required by the air force so they can go on to the other phases of pilot training. Everybody goes through that phase. Then there's a streamed process where they go to propeller airplanes—turboprops—and are trained in the most advanced flying and started on the road to competency. Then they are streamed off to either multi-engine aircraft, helicopters, or fighters. So there's a streaming effect that occurs shortly after that primary flight selection, and then they specialize in flying helicopters.

We don't see a bigger drain on the helicopter pilots than on the fixed-wing pilots, and their becoming commercial pilots. We've always had attrition based on the commercial draw, because we provide very highly-skilled folks. They have to give service to Canada first. They owe us several years of service before they can be released. Clearly , we want to retain those folks, because at that point they have a lot of experience that we need to leverage.

We're always looking at our system to see if we can optimize it. Our training modalities right now have proven to be very good and of high quality. As we get more demand to produce more pilots, we're looking at creating different streams to accelerate some of that training, but we're not there yet. We're satisfied that what we have right now is top-notch, but it depends on production. We may have to look at other models in the future to see if we can accelerate some production.

The Chair: It's my understanding that because we didn't have a large enough pool of helicopter pilots in theatre in Afghanistan, the pilots were going back into theatre every third rotation. They never had a chance to have a real rest, because as soon as they got back, they were in training to prepare to go back in the next rotation. Anything we can do to expedite the process would be advantageous.

When we had the Secretary of State of the Ministry of Defence from Norway here, he talked about the requirement for F-35s. We talk about fifth-generation fighters, and it's my understanding that the only fifth-generation fighter on the market to consider is the F-35. Everybody talks about the F-18, but it's still a 4.5.

He raised concerns about the capabilities of Russia, and their investment in their military in the upcoming years. With the complexities of Arctic sovereignty in the past, particularly with Russia, is that one of the reasons we're going to an F-35, that is, from the standpoint of surveillance in the north?

● (1015)

LGen André Deschamps: Thank you for that question, Mr. Chair.

Without trying to target specific countries, I think that every country out there, any modern and sophisticated country, is still looking at manned fighters as a deliberate tool of national policy. Therefore, they're making investments in significant quantities to develop capabilities. It's certainly to our advantage to maintain our own autonomy to be able to understand and deal with that technology. The challenge of technology is that as it gets developed, it tends to proliferate. It tends to go where you didn't intend it to go, as we've seen in the past where some of these technologies produced by certain nations have found their way elsewhere, which challenge us as we go around the world trying to do our business.

We certainly need to have the ability to operate in the changing technology space that's being created through national initiatives, but also we need to have the flexibility in the future. We just don't know what the future holds, as we've discovered several times over the last several years as far as predictability is concerned. So unpredictability is probably in the nature of what we're going to face. So flexibility and agility are what we need in our force. We may not be big but we need to be very agile. And to have deterrence, you must have credible tools. The numbers matter at some point, but credibility of what the capability can do is what matters when you get into these scenarios where tensions rise, or national sovereignty issues become serious.

The Chair: Thank you.

We're going to go to the third and final round of five minutes each, starting with Mr. Kellway.

Mr. Matthew Kellway: Thank you, Mr. Chair.

On this point about unpredictability and not knowing what the future holds, most people either figure out what their tolerance for risk is or they try to hedge that risk somehow. You've certainly described the defence of Canadian territories as a no-fail mission, as have previous chiefs who have been before us.

I want to come back to the following question. What do you do in this context where the F-35 development program and the whole issue of the cost of the F–35s has been complicated by the highly politicized and intractable budgetary process in the United States, which is threatening to derail the program—or at least parts of it—or to lower the numbers, etc? So in terms of your point about flexibility, agility, and dealing with risk, is it fair to say that, should this three- to five-year delay materialize, you choice would either be to further rehab the CF–18s or, if time allows, move your block purchase of the F–35s further up in the production line?

LGen André Deschamps: If I understood your question on the issue of delays, I wouldn't agree with your portrayal of three to five years. I don't think that's going to be the case. Right now, one year is the current readjustment.

Mr. Matthew Kellway: If I could interrupt, general, this is my concern. As chief of the air staff, you are far more informed than I am of all the news about this F–35 program. Are you not taking into account the plethora of assessments suggesting this could be delayed by a significant period of time, and maybe not even materialize? Is that something you take into account, or do you just hope that 2016…?

This seems to me to have everything to do with readiness. How does the air force deal with a program where all the suggestions are that there will be a very significant delay in the timelines in which we're going to receive these planes?

● (1020)

LGen André Deschamps: Thank you for that question.

The issue is do I pay attention, and the answer is yes.

Mr. Matthew Kellway: No, that's not it, sir. The question is how do you deal with that? How do you plan for that?

LGen André Deschamps: The issue right now is confidence, whether we have confidence that the F-35 program will deliver. That's pretty fundamental. The U.S. Air Force has a giant investment in that program. It is central to their future and they remain absolutely confident that it will deliver the goods. The U.S. process will take its course. With respect to the program's capacity to deliver on their expectations, they are fully confident. We've had discussions. Everybody's looking at the same things. Every nation in this program is also watching this closely. This is pretty fundamental to our capabilities in the future. If there's a problem, we need to be aware of it and we need to find solutions.

We remain confident that we will be able to transition our fleets within a viable timeframe for our current fleet. Is there a re-investment opportunity for the F-18? I think we've pretty much done what we can with that airplane. At some point after 2020, we will start facing some structural issues that will be difficult to reconcile and we will have to make some decisions. Based on what we see right now, we are confident that we can make this transition in a timeframe that gives us the flexibility to bring the F-35 into operation while putting the F-18s into retirement as we get into the 2020s.

Mr. Matthew Kellway: So there's no contingency plan, I hear you saying.

Let me get to the numbers. Originally, the air force had recommended 80 F-35s. My colleague, Mr. McKay, suggested that when General Natynczyk was here, he had been absolutely firm that 65 was a minimum. You have recently been in the media saying that if we don't have 65, we will have to review our ability to provide concurrent activity.

Could you give me some insight into those considerations? What are the trade-offs? How does one do a review of this situation?

LGen André Deschamps: When we started the program, and again in 2003 or so, when they were asking what the rough numbers would be if Canada were interested, they went with what was in our fleet establishment at the time, which was 80 F-18s. That was a benchmark to start the planning.

Once we got into the analysis phase and started looking at how the airplane operates, how it's sustained, how it generates sorties, we quickly found out that we could do the same mission sets with fewer platforms. That's where the number 65 came from, through that analysis, and that's what government supported in the CFDS and the procurement process. That's where we are. In the end, government will make the decision they need to make and we will employ the platforms we are given to maximum efficiency.

The Chair: Sorry, your time has expired.

Mr. Easter, you have the floor.

Hon. Wayne Easter (Malpeque, Lib.): Thank you, Mr. Chair.

This is not my regular committee, but one thing I did want to say, General, having participated in the air force side of the parliamentary program, is how good that program is. It's out of Trenton and elsewhere. I did the program, and I think it's something that needs to be continued for parliamentarians. I assume a lot of people on the defence committee would have participated. I was involved somewhat with search and rescue, which is important on the east coast. There's nothing like that having that participation to give people a reasonable idea of some of the things you folks face.

Search and rescue is a critical area in Atlantic Canada, where I come from. There is some concern about the current status of the Cormorant helicopter. What is the situation with search and rescue in the future? Will the Cormorant helicopter be the mainstay? Could you look out into the future and tell us what to expect or what is needed in that area.

● (1025)

LGen André Deschamps: Good question.

I'll just go back to your first point on the state of our current fleets. The Cormorants are improving. Last year, there was an initiative by government to procure a fairly substantial amount of spares from the U.S., as they had shut down one of their fleets, the EH-101-based platform, which had great commonality with the Cormorants. So we accrued a fair amount of spares. We're starting to see the effect of those new spares in the system. As they get introduced, it has helped bring up the availability of aircraft. It hasn't come up dramatically yet. Last year when we talked, I believe we had about 7 of 14 platforms available for missions. Right now we're at 18. If I look at today's, we expect that level to come up much higher as those spares are felt through the system. I'm reasonably optimistic that we will see the Cormorant's availability start coming up beyond what it's been for the last couple of years, given some of the technical issues we've had with the platform. It's a very good platform. It's world-leading. We've had some technical issues to be resolved and some maintenance challenges, and we're working hard on those with our partners to bring that fleet up to where it should be from a performance perspective. When it's out doing the job, it's doing fantastic work for us.

As for the rest of our fleet, the fixed-wing fleet, as we replace our old legacy Hercs with the Js, we're husbanding the remaining legacy Hercs and putting the newer ones into the SAR business. So we're seeing certainly an improvement, because we're putting the younger airframes in that role right now. So I expect to see that maintenance bill start to be reduced a bit as we retire the really old ones. Our Buffalo fleets are doing okay. Clearly we're still looking at the sparing and maintenance aspects of the Buffalo to keep it viable until such time as we get to a replacement fleet through fixed-wing search and rescue. But they're maintaining their capabilities, and they're both doing missions. Out of six airplanes, typically three to four are available on any given day for mission sets. So we're doing okay. We're hanging in there.

Hon. Wayne Easter: The equipment is one side of search and rescue, but on the recruitment and staffing side, one thing that people in the fishing community have mentioned to me is that there sometimes are concerns about recruitment and the desire of people who have entered the armed forces to be involved in search and rescue.

LGen André Deschamps: Thank you for that question.

I mentioned earlier that our SAR trade is healthy. As far as the numbers are concerned, there's no lack of applicants, and we're actually producing them in sufficient numbers right now to populate our squadrons robustly. I'm very satisfied with that.

We had some challenges last year with our flight engineers onboard the Cormorants, by and large due to that flying limitation we have on Cormorants, or the number of hours we can fly. That caused us to have some challenges in training enough flight engineers, given that we had some attrition of people leaving to go to commercial businesses that fly helicopters. So we've had a bit of a draw, but we've managed to stabilize that. We're okay now. We've revised some of our training so we can generate those FEEs on time so that we can populate the squadron.

The health of the squadrons is coming back up. We had some challenges last year, but I think we're seeing that trend come back up to where they will be at their manning levels, which will take the pressure off some of our folks who have been working pretty hard for the last couple of years.

The Chair: Thank you.

Hon. Wayne Easter: I have one further question.

The Chair: The time has expired, unfortunately. You're well over time now.

● (1030)

Hon. Wayne Easter: Okay, good. Thanks.

The Chair: Mr. Hawn, you get the last question.

Hon. Laurie Hawn: Thank you, Mr. Chair.

General, I'd like to take us back to a little over 30 years ago when we were acquiring the F-18. Is it fair to say that it was a development program at the time, that there were in fact far fewer F-18s flying when we made the decision to buy that airplane than there were F-35s when we made the decision to buy it?

LGen André Deschamps: Thank you for that question.

I was just a little whippersnapper back then, Mr. Hawn. I remember being part of the legacy fleet, looking at the F-18 with a mixture of jealousy, I guess, and a bit of envy. Of course, the F-18, like any new capability, had its share of introductory problems. We had fatigue cracks that came out and that had to be dealt with. The fact is that the partnership between Canadian industry and the company and the U.S. navy solved that.

The point is that any new technology will have its challenges. The fact is that if it's the right product, in the end you'll get the service you need from it. I think this is where we're confident that the F-35 will be much like the F-18's introduction. It will have some initial teething problems, but I have no doubt that this platform will deliver on its base expectations.

Hon. Laurie Hawn: The purpose of the test program the F-35 is going through now is specifically to find faults, so that they can be corrected before it goes into production. Here I'd mention things like communications. You may not recall this, but the F-18 had some communications challenges, specifically in the north. The F-18 had cold weather challenges. The F-18 had fatigue cracking.

Is it fair to say that the purpose of test programs is precisely to find those things? They shouldn't be taken to mean that the airplane will never do something because it failed it in the test program, but the purpose of the test program is to find those things so they can be fixed and the airplane, like the F-18, will perform brilliantly for decades.

LGen André Deschamps: Exactly. That's what test programs are supposed to do, to pressurize the system to the maximum to see where the failure points could be. They beat those things to a pulp to find out where the failure points will be 8,000 hours from now. So that's the whole point.

The F-35 is a little different because they are doing low-rate production as they're doing the very demanding testing. Therefore, as they learn from the testing, they quickly readjust the production to answer any of the concerns identified in the testing. It's a novel approach that maybe wasn't done when we did some of the earlier generation aircraft, but clearly they are very agile and are solving those problems as they move along.

Hon. Laurie Hawn: Any new program, especially a high-tech program, which the F-18 was, and the F-35 certainly is, entails risk management. That's a huge part of the program.

Would you say that we're better off being part of a nine-nation consortium, if you will, to manage and mitigate that risk than we were as a single nation flying the airplane? Along with that, I don't think it's fair to say there are no contingencies. The military always has contingencies developed in-house for whatever; they're just not necessarily bandied about, because then they become gospel and that becomes unproductive. But is it fair to say that risk management and contingency planning are always a part of a program like this?

LGen André Deschamps: Again, the military, being in the nature of who we are, will always have notions for how to deal with situations that unfold. We always retain our own view of agility, how we can maintain our readiness. Ultimately, we're going to keep focused on how to maintain sufficient readiness throughout this transition period to allow the CF—and certainly the RCAF—to be able to deliver on what the government needs from it over the next decade.

Again, the F-35 program, as you pointed out, is going through a phase of development and low-rate production and will have its challenges. The fact that they're catching them early is great, which gives us confidence that we won't have to sort these out once the airplanes are on the line, as we did with the F-18s. So I'm very confident that we will resolve these issues.

The issue is looking for that time when we put in our order for the airplanes. So the right time for Canada is what we're focused on right now with our partners.

Hon. Laurie Hawn: I have a little more focused question on pilot training, and specifically the F-35.

Where are we right now with planning for where we're going to train the pilots? Is there a potential for Cold Lake, for example, to be a site for more international F-35 training? Just where do we sit on that right now?

LGen André Deschamps: Again, as I pointed out earlier, right now our initial training will be done in the U.S., with our partners, as part of the original construct for the F-35. Clearly, as we develop some in-depth knowledge of this program and launch into the procurement aspect of it, we'll be looking at how we do the training in the long term. Obviously, my intention will be to repatriate our training to Canada at some logical point in time, when we have the knowledge and the infrastructure to do so.

As for Cold Lake, Canada has options. We have a lot of space and great ranges and opportunities for our allies to come to train with us. We have made it clear to our allies on many occasions that we certainly welcome any sort of initiative to expand training in Canada.

● (1035)

The Chair: Thank you very much.

Thank you, General, for taking time out of your busy schedule to join us for our study of the readiness of the Canadian Forces. Of course, we're very interested in the F-35s, as well as all the other assets that have been acquired by the Royal Canadian Air Force over the last number of years.

We again want to congratulate you, and all the men and women who are in the Royal Canadian Air Force, for serving Canada and for the recent success in Libya. We know there are always other things on the horizon that we're monitoring closely, and that there's always work you have to do in the defence of Canada and in assisting Canadians through search and rescue. Thank you for your commitment and your time here today.

With that, I'll entertain a motion to adjourn.

Hon. Laurie Hawn: So moved.

The Chair: We're out of here.

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