

General Evraire, General Macnamara, Distinguished Colleagues and Guests, Ladies and Gentlemen.

J'aimerais commencer mon discours en disant merci au général Evraire et tous les membres de la Conférence des associations de la défense. C'est ... encore une fois ... un grand plaisir ... en tant que chef d'état-major de la force aérienne ... d'être ici avec vous ... et d'avoir la possibilité de vous adresser la parole. Merci, Rick et Don.

The theme of this year's conference ... "Defending Canada's Interests in the 21st Century" ... is obviously topical ... and, over the course of the past two days, we've heard some excellent presentations and some thoughtful insights. I commend those who have previously presented for their excellent efforts to provide valuable insights into this question.

For my part, it won't surprise you, I hope ... that I intend to focus on the role airpower might play in Canada's future security and defence. Nor, I expect will it surprise you that my conclusion will be ... and here I perhaps run some risks in giving away the conclusion before even beginning my speech ... but my conclusion will be that airpower is going to play a very significant role in defending this nation in the decades to come ... as indeed it has done in the past.

Now, lest there be some in the audience who conclude from the comments I intend to deliver in the next few minutes that I think airpower is all we need ... that airpower can do it all and we don't need maritime or land forces ... let me assure you, this is not my position. Those who know me know I'm also a strong proponent of modern and flexible land and maritime forces as well ... as long as they're in addition to, not instead of, a modern and flexible air force.

My intention this morning is to start then by discussing airpower in general, talk briefly about some of our ongoing missions and finish by discussing air force plans for the future.

As most in this audience will know, this year marks the 100th anniversary of powered flight, the first flight by the Wright Brothers having taken place at Kitty Hawk, North Carolina, on the 17th of December 1903. If one looks back over the intervening century ... aviation has transformed from flight in flimsy machines of cloth, wire and wood ... to flight in stealthy aircraft like the F-22, capable of super cruise and possessing tremendous range. The progress has truly been astonishing.

I'm sure that aerial pioneers like our own J.A.D. McCurdy, the individual who flew the British Empire's first flight in the Silver Dart on a cold, blustery February day at Baddeck, Nova Scotia, some 94 years ago ... could never have imagined such things as Unmanned Aerial Vehicles such as those that patrolled the skies over Afghanistan last year ... or aircraft like the B-2, capable of flying 41 hour missions half way around the world. Airpower's progress has been extraordinary and exponential.

From the early years of experimenting with flying in the United States, Canada, Europe and elsewhere, it didn't take long for a few farsighted military officers to see the extraordinary advantage that using aircraft for military purposes would provide. It rather pains me to tell this

group ... given its make-up ... that most of these farsighted, early proponents of airpower were, of course, army officers. But, that's how it was, I'm afraid. So all you army guys who have bad-mouthed air force pilots for these many years ... you have only your predecessors to blame!

One of the most astute of the early proponents of airpower was in fact an Italian army officer, General Giulio Douhet ... known to many as the "father of airpower". An outspoken individual, Douhet wrote as early as 1909 that "the sky, too, is become another battlefield ... no less important than the battlefields on land and at sea". And he went on to say that "the army and the navy must recognize ... in the air force ... the birth of a third brother – younger, but nonetheless important in the great military family". (I was going to say younger and handsomer, but that wasn't actually what Douhet said ... even if he may have meant it).

While prescient, I must tell you that Douhet's thoughts didn't sit well with his army confreres of the day ... and, indeed, he was even court-martialed and spent a year in prison for some of the 'offensive' things he wrote. Such is the price of sticking to one's convictions, I suppose.

Douhet's most widely read book on warfare was "Command of the Air" ... and, in it, he outlined his thoughts on not only on airpower and its advantages ... but on modern warfare in general. And while some of Douhet's observations have been proven wrong ... for example, he totally discounted the feasibility of an effective air defense ... nevertheless his central tenets remain very relevant, even today.

Douhet's principal tenets of airpower break down into three key points ... and here I credit a paper written by USAF Major Gregory Winn ... points that can be abbreviated as follows:

- (1) in order to assure victory in war, it is necessary to conquer and command the air (that is, to gain air superiority);
- (2) the advantage of speed and elevation in the three-dimensional arena of air warfare have made it impossible to take defensive measures against an offensive air strategy; and
- (3) airpower should be used against the enemy's 'vital points' or centre of gravity.

Looking through the lens from 2003, I think most fair-minded observers ... and I hope that would include all of us here ... most fair-minded observers would agree he actually got it pretty much right, although his thinking was clearly not only ahead of his time ... but also ahead of the technology of the day and for some years to come.

Alors, en conclusion ... en ce qui concerne le rôle de la puissance aérienne pour la défense des intérêts du Canada dans le future ... je conclus qu'il sera, en effet, très important.

Dans toutes nos guerres récentes... la guerre du Golfe, le Kosovo et l'Afghanistan par exemple... il a été clairement démontré que le contrôle de l'espace aérienne est fondamental. Nous l'avons exercé ... contrairement à nos adversaires. Et, en conséquence, leurs forces au sol ont été entièrement vulnérables aux attaques et à la destruction.

Modern conflict's also shown it's impossible to take defensive measures against an offensive air strategy ... assuming one can gain air superiority, of course. Technology's making this so ... through precision-guided munitions that are usable in all weather, day or night; through multi-spectral imaging capable of finding even hidden targets on the ground (although, to be fair, there's much progress to be made in this dimension, as we found in Kosovo); and through new technologies that increase stealth, range, firepower and persistence.

While I've largely discussed airpower's role in distinct air operations, modern warfare has also demonstrated the fundamental importance of airpower in supporting surface operations, either on land or at sea. Whether we're talking about air mobility forces required to deploy, resupply or re-deploy forces; patrol aircraft used to feed important information to naval task force commanders; or helicopters used to support land or maritime operations; in all of these areas, airpower has played ... and will continue to play ... a fundamental role.

So, my conclusion would be ... in answer to the question of 'airpower's role in defending Canada's interests in the 21st century' ... I believe the performance of our air force and others in modern conflict demonstrates clearly that airpower will indeed continue to play a very significant role in military operations ... and, in the case of combat operations, I would contend ... in most cases ... even the dominant role.

Let me now move from the doctrinal to the practical. What has Canada's Air Force been up to and where do we think we're going over the next several years.

Comme l'Armée de terre et la Marine ... la Force aérienne n'a jamais été aussi occupée sur le plan opérationnel que aujourd'hui.

À l'échelle nationale, la Force aérienne continue de jouer un rôle essentiel à la défense du Canada, principalement grâce à notre participation au NORAD... dont le Gén Eberhard a parlé hier dans son allocution... mais aussi, en surveillant les approches de l'espace aérien du territoire et des zones maritimes du Canada.

As well, as the Chief noted in his speech yesterday, the Air Force is also making a significant contribution to the campaign against terrorism as part of Op APOLLO. We currently have over 350 personnel deployed in the Gulf region in direct support of coalition efforts ... as part of the LRP detachment of two CP 140 Auroras ... the Tactical Airlift element of three CC-130 Hercules ... two Sea King detachments on board our ships ... and the support element keeping things going in theatre.

Our Op APOLLO commitment includes Reservists as well as Regular Air Force personnel. In this regard, when we deployed members of 14 Airfield Engineering Support (AES) Squadron from Bridgewater, N.S. into theatre, it marked the first time an Air Force reserve unit has been posted overseas since the Second World War ... although, of course, we've frequently had individual Reservists involved in operations abroad.

With the Government's recent decision to participate in ISAF, as discussed yesterday, Canada has entered into a new commitment to the Campaign Against Terrorism. While clearly this

operation will be land-centric, our air force planners are also busy looking at how the Air Force can best contribute to the operation. Since this will most likely be by assisting in the deployment and resupply of our forces on the ground, part of our current effort is focused on doing everything we can to ensure the maximum availability of airlift resources (particularly the C-130).

As has been said by the CDS and others ... the performance of our aircraft and personnel as part of Op APOLLO and Op NOBLE EAGLE demonstrate the air force's commitment to the campaign and our ability to participate in joint and combined operations. Canadians can be very proud of their efforts.

In closing this discussion of current ops, I would be remiss if I did not mention the continued deployment of eight CH-146 Griffon helicopters in Bosnia-Herzegovina ... as well as the ever-present and highly challenging Search and Rescue role performed by SAR squadrons here in Canada. One of the most recent of these was, you may recall, a highly dramatic rescue of 20 sailors from a Spanish trawler off the east coast using one of our new CH-149 Cormorant aircraft, a flight covering some 700 km and lasting more than five hours.

Let me move now to discussing the future. While most public discussions on transformation have centred on the Army, it's fair to say the Air Force has also been undergoing significant transformation for some years now. This is going to continue and indeed intensify.

The Air Force of the future will be one based on excellence and professionalism ... equipped, trained and ready to prevail in combat ... and with the reach and power to effectively contribute to national and international security.

We know we won't be big. So, our goal is to become the best small air force in the world. Creating such an air force, within the resources likely to be available will require innovative approaches, "out of the box" thinking and some well-managed risk. But I am convinced it is doable.

The vehicle we're using to map-out our transition to the future is the Aerospace Capability Framework, or ACF. The ACF ... which I hope will be ready for publication later this spring ... will provide Commanders and staff with strategic guidance to focus their efforts on those capabilities and initiatives we require to achieve overall goals. By necessity, the ACF will be a living document ... that can be adjusted as required to meet new or changing threats while maintaining the overall thrust of the air force program.

The end result will be an aerospace force with capabilities in four key areas: control of the air; precision engagement; information exploitation; and rapid force mobility.

To ensure we can progress from where we are today to where we want to be, we've recently undertaken a major review of air force capabilities ... as part of what we've nicknamed Project Transform. Transform is intended to look at where we are today versus where the ACF tells us we need to go ... and then propose detailed transition plans for each of our warfare communities that will get us there. Specifically, Project Transform will establish, as a baseline, the following:

A fleet of 80 modernized CF-18s ... aircraft with upgraded avionics, secure anti-jam communications and a modern data link. Our Hornets will be equipped with the latest Precision Guided Munitions (PGMs) and Air-to-Air Missiles capable of being employed in all weather conditions and against a wide variety of targets.

Not only will the CF-18 be capable of making a valuable contribution to coalition operations, they will provide increased effectiveness here in Canada. And their utility and deployability will be significantly increased with the introduction into service in the near future of two CC-150 Airbus aircraft modified to serve in the Air-to-Air refueling role (while still able to carry out their transport role as well).

The backbone of our manned Intelligence, Surveillance and Reconnaissance or ISR capability will rest in our 16 modernized CP-140 Auroras. In this regard, the ongoing Incremental Modernization Program will provide upgraded sensors and other capabilities that will transform the Aurora from an excellent maritime patrol aircraft to an outstanding, multi-mission ISR asset.

The air force will also make a substantial contribution to the Army's 'eyes and ears' by equipping some of our Griffon helicopters with an Electro-optical, Reconnaissance, Surveillance and Target Acquisition system ... ERSTA. 75 CH-146s will be used for army support and an additional 10 will be retained at our fighter wings and Goose Bay to provide local search and rescue and utility transport.

In the near-term, support for the Navy will continue to be centred on 29 CH124 Sea King helicopters. And here, let me digress for a moment to bring you up to speed on the Sea King accident of yesterday. While the investigation has just started ... and the Iroquois is still enroute for Halifax ... I can provide the following initial facts.

The aircraft involved ... 124401 ... was conducting a routine training mission while the ship was underway in the Atlantic. Shortly after take-off, the aircraft suffered an unspecified engine malfunction, requiring the crew to carry out an immediate landing. During the landing ... at heavy weight and on a single engine ... the right main sponson collapsed causing the aircraft to tip over. The aircraft suffered significant damage and the ship, too, was damaged to some extent by the rotors ... before the engines were shut down. As the Chief mentioned, the co-pilot suffered a minor knee injury and one of the personnel on deck suffered minor cuts to his hand.

The aircraft is equipped with upgraded GE T-58-100 engines, one of which had 58 hrs operation since overhaul while the other had 32 hours since overhaul. Since the engines undergo overhauls every 1000 hours, as you can see, these were new, low-time engines.

The Flight Safety Investigation team will begin their efforts today and we're hopeful we'll have a good idea of what the cause factor is very soon.

Speaking generally about the Sea King, despite this recent incident, the aircraft ... which as you know has been upgraded with new engines and new Main Gear Boxes ... has been performing well. Indeed, availability rates have been the best they have been for many years and the aircraft and crews have been doing an excellent job ... in the Gulf and elsewhere. I expect that will

continue.

As for the Sea King replacement, as you know the Minister has been working hard ... as has ADM (Mat) ... to move this project forward. The Letter of Interest has been released and we expect several companies to respond. So, the MHP continues to move forward and I remain confident ... regardless of which aircraft company eventually wins the competition ... the Air Force will receive an aircraft our folks will be happy to fly and maintain ... and the Navy will be happy to have embarked on their ships.

Moving to air mobility, the mainstay of the Air Force's airlift capability will, at least in the near-term, be provided by our five CC150 Airbus aircraft plus our C130 Hercules fleet. As I think most here realize, about 2/3 of the Hercs are getting on in age (like many of us) and we'll need to look at replacing them (or rebuilding them) in the very near future. We're looking at a number of potential solutions here, including access to a strategic airlift capability within the context of a NATO pooling arrangement or through other means. What is clear, as the CDS noted yesterday, is that if we are to have an army that is globally deployable, we will need to have access to capabilities more effective than those provided by our current air mobility fleet.

To date the air force has taken delivery of 12 of 15 CH-149 Cormorant SAR helicopters ... the EH-101. While introduction of the CH-149 has not been without its challenges ... mainly spare parts, personnel, documentation, technical failures etc ... I don't believe these problems are out of the ordinary with new kit. In any event, we're making considerable progress in introducing the Cormorant ... and I'm confident the Cormorant will be an outstanding SAR aircraft for many years ahead.

But, as capable as the Cormorants are, they don't eliminate the requirement for a fixed wing SAR aircraft ... a role performed by Hercules and Buffalos today. We've decided to keep our six CC115 Buffalos in service on the west coast until we determine what we're going to do in the area of fixed wing SAR ... and we're also currently in the early stages of option analysis to find a replacement for the Herc and the Buffalo in this role with a smaller, twin-engine, more cost-effective alternative.

To ensure we've got a better expeditionary capability, we've also undertaken efforts to change how we support Air Force operations at home and abroad. The Air Force Support Capability, when approved and implemented, will see a complete redesign of our current support structure. Under this concept, air force support personnel will be organized into Mission Support Units (MSU) located at our key deployment bases. The MSUs ... comprised of Logistics, Airfield Engineering and C2IS elements ... will be staffed with regular and reserve force personnel while support at other bases ... those not involved with overseas deployments ... will be provided by a mix of military, civilians and contractors.

Comme le CINCNORAD l'a mentionné, le NORAD continue de s'adapter aux nouvelles missions issues du 11 septembre. À cet égard, les CF-18 modernisés demeureront un élément efficace du contrôle de l'espace aérien, et nous sommes activement engagés avec les États-Unis dans la modernisation de nos installations collectives de radar et de commandement et de contrôle.

Our ability to exercise aerospace control over Canadian territory remains an important demonstration of sovereignty. The new security environment has clearly indicated a need for more robust domestic surveillance capabilities and therefore the entire air surveillance network is being looked at.

And finally, Air Force assets will be connected together via the Air Force Command Control and Information System ... or AFCCIS ... which, combined with other Canadian and Allied resources, will do much to enhance our overall awareness of the battle space.

I now want to spend a few moments addressing the concepts of interoperability.

First, as I said to SCONDVA the other day, there's often a tendency to think of interoperability just in terms of equipment. And, while equipment is important, interoperability is of course much more than just that.

First, there's doctrine ... that collection of principles, lessons learned, procedures etc that shape how forces conduct military operations. Canadian air force doctrine is being rewritten to reflect or be compatible with American doctrine wherever possible.

Another important contributor to interoperability comes from our Exchange Program with the US. In addition to the 270 folks stationed with NORAD (not all air force) we have five Liaison Officers and 33 Exchange Officers on duty in the US. These exchanges are two way and help increase our understanding of the way US forces conduct operations and contribute to developing expertise and exchanging information.

We target these positions. 21 of them are in flying positions, in most cases on the latest of US aircraft. For example, we've got two pilots flying C-17s in the United States ... gaining experience in conducting transport operations using aircraft of this category ... experience that will be useful whether or not the Canadian Gov't chooses to acquire such a capability.

We've also taken steps to establish a new position in the USAF's Air Combat Command Transformation Centre. This is a leading edge experimentation center ... and placing an officer there will help provide us with valuable insights into advanced concepts for the command and control of aerospace operations

In terms of equipment, many have lamented the fact that potential allies of the US will simply not be able to keep pace with them. While I acknowledge the challenges, I don't fully agree. While we'll need to be very knowledgeable about what the US is doing and where we absolutely must invest our scarce resources, I think we can stay sufficiently compatible. What makes me say this?

First, the United States forces are very large and even they can't won't be able to replace everything at once. Therefore, they'll need to continue to cater to a wide variety of capabilities even within their own forces ... and in our case this means, we too, should be able to remain somewhat interoperable ... even if everything we have is not ultra-modern

Second, any enemies we're likely to come up against as coalition partners will not likely have the latest in kit either. So, there'll likely be a place for allies such as Canada, Britain, Australia and others to operate on the battlefield with our US partners – although perhaps not on 'day one'.

When I've asked General Jumper, the Chief of Staff of the United States Air Force, what we allies will need if we're to be useful and compatible on the battlefield, he's consistently told me the same thing. We'll need the ability to precisely deliver air-to-ground and air-to-air munitions. We'll need to be able to communicate securely and with some degree of assurance. And we'll need a tactical data-link capability.

The upgraded CF-18 either has or will have all of these capabilities ... and therefore I'm reasonably confident we'll be able to provide a very useful contribution to coalition operations with the CF-18 in the future.

While I've spoken mainly about the fighter force here, in the case of the Aurora, it too will be highly interoperable with the US ... and indeed, many of the systems selected for the Aurora modernization program are or will be in use with the USN.

Let me conclude with some thoughts on pressures and budgets. It's no secret that our forces in general have been under considerable funding and other pressures over the last number of years. In the case of the Air Force, a shortage of key personnel, rising fuel costs and greater than anticipated flying rates are some of the factors that have caused me concern ... and I've spoken about them often, here and elsewhere.

The additional \$800 million baseline adjustment we received in Budget 2003 is a welcome ... and significant ... contribution. And it should do much to alleviate the most significant problems we're facing. While it's my understanding no final decisions on resource allocations have been made, initial information indicates that both National Procurement – the budget that funds spare parts and repair and overhaul, for example – should receive additional funds, as will the capital account.

But, we in the air force also recognize that our problems will not be fully satisfied by new funding. There are many demands for funds and some of our problems – particularly personnel and experience shortfalls – will only be resolved over time. We will need to do our part to continue the transformational changes undertaken over the last decade – changes in the way we do business, how we're structured, how we train and how we're equipped.

Can we do it? I am optimistic we can ... and, in the end, will be able to provide Canadians with what we believe they want: an effective, affordable and sustainable air force ... one capable of defending Canada's interests, domestically and globally, in the 21st century.

The initiatives we have embarked upon will likely result in a bit of a bumpy ride over the next several years – not unlike Doug McCurdy's first flight across that frozen lake in Nova Scotia 94 years ago. But I've no doubt that, at the end of the day, like our pioneering ancestor, we will succeed.

Thank you for your attention.