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**CANADA'S EXPEDITIONARY AIR FORCE**

**By/par**

**Major J.C. Benninger**

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**ABSTRACT**

Canada's Air Force has embarked on the most dramatic reorientation and modernization journey in over 60 years. This is reflected in the recently released Air Force vision, *Strategic Vectors*, which outlines a desire to transform the Air Force to become a more expeditionary force for the 21<sup>st</sup> Century. The idea of expeditionary air forces is not new, although the requirement to conduct expeditionary operations has increased in recent years. The re-emergence of the expeditionary requirement was first recognized in policy in the 1994 White Paper on Defence, and more recently in the 2005 Defence Policy Statement. This paper will conduct an examination of the USAF and other expeditionary models and will demonstrate that Canada's Air Force is an inherently expeditionary force, possessing all the baseline characteristics of such a force, and many of the characteristics of a more robust expeditionary force. Nevertheless, there are capability deficiencies and capacity shortfalls which must be addressed in order to achieve the vision.

## INTRODUCTION

Canada's Air Force is "fragile and in need of transformation."<sup>1</sup> Thus begins the recently released Air Force vision document, *Strategic Vectors*. From the world's fourth largest air force at the end of World War II,<sup>2</sup> to a state of fragility, where its very relevance as a distinct branch of the unified Canadian Forces has come into question,<sup>3</sup> Canada's Air Force has embarked on the most dramatic reorientation and modernization journey in over 60 years.

*Strategic Vectors* outlines a vision for the Air Force to transform "from a primarily static, platform-focused Air Force to an expeditionary, network-enabled, [and] results focused Aerospace Force for the 21<sup>st</sup> Century."<sup>4</sup> But what does this mean? What did Lieutenant-General Ken Pennie, former Chief of the Air Staff, intend when he wrote these words? Pennie makes a commitment to "transforming the Air Force to meet the demands of the future, to respond to a challenging and evolving security environment and fulfill Canada's expectations of its military services."<sup>5</sup> He provides some clues as to what the transformation will involve adding,

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<sup>1</sup>Department of National Defence, A-AG-007-000/AG-004 *Strategic Vectors: The Air Force Transformation Vision* (Ottawa: DND Canada, 2004), 2.

<sup>2</sup> Richard Foot, "Tug of War: The Struggle to Save Canada's Military," *The Ottawa Citizen* (25 September 2004), A1; <http://proquest.umi.com/pqdweb?did=704295091&sid=4&Fmt=3&clientId=1711&RQT=309&VName=POD>; Internet; accessed 18 April 2006.

<sup>3</sup>;Mike Blanchfield, "Rick Hillier takes charge of Forces: 'A Soldier's Soldier'," *National Post* (13 January 2005): A6; <http://proquest.umi.com/pqdweb?did=781060341&sid=2&Fmt=3&clientId=1711&RQT=309&VName=POD>; Internet; accessed 18 April 2006.

<sup>4</sup>Department of National Defence, A-AG-007-000/AG-004 *Strategic Vectors* ..., 2.

<sup>5</sup>*Ibid.*, 2.

“[a]ppropriate investment, the introduction of new capabilities and, potentially, the elimination or refocusing of others will be required.”<sup>6</sup> But what of the use of the term *expeditionary*?

“[T]he idea of expeditionary forces is not new, although it has largely been forgotten.”<sup>7</sup>

From the Boer War, to World Wars I and II, to the Korean Conflict, to modern day peace support and combat operations, Canada’s armed forces have generally deployed overseas to conduct operations and counter aggression.

The application of Canadian military force beyond our territorial limits is by definition expeditionary. Because of our vast commonality of interest with the United States, and since ours is essentially an island continent, any Canadian military force directed against a foreign power will quite literally be “over seas” and hence expeditionary in nature.<sup>8</sup>

The requirement to conduct expeditionary operations has only increased in recent years. The attacks of 11 September 2001 have awakened the western world to the relationship between the threat posed by the effects of failed and failing states in far-off corners of the world, and security at home. The recently released Defence Policy Statement explains its increased emphasis on expeditionary operations, “... it was not anticipated that the Canadian Forces would so often deploy simultaneously and for lengthy periods to so many theatres around the globe.”<sup>9</sup>

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<sup>6</sup>*Ibid.*, 3.

<sup>7</sup>James G. Fergusson, “Over There, From Here: Expeditionary Forces and the Canadian Air Force,” in *Canadian Expeditionary Air Forces: Bison Paper 5*, ed. Allan D. English, 43-54 (Winnipeg: Centre for Defence and Security Studies, 2004), 44.

<sup>8</sup>Richard Gimblett, “The Canadian Way of War: Experience and Principles,” in *Canadian Expeditionary Air Forces: Bison Paper 5*, ed. Allan D. English, 9-20 (Winnipeg: Centre for Defence and Security Studies, 2004), 15.

<sup>9</sup>Department of National Defence, A-JS-005-000/AG-001 *Canada’s International Policy Statement: A Role of Pride and Influence in the World – Defence* (Ottawa: DND Canada, 2005), 8.

As a result, Canada's armed forces will be expanded to address this reality, and focus their expeditionary capabilities on operations in failed and failing states.<sup>10</sup>

In recognition of the increase in overseas operations, militaries have moved to transform their capabilities and structures to more effectively address this modern reality. The United States Air Force (USAF) has recently and dramatically revised its entire organizational approach to fully embrace expeditionary operations under the Expeditionary Air Force (EAF) concept.<sup>11</sup> Although most Air Forces, including Canada's, are incomparable to the USAF in terms of the range of capabilities and the depth of capacity, a closer examination of the USAF and other expeditionary models will reveal that Canada's Air Force possesses all the essential characteristics of an expeditionary force.

This paper will argue that Canada's Air Force is an inherently expeditionary force that is moving to increase its expeditionary capacity. To do so, a brief historical review of the expeditionary nature of Canadian air operations since World War I will be conducted, followed by a discussion of the current military transformation phenomena. The paper will then review the Canadian post-Cold War policy basis for an increased emphasis on expeditionary operations, and examine various contemporary expeditionary models for comparison to the evolving Canadian model. Finally, the increased emphasis on expeditionary operations arising from the 2005 Defence Policy Statement will be discussed. The paper will conclude that Canada's Air Force inherently possesses all of the baseline characteristics of an expeditionary force, and many

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<sup>10</sup>*Ibid.*, 2-3.

<sup>11</sup>The USAF refers to the overall concept as the Expeditionary Air Force (EAF). The EAF is comprised of multiple and separate Aerospace Expeditionary Forces (AEFs). AEFs can be further subdivided into Air Expeditionary Units (AEUs).

of the characteristics of a more robust expeditionary force, and must now focus on strengthening its capability and capacity for expeditionary operations.

With the exception of historical works, academic writings on the subject of expeditionary forces have been rare since the end of the Second World War. It is only with the end of the Cold War that discussion and debate on expeditionary operations has re-emerged, albeit in a contemporary context. According to Canadian Political Scientist James Fergusson, "... one would be hard pressed to find any analytical references to the concept whatsoever over the past many decades."<sup>12</sup>

The United States Marine Corps (USMC), considered by many to be the benchmark expeditionary force, recognizes the importance of responding rapidly to crisis and potential crisis created by a post-Cold war environment of instability and uncertainty.<sup>13</sup> However, it was the emergence of the USAF expeditionary concept in the late 1990s that has raised Canadian interest in contemporary expeditionary air operations, including several academic papers on the subject. The main focus of these papers include expositional writings on the USAF expeditionary concept and its applicability in the Canadian context, historical comparisons and accounts of Canadian expeditionary air operations from World War II to the present day, and an analysis of the meaning of and defining characteristics of expeditionary forces. Other areas of research include discussions and assessments of specific enabling functions for Canadian air expeditionary forces

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<sup>12</sup>James G. Fergusson, "Over There, From Here ...", 44.

<sup>13</sup>United States Marine Corps, PCN 142 000009 00 *Marine Corps Doctrine Publication (MCDP) 3 - Expeditionary Operations* (Washington: Department of the Navy, 1998), 5.



including command and control, sustainment, and maintenance.<sup>14</sup> Notwithstanding these works, and in view of the relatively immature stage of the development of a formal and detailed Canadian air expeditionary concept, there is an understandable absence of in depth discussion and debate on this important issue.

Within the Air Force, further development and refinement of Canada's air expeditionary concept and the critical support framework associated therein will increase in importance for CF and Air Force strategic and operational planners. This activity, combined with the Air Force vision to transform into a more expeditionary force, and the 2005 Defence Policy Statement with its emphasis on expeditionary operations, will undoubtedly lead to renewed political, military and academic debate on Canadian air expeditionary issues.

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<sup>14</sup>Several academic papers focusing on contemporary expeditionary operations are contained in the proceedings of a symposium held at the Canadian Forces College in 2003. These proceedings were published by the University of Manitoba's Centre for Defence and Security Studies in 2004 entitled *Canadian Expeditionary Air Forces: Bison Paper 5*, edited by Allan D. English.

## BACKGROUND

### An Expeditionary Heritage

“... Canada’s reputation for war-making was established by the Canadian Expeditionary Force (CEF), in battles on French and Belgian fields forever associated with Canada – Vimy Ridge, Ypres, Amiens.”<sup>15</sup> The Canadian contribution to World War II essentially took the same form as the Great War, with the majority of soldiers, sailors and airmen deployed to Great Britain to counter the Nazi threat. In addition to the dispatch of Canadian Army, the Royal Canadian Navy (RCN) and the Royal Canadian Air Force (RCAF) were for the first time fully involved.<sup>16</sup> The Navy’s primary contribution was in the protection of the Sea Lines of Communication (SLOC) in what became known as the Battle of the Atlantic. The RCAF hosted and contributed to aircrew training under the British Commonwealth Air Training Plan (BCATP), in addition to the provision of pilots, aircrew, technicians and support personnel to augment the Royal Air Force (RAF) overseas in the defence of Britain, the Bomber Offensive, and later in the Normandy Invasion and the march to Berlin.

The Korean conflict saw Canada’s first major contribution in support of a United Nations initiative with the deployment of land, maritime and air forces to the Korea. Canadian military forces were generally ill prepared for the conflict, “... the Army had to raise from scratch two special service brigades ... while the RCAF had no operational front-line fighter or bomber

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<sup>15</sup>Gimblett, “The Canadian Way of War ...”, 11.

<sup>16</sup>*Ibid.*, 12.

squadrons ... and initially provided only transport aircraft.”<sup>17</sup> The Cold War saw a continuation of Canada’s traditional overseas deployment pattern. Canadian military forces, including ground and air forces were deployed to Europe prepared to meet the Soviets on the main battle fronts, while the maritime forces focused on the protection of re-supply convoys and the SLOCs between Canada and Europe. In recent years and most notably since the Suez Crisis in 1956, Canada has participated in a majority of UN peacekeeping missions, establishing an international reputation in peacekeeping operations.<sup>18</sup>

Although consistent with the expeditionary nature of Canadian participation in international conflicts and operations throughout the 20<sup>th</sup> Century, Canada’s response to the 1991 Persian Gulf War marked a departure from over 25 years of what is often referred to as traditional UN peacekeeping operations. In fact, Canada’s participation in the 1991 Gulf War started rather uncertainly. “... [T]he initial response of the Chief of Defence Staff was that Canada would not become directly involved, but undoubtedly would have a peacekeeping role to play once the situation stabilized and a UN mandate was established.”<sup>19</sup> This initial position changed rather significantly with, in modern terms, a relatively large contribution from Canada’s air and maritime forces was dispatched to oust Saddam Hussein from Kuwait. While the Canadian Army contribution was small, consisting of a field hospital and an infantry company, the Air Force deployed five maritime helicopters, one tanker aircraft and two squadrons of CF-

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<sup>17</sup>*Ibid.*, 12.

<sup>18</sup>Department of Foreign Affairs and International Trade, “Canada and Peace Support Operations,” <http://www.dfait-maeci.gc.ca/peacekeeping/menu-en.asp>; Internet; accessed 13 April 2006.

<sup>19</sup>Gimblett, “The Canadian Way of War ...”, 12.

18 aircraft to the theatre.<sup>20</sup> Although unable to participate in direct combat operations, the Navy sent several ships including two destroyers and a supply ship, eventually commanding the coalition naval logistics and re-supply task force in the Gulf region.<sup>21</sup> In the 15 years that followed the 1991 Gulf War, Canada has continued to contribute to numerous international peace support operations, most notably in the Balkans, the Arabian Sea and Afghanistan.<sup>22</sup>

### **Cold War Structure**

To understand the Air Force desire to move from a primarily static and platform-focused force to a more reactive and expeditionary force, it is useful to examine the Cold War role of the Canadian Forces (CF) and the Air Force. From just after the end of World War II, Canada joined NATO in countering the Soviet threat of attack. This attack was expected to take two paths: The first was a direct advance by the Soviet Army by land over the central plains of Europe. The second was an attack by bomber aircraft over the Polar Regions towards the United States and Canada. Later, this bomber threat was complemented by the threat of ballistic missile attack over the Polar Regions, or launched from Soviet submarines at sea. To counter this threat, NATO nations established large fixed bases in Europe, the United States and Canada joined together to create a radar screen over Alaska and Canada's North to alert defensive fighter aircraft operating from fixed and pre-determined forward operating locations across North America, and the NATO and Soviet navies played a form of cat and mouse with their submarines

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<sup>20</sup>Thierry Gongora, "Delivering the Goods in Support of Canadian Foreign Policy," in *Aerospace Power: Beyond 100 Years of Theory and Practice*, ed. James G. Fergusson, 133-154 (Winnipeg: University of Manitoba – Centre for Defence and Security Studies, 2005), 147.

<sup>21</sup>Duncan E. Miller and Sharon Hobson, *The Persian Excursion – The Canadian Navy in the Gulf War* (Clementsport: The Canadian Peacekeeping Press, 1995), 41, 94.

<sup>22</sup>Gimblett, "The Canadian Way of War: Experience and Principles." ..., 13.

and ships at sea. In addition to defensive fighter forces, the United States maintained bomber and ballistic missile forces at large fixed and forward operating bases in North America to deter and react to Soviet aggression from the north. So long as the primary threat remained the Soviet Union, and the anticipated axis and method of attack remained unchanged, the NATO strategy of stationing troops and tanks at large fixed bases in central Europe to repel a ground-based attack, and of maintaining fighters on alert in North America and to repel a missile or bomber strike, was sound.

Canada's military contribution to NATO's defence strategy had four major thrusts. First, Canada contributed to the defence of Europe by basing troops, tanks and aircraft from fixed bases in Germany, with a plan to provide reinforcements from fixed bases in Canada. Second, Canada pre-positioned equipment in Norway to permit a rapid deployment of troops from Canada to Norway to meet up with their equipment and protect NATO's northern flank.<sup>23</sup> Third, together with the United States and other NATO navies, Canada was tasked to maintain the SLOCs safe from Soviet threats, in order to ensure the re-supply of Europe by sea. Finally, and as a means of countering the bomber and missile threat to North America, Canada maintained high readiness fighter forces at static bases, and prepared forward operating locations across Canada's North, operating in concert with the United States through NORAD.

With the Soviet threat known and NATO's deterrent strategy and general response determined, including the nuclear stand-off, both the Soviet Union and the NATO nations were locked in a form of stalemate. However, in order for the Soviet Union to sustain a credible threat

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<sup>23</sup>Canadian Press, "New force to bolster Norway: 1,200 Canadians to be part of multinational NATO unit," *National Post* (25 June 1988): A3; <http://proquest.umi.com/pqdweb?did=170253901&sid=2&Fmt=3&clientId=1711&RQT=309&VName=PQD>; Internet; accessed 18 April 2006.

and for the NATO nations to maintain a credible deterrent, both sides need to maintain their forces at high readiness through a high level of training, and modern equipment. In general terms, the types of equipment with which the nations armed themselves were similar - tanks against tanks, aircraft against aircraft, with incremental updates and improvements to ensure any technological edge by one side was countered by the other. When a certain piece of equipment, fleet of aircraft, or more broadly, platform, was no longer up to the task, it was replaced with a similar but more modern and capable version of that same platform.

### **Post Cold-War Developments and Transformation**

The current military transformation phenomenon is the result of several factors, of which the most significant has undoubtedly been the end of the Cold War. Military forces from the world's major powers are no longer teetering at the brink of nuclear oblivion. In fact, the possibility of a conflict between the major powers is, for the foreseeable future, unlikely.<sup>24</sup> That is not to say that serious concerns do not remain with countries such as North Korea and Iran, China and Taiwan, or India and Pakistan.<sup>25</sup> Instead, new and seemingly more complex threats have emerged, from the dangers of failed and failing states, to the proliferation of weapons of mass destruction, to the rise of non-state actors and terrorism. The events of 11 September 2001 have highlighted the vulnerabilities of an open society to terrorists and have underscored the importance of domestic security.<sup>26</sup>

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<sup>24</sup>Department of National Defence, *Canada's International Policy Statement – Defence ...*, 5.

<sup>25</sup>*Ibid.*, 6.

<sup>26</sup>*Ibid.*, 5.

In response, Canada has formulated its first ever National Security Policy, designed to protect Canada and Canadians, but also to understand Canada's critical role in the protection of the North American continent in cooperation with the United States. An understanding of an increasingly interdependent world has emerged with closer links between international and domestic security resulting in a Canadian government commitment "to respond to potential threats to Canadian security before they reach our shores."<sup>27</sup> This commitment implies that Canada's military forces will continue to secure Canada through the notion of forward security, a notion consistent with the expeditionary employment of Canadian military forces throughout the 20<sup>th</sup> Century. Although written before the 11 September 2001 attacks, the Department of National Defence and the CF published a vision for the future entitled *Defence Strategy 2020*, which reflected a similar sentiment of forward security, "...the strategy is to position the force structure of the CF to provide Canada with modern, task-tailored, and globally deployable combat-capable forces that can respond quickly to crisis at home and abroad, in joint or combined operations."<sup>28</sup>

As a result of this new security paradigm, military planners have necessarily shifted their planning strategies from the Cold War threat to more varied and increasingly complex scenarios against asymmetric threats. Today's military forces do not face a well-defined conventional military threat, and consequently have been forced away from a threat-based planning methodology, to a more general capability-based approach.<sup>29</sup> That is, nations are re-designing

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<sup>27</sup>Department of National Defence, *Canada's International Policy Statement - Defence ...*, 5.

<sup>28</sup>Chief of the Defence Staff, "Shaping the Future of the Canadian Forces: A Strategy for 2020, Part II Strategy 2020," [http://www.cds.forces.gc.ca/pubs/strategy2K/intro\\_e.asp](http://www.cds.forces.gc.ca/pubs/strategy2K/intro_e.asp); Internet; accessed 17 April 2006.

their military forces to be less specialized in any given capability and instead developing more general and comprehensive capabilities, ensuring an inherent flexibility in order to deal with an unknown, but anticipated to be dangerous, threat. Military force structures that were appropriate for a relatively symmetric adversary appear cumbersome against a more agile and ethereal threat. Nations have reassessed their military and security requirements and associated force structures, scaling back both the overall size of military forces, and in most cases, the depth or capacity of these forces. Thus, military forces are adapting to these new conditions with new force structures, different equipment emphasis and unique organizational concepts. Investment in equipment and technology to gain increased battlespace awareness over technically inferior adversaries, and concepts such as rapid reaction task forces and expeditionary land, sea and air forces are already in practice with some of our allies.

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<sup>29</sup> According to National Defence Headquarters, Director General Strategic Planning Staff internal website, “Capability-based planning (CBP) is a methodical process that identifies future CF capabilities through the analysis of CDS-approved Force Development scenarios .... CBP seeks to identify force-wide capability goals and the gap in our capabilities and prioritize them. The CBP process produces a prioritized list of future CF capability goals and any gaps or affluences.”



## BASIS FOR A CONTEMPORARY CANADIAN EXPEDITIONARY AIR FORCE

...the adoption of an expeditionary force structure by the USAF  
has led to its consideration by others ....<sup>30</sup>

### An Air Force Vision

As the Air Force vision for transformation, *Strategic Vectors* serves as a good reference point in understanding the expeditionary nature of Canada's Air Force. Over the last fifteen years, the CF and the Air Force have been the instrument of choice for the Canadian government as a response to threats to international peace and security.<sup>31</sup> This response has ranged from "humanitarian assistance and disaster relief, enforcing embargos and no-fly zones, and participating in both peace operations and combat operations."<sup>32</sup> While the Air Force has been successful in mounting an appropriate response to each assignment "... the response to individual crises generally has been *ad hoc*."<sup>33</sup> *Strategic Vectors* outlines a plan to adjust current force structures and deployment models "to make the Air Force more expeditionary and better able to deploy, employ, support and sustain operations away from home installations."<sup>34</sup> Fergusson notes that this transition to a more expeditionary capability "fits well into the vision

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<sup>30</sup>Fergusson, "Over There, From Here ...", 44.

<sup>31</sup>Department of National Defence, A-AG-007-000/AG-004 *Strategic Vectors* ..., 12.

<sup>32</sup>*Ibid.*, 12.

<sup>33</sup>Gimblett, "The Canadian Way of War ...", 13.

<sup>34</sup>Department of National Defence, A-AG-007-000/AG-004 *Strategic Vectors* ..., 12.

articulated in Strategy 2020, especially with regard to inter-operability, jointness, and capability-based planning.”<sup>35</sup>

### **Genesis of a Contemporary Expeditionary Policy**

The current air force structure is the result of several factors including Cold War aircraft and equipment legacies, force reductions as a result of Canada’s mid-90s fiscal crisis, additional defence budget reductions through 2003, and defence policy. Until the recent release of the 2005 Defence Policy Statement, the 1994 White Paper represented the policy basis for Canada’s defence department, directing the CF to provide military forces to NATO in the form of high-readiness forces, known as a vanguard component, and normal readiness forces, referred to as the contingency force. For the Air Force, the vanguard commitment was defined as “one squadron of fighter aircraft, [and] one flight of tactical transport aircraft ... to be provided within three weeks ... [and sustained] indefinitely in a low-threat environment ....”<sup>36</sup>

It is interesting to note that government direction for the CF to become more expeditionary was provided almost a dozen years ago, in the 1994 White Paper. However, the same policy document that formally directed a shift to an expeditionary structure also initiated a series of force reductions that significantly limited the capacity to mount and sustain such expeditionary forces. In fact, in regards to Air Force capabilities, the White Paper directed that

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<sup>35</sup>James G. Fergusson, “Over There, From Here ...”, 46.

<sup>36</sup>Department of National Defence, *1994 Defence White Paper* (Ottawa: Canada Communications Group, 1994), 35, 39.

fighter forces would be reduced by at least 25%, the CF-5 fleet would be retired, and the number of operational CF-18 aircraft would be reduced from 72 to between 48 and 60.<sup>37</sup>

The White Paper did not make specific mention of Canada's CP-140 Aurora long-range patrol fleet or its tactical helicopter capability, although these capabilities were mentioned in general terms. The CH-124 Sea King maritime helicopter was singled out as "approaching the end of their operational life," emphasizing that "[w]ork will begin immediately to identify options and plans to put into service new affordable replacement helicopters by the end of the decade."<sup>38</sup> Notwithstanding the lack of specifics in the document, which in realistic terms is not truly expected of policy documents, a critical characteristic of the vanguard components as defined in the White Paper, was the direction to sustain these elements "indefinitely". In fact, it is the requirement to sustain force packages indefinitely which underpins the contemporary "expeditionary" model.

James Fergusson asserts that the ability of the Canadian Air Force to achieve any kind of expeditionary force resembling that of the United States is impossible, concluding that the CF and the Canadian Air Force simply "lack the resources to adopt the AEF model, except in pieces."<sup>39</sup> While this assertion is intuitive to Fergusson and to those familiar with Canada's Air Force, adoption of the most important aspects of the USAF model relative to Canada's deployment patterns and resource limitations is the key issue. Although Fergusson notes that "... an initial, albeit somewhat cursory, examination [of the USAF model] appears to indicate

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<sup>37</sup>*Ibid.*, 48.

<sup>38</sup>*Ibid.*, 46-47.

<sup>39</sup>Fergusson, "Over There, From Here ...", 52.

little utility,” he also postulates that the model “may prove useful in terms of new ways to think about force structure and sustainment.”<sup>40</sup>

The pragmatic rationale for developing a force structure more supportive of expeditionary operations is the acknowledgment that the Air Force has been conducting modern expeditionary-type operations for almost 50 years. “Airpower has been used to deliver humanitarian aid and assistance literally all over the world, to assist in the defence of Europe and North America, and to keep and enforce international peace.”<sup>41</sup> Every operational aircraft fleet in the Air Force has participated in these operations with the exception of dedicated search and rescue platforms.<sup>42</sup>

Until the 1990s, Canada’s primary airpower contribution in support of Canadian foreign policy was to provide air platforms for tactical transport and observation of ceasefires.<sup>43</sup> From the 1991 Persian Gulf War, the Air Force has contributed to a number of more robust peace support operations involving the full range of operational aircraft available to the CF including tactical and strategic lift platforms as well as maritime helicopter, maritime patrol, fighter and air-to-air refuelling aircraft.<sup>44</sup> All of these operations were expeditionary in nature, and representative of anticipated future employment patterns.

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<sup>40</sup>*Ibid.*, 44.

<sup>41</sup>Gongora, “Delivering the Goods in Support of Canadian Foreign Policy” ..., 139.

<sup>42</sup>Canada’s airborne SAR forces conduct their own form of expeditionary operations from remote locations within Canada on major searches each year.

<sup>43</sup>Gongora, “Delivering the Goods in Support of Canadian Foreign Policy” ..., 136.

<sup>44</sup>*Ibid.*, 136.

When designing expeditionary structures, it is interesting to note that Canadian expeditionary Air Force operations both during and since World War II have generally been a component of a larger coalition effort.<sup>45</sup> Canadian participation in a coalition “... is even more pronounced in operations that have a coercive or war fighting nature.”<sup>46</sup> One of the fundamental elements of integrating into a coalition is the ability to interoperate, or be interoperable with coalition partners. In the North American context, where Canada and the United States must work closely on North American security, interoperability with the United States is critical.<sup>47</sup> In the international context, Canada “will need to be interoperable with coalition forces – ones that will often be led by the United States.”<sup>48</sup> This requirement to be interoperable with the United States means that Canada must adopt or at least understand US doctrine, structures and procedures.<sup>49</sup>

In providing emphasis on developing more expeditionary structures, *Strategic Vectors* accurately responds to government direction, and to contemporary force employment patterns. According to *Strategic Vectors*, “[t]his expeditionary framework will enable the Air Force to [conduct and] sustain deployed operations better. It will also serve our people better by providing some predictability in their lives ....”<sup>50</sup> The adoption of an expeditionary framework will also enable the Air Force to optimize scarce resources. As Fergusson notes, adoption of an

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<sup>45</sup>*Ibid.*, 138.

<sup>46</sup>*Ibid.*, 138.

<sup>47</sup>Department of National Defence, A-AG-007-000/AG-004 *Strategic Vectors* ..., 28.

<sup>48</sup>*Ibid.*, 42.

<sup>49</sup>Fergusson, “Over There, From Here ...”, 44.

<sup>50</sup>Department of National Defence, A-AG-007-000/AG-004 *Strategic Vectors* ..., 46.

expeditionary force structure model can be viewed as “a means to reconcile overseas operational demands within an environment of constrained resources.”<sup>51</sup> Among the most critical resource shortfalls facing the Air Force today is people. Substantial shortages in experience, exacerbated by difficulties in retaining skilled personnel, are considered by many to be the most pressing issues for the Air Force.<sup>52</sup> A major contributor to the retention problem is an unsustainable operational tempo faced by the most frequently deployed fleets: maritime and tactical helicopters, and tactical airlift. In addition to the pressures faced by these operational capabilities, the high frequency of deployments for Air Force support personnel is untenable for many, an important factor and a major contributor to the current high personnel attrition levels. According to Lieutenant-General Pennie, “As Canada’s Air Force enters the 21<sup>st</sup> Century it is a fragile organization with approximately half the people and fewer than half the aircraft it had in 1989.”<sup>53</sup> In addition, “the number of air force personnel deployed on operations has roughly doubled with no sign that the future operational tempo will decrease.”<sup>54</sup> These disturbing trends are important in understanding the rationale behind current Air Force transformation initiatives, including the expeditionary air force concept.

Having discussed the historical precedence, the policy basis and some of the issues challenges facing the Air Force as it increases its emphasis on expeditionary operations, it may prove useful to examine in some detail the expeditionary models of the USAF, the United

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<sup>51</sup>Fergusson, “Over There, From Here ...”, 46.

<sup>52</sup>Senate of Canada, Senate Committee on National Security and Defence, *Wounded: Canada’s Military and the Legacy of Neglect* (Ottawa: Senate of Canada, 2005), 57.

<sup>53</sup>Department of National Defence, A-AG-007-000/AG-004 *Strategic Vectors ...*, 22.

<sup>54</sup>Senate of Canada, Senate Committee on National Security and Defence, *Wounded ...*, 57.

Kingdom (UK) and NATO as Canada refines its own expeditionary model. The next section will conduct this more detailed examination.

## EXPEDITIONARY MODELS

The NATO glossary of terms defines expeditionary operations as the “projection of military power over extended lines of communications into a distant operational area to accomplish a specific objective.”<sup>55</sup> This definition is useful in understanding expeditionary operations as it relates to the CF in general and the Air Force in particular. Although Canada’s Air Force is not new to expeditionary operations, *Strategic Vectors* emphasizes a need to make the Air Force more expeditionary. That is, to organize air capabilities and component parts thereof to enable a deliberate response to expeditionary demands. However, as raised in the 1994 White Paper, an important consideration which cannot be overlooked when discussing expeditionary operations is the ability to sustain the expeditionary force through multiple rotations, and according to the White Paper, indefinitely. NATO defines sustainability as the “ability of a force to maintain the necessary level of combat power for the duration required to achieve its objectives.”<sup>56</sup> In the case of expeditionary operations, sustainment has two meanings. The first is the business of logistics or administration while the second is the ability to provide a steady stream of trained and operationally ready personnel to facilitate the rotation of aircrew, groundcrew and support personnel through the theatre of operations. An inability to satisfy either sustainment criterion will result in an expeditionary operation of finite duration. If a capability is not sustainable indefinitely, but can be managed for a finite period, it is considered as a surge effort for the force. The duration of this finite period represents the surge capacity of the force. Therefore, in order for a force to conduct truly sustained expeditionary operations, it

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<sup>55</sup> North Atlantic Treaty Organization. AAP-6(2006) - *NATO Glossary of Terms and Definitions* (Brussels: NATO Standardization Agency, 2006); available from <http://www.nato.int/docu/stanag/aap006/AAP-6-2006.pdf>; Internet; accessed 17 April 2006.

<sup>56</sup> *Ibid.*



must possess the personnel, aircraft, equipment and other resources to maintain the necessary combat power indefinitely.

Based on the foregoing, one can imagine three different capacity levels for expeditionary military forces. The first and most favourable is a force that has the capacity to sustain a given level of expeditionary operations indefinitely. The second is a force that has some capacity to surge to conduct expeditionary operations for a finite period – from several months to several years. The third is a force that does not possess the capability to conduct expeditionary operations. At present, Canada's Air Force is generally representative of the second level. That is, able to sustain some operational capabilities indefinitely while for others, surging to provide the capability for only a limited period of time.

### **A Conceptual Model**

Prior to a review of specific expeditionary constructs, it is appropriate to discuss expeditionary operations at the conceptual level. Two models that have been proposed by Canadian defence scientist Thierry Gongora, are the baseline and the robust expeditionary models. The baseline model refers to “the ability to respond quickly to crises abroad through the deployment (often over strategic distances) of a task-tailored military force for an operation limited in time.”<sup>57</sup> The robust model is founded on the baseline model and is defined as “the ability to respond quickly to crises abroad through the deployment *and redeployment* (often over

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<sup>57</sup>Thierry Gongora, “The Meaning of Expeditionary Operations from an Air Force Perspective,” in *Canadian Expeditionary Air Forces: Bison Paper 5*, ed. Allan D. English, 21-34 (Winnipeg: Centre for Defence and Security Studies, 2004), 23.

strategic distances) of a military force with *a broad range of capabilities, despite opposition and lack of host-nation support in theatre* [emphasis added]”<sup>58</sup>

There are three major differences between these two models. First, the robust model is one which is sustainable over time where the baseline model is limited and more representative of surge operations as discussed earlier. The second major difference is in the “broad range of capabilities” in the robust model where the baseline model is concentrated on more narrow range of capabilities represented by a “task tailored military force.” Finally, the definition of the robust model emphasizes a robustness of military capability – the ability to operate “despite opposition and lack of host-nation support in theatre” where the baseline model makes no specific mention of opposition or the degree of host nation support. It can be deduced, therefore, that the baseline model would be limited in its ability to operate in a higher threat environment and would be reliant on some degree of host-nation support.

A closer examination of these two models reveals a set of characteristics or criteria for each model, with the robust model building on the characteristics of the baseline model. Table 1 shows the characteristics of the baseline model and a list of optional characteristics that could be added to the baseline resulting in a more robust model. To ensure a common understanding of the characteristics represented by the models, it is appropriate to briefly describe each characteristic.

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<sup>58</sup>Thierry Gongora, “The Meaning of Expeditionary Operations ...”, 23.

**Table 1 – Conceptual Expeditionary Models**

Baseline Model	Robust Model Options
High Readiness	Capable of Operating in Any Terrain and Climate
Sustainable Expeditionary Force Generation	Capable of Forcible Entry
Strategic Mobility	Full-Spectrum Force Protection
Deployable Command & Control Element	Capable of Reconstitution While Forward Deployed
Interoperable with Main Coalition Partners	Capable of Sustaining itself in an Austere Environment without Host Nation Support
Lean in-theatre support	Multi-mission Capable (general-purpose task force)
Modular Force Package (task-tailored)	

Source: Gongora: “The Meaning of Expeditionary Operations ...”, 23-29.

The characteristics of the baseline model are high readiness, sustainable expeditionary force generation, strategic mobility, deployable command and control, interoperability, lean in-theatre support, and a modular force package. Each of these baseline characteristics will be described in detail in the following paragraphs.

Given the nature of international contingency operations and the desire of governments to respond quickly, expeditionary force packages must be on a high degree of readiness in order to rapidly respond to a contingency.<sup>59</sup> Further, readiness “must be kept high to capitalize on the fundamental speed advantage of aerospace power platforms ... [allowing] the Air Force to respond rapidly when and where the government decides it has a need to send military forces.”<sup>60</sup>

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<sup>59</sup>Gongora, “The Meaning of Expeditionary Operations ...”, 24.

<sup>60</sup>Department of National Defence, A-AG-007-000/AG-004 *Strategic Vectors* ..., 40.

Sustainable expeditionary force generation describes the ability to sustain an expeditionary force over time through the periodic replacement of deployed personnel with a new rotation of personnel trained and equipped to conduct the requisite in-theatre tasks and operations. If a force is deployed for an extended period, measured in years for example, it will be necessary to ensure sufficient rotations of personnel exist within the overall defence organization to ensure a satisfactory ratio of deployed personnel to those at home.<sup>61</sup> This rotation ratio will be discussed in some detail later in the paper.

Strategic Mobility describes the ability to transport the personnel, aircraft and equipment from their domestic locations to a far away theatre of operations and includes strategic lift (air and sea) and potentially, air-to-air refuelling. The contemporary security environment is one in which military forces are not generally posted or permanently deployed to a network of overseas bases in anticipation of a conflict; rather, forces are usually retained in their home country to be forward deployed into theatre in the event of a crisis or conflict.<sup>62</sup>

A deployable command and control element is a necessary component of any deployed force. Depending on the size and mission of the deployed force, this command and control element can vary from a small detachment operations staff to a Combat Air Operations Centre (CAOC).<sup>63</sup> It must be recognized that few countries have the capacity to establish a deployable,

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<sup>61</sup>Gongora, "The Meaning of Expeditionary Operations ...", 25.

<sup>62</sup>*Ibid.*, 26.

<sup>63</sup>*Ibid.*, 26.

fully-functional CAOC to provide effective command and control of combat air power. For these nations, joining with coalition partners to provide this critical capability is essential.<sup>64</sup>

Given that most international operations occur in a multinational environment, interoperability with the main coalition partners is essential. “The most deployable force will not be considered by a coalition if once deployed it cannot operate effectively with other members due to language or doctrinal barriers, or incompatibilities with equipment and supplies.”<sup>65</sup>

Of significant current interest to Canada’s Air Force is in-theatre support. Lean in-theatre support is another important characteristic of the baseline expeditionary model. In order to minimize the footprint of the deployed force, especially in terms of personnel and equipment, and in view of the precious nature of strategic lift, in-theatre support must be kept to the minimum essential to support the deployed force.

Finally, a modular force package, scalable in size and task-tailored, is the last characteristic of the baseline model. Although the CF force structure is being transformed to enable a more joint or integrated response to international crisis, the desire to assemble various capabilities and specialist skill sets from different nations and units to suit each particular operation, will continue to necessitate a modular approach to deployed operations. International operations can range from humanitarian operations to combat. As such, the baseline expeditionary force must adopt a modular approach, where the various capabilities necessary for

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<sup>64</sup>The USAF, Royal Air Force and NATO are examples of some of the few nations or organizations that possess this capability.

<sup>65</sup>*Ibid.*, 26.

a particular operation can be assembled through a building block approach. Forces therefore “need to be modular, capable of being taken from a mother unit and temporarily integrated into a combined or joint task force.”<sup>66</sup> The baseline expeditionary model is not expected to provide a “full and integrated menu of capabilities” to respond to any military requirement, all contained within a single formation. Instead, the baseline force would more likely be comprised of building blocks at the unit and sub-unit level pulled together to address a specific contingency.

Characteristics of the robust expeditionary model are also outlined in Table 1. As discussed earlier, the robust model builds on the baseline model and possesses some, but not necessarily all, of the additional characteristics listed, although some critics will argue that one must possess all robust characteristics in order to be considered a robust expeditionary force. As Gongora argues, the characteristics of the robust model “can be conceived as options added to the baseline model ....”<sup>67</sup> He goes on to emphasize that while the baseline model “represents a coherent whole ... you can hardly develop only one or two of the seven capabilities of the baseline model without needing the other ones ...” the capabilities of the robust model can, in many cases, be developed independently.<sup>68</sup>

Before commencing a detailed discussion of the robust characteristics, and in order to ensure a common understanding, the terms forcible entry, reconstitution while forward deployed, and multi-mission capable will be explained in the subsequent paragraphs. The remaining terms related to robust characteristics will be discussed in a subsequent section.

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<sup>66</sup>*Ibid.*, 27.

<sup>67</sup>*Ibid.*, 27.

<sup>68</sup>*Ibid.*, 27.

Forcible entry into an area of operations is a characteristic most commonly associated with robust expeditionary operations; however, some analysts question the validity of this requirement. “When was the last time the USMC conducted an amphibious assault?”<sup>69</sup> In the contemporary environment, it is doubtful whether any force would conduct an opposed amphibious assault with the inherent risks and casualties that would likely result from such an operation. Other means of neutralizing the opposition would certainly be found including the use of air power in the counter air and countermand roles. Nevertheless, some analysts see the ability to conduct forcible entry into an area of operations as a defining characteristic of expeditionary operations.<sup>70</sup>

Another characteristic of a robust expeditionary force is reconstitution while forward deployed. Reconstitution can be defined as “the ability of an expeditionary force to regenerate, reorganize, replenish, and reorient itself for a new mission after employment elsewhere without having to return to home base.”<sup>71</sup> There are few forces that possess this capability, or who would even see this as a relevant characteristic given the opportunity to reconstitute at a home nation or base. Nevertheless, one could envision a force such as US Marine Corps as capable of reconstitution while forward deployed. In an air context, this could be considered as an ability to conduct aircraft battle damage repair or some form of intensive in-theatre aircraft maintenance.

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<sup>69</sup>*Ibid.*, 28..

<sup>70</sup>*Ibid.*, 28.

<sup>71</sup>United States Marine Corps, *Marine Corps Doctrine Publication (MCDP) 3 ...*, 56.

Finally, the multi-mission capability or general purpose task force criteria of the robust expeditionary model can be compared to the modular and task-tailored force package of the baseline model. Although subject to interpretation as to what constitutes a range of tasks, “[a] robust expeditionary force can be understood as one that can assume, or effect a transition through, a range of tasks during a single expedition.”<sup>72</sup> An example of such a range of tasks would be the conduct of operations under the “three-block war” concept where forces must be prepared to transition rapidly from humanitarian operations to peacekeeping to combat, using only those resources integral to the deployed force.

The use of conceptual models to define expeditionary capabilities and characteristics is helpful when comparing expeditionary concepts and practices amongst nations, particularly amongst those with whom a nation expects to operate. Before discussing Canadian expeditionary capabilities and concepts in any detail, attention will turn to the expeditionary concepts and practices of our closest allies, and to those of the NATO Response Force (NRF).

### **USAF Model**

The USAF developed the Expeditionary Air Force (EAF) model in response to a new employment paradigm that emerged in the years following the 1991 Persian Gulf War.<sup>73</sup> The requirement to enforce the northern and southern no-fly zones over Iraq resulted in a continuous presence of the USAF in the Gulf region.<sup>74</sup> This led to the creation of four aerospace

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<sup>72</sup>Gongora, “The Meaning of Expeditionary Operations ...”, 29.

<sup>73</sup>Adam Hebert, “Longer Deployments,” *Air Force Magazine*, August 2004, 62; available from <http://www.afa.org/magazine/aug2004/0804deploy.pdf>; Internet; accessed 17 April 2006.

<sup>74</sup>Fergusson, “Over There, From Here ...”, 43.



expeditionary forces (AEFs), comprised of a mix of combat, enabling and support capabilities.<sup>75</sup> This lengthy operation saw the deployment and redeployment of multiple rotations of the squadrons and units assigned to the AEF, while the majority of USAF units and personnel were not involved. This imbalance, or lack of burden sharing, “undermined retention, morale and readiness because of frequent and haphazard deployments.”<sup>76</sup> In fact, it was not unusual for the same units to be deployed on several rotations while still others were never deployed. “The AEFs spread around the deployment burden to more units and created predictability where none had existed before.”<sup>77</sup> The result was the reorganization of the entire USAF into AEFs, commencing in October 1999.<sup>78</sup>

The current USAF model is comprised of ten force packages of similar capability known as AEFs, formed to conduct expeditionary operations throughout the spectrum of conflict. Within each AEF is a combination of combat, enabling, and support capabilities from numerous wings, squadrons and units permanently assigned to a given AEF, designated AEF 1 through 10. Given the number and types of aircraft involved, it is typical for a deployed AEF to operate from several bases while deployed. Rooted in the experience gained during the enforcement of the Iraqi northern and southern no-fly zone operation, the ten AEFs are formed into AEF pairs that move together through the staggered AEF cycle (AEF 1 and 2, 3 and 4, etc). The original cycle

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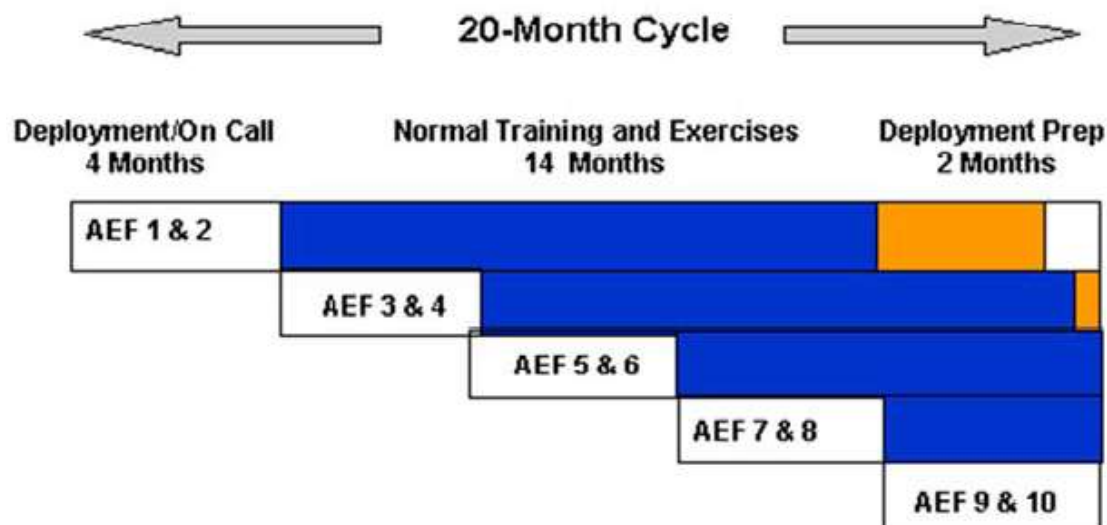
<sup>75</sup> The term Aerospace Expeditionary Force has been replaced by Air and Space Expeditionary Force using the same acronym (AEF).

<sup>76</sup> Adam Hebert, “Expeditionary Air Warriors,” *Air Force Magazine*, June 2003, 26; available from <http://www.afa.org/magazine/june2003/0603exped.pdf>; Internet; accessed 17 April 2006.

<sup>77</sup> Hebert, “Longer Deployments ...”, 62.

<sup>78</sup> Timothy A. Peppe and Rachel Lea Heide, “Bending But Not Broken: The USAF’s Expeditionary Air Force Experience in the 21<sup>st</sup> Century,” in *Canadian Expeditionary Air Forces: Bison Paper 5*, ed. Allan D. English, 43-54 (Winnipeg: Centre for Defence and Security Studies, 2004), 35.

consisted of a fifteen-month period consisting of approximately three months of currency and mission qualification training, six-and-a-half months of advanced training, two months of theatre-specific training, two weeks to travel to the theatre, and three months to conduct operations, or if no operations were scheduled, three months undergoing sustainment training prepared to react to any contingency. Based on experiences gained in Afghanistan and Iraq, the deployment period has been increased from 90 to 120 days, with the overall cycle extended to 20 months (Figure 1). This increase in the deployment period has resulted in a positive effect on the mobility demands where AEFs are rotated three times per year under the 120 day cycle, as opposed to four times per year with a 90 day cycle.



**Figure 1: AEF 20-Month Rotation Cycle**

Source: USAF Instruction 10-401 – Air Force Operations Planning and Execution, 20.

The AEF pairs are designed for “limited-scale requirements” and typically comprise approximately 26,500 personnel, including approximately six squadrons of fighter and bomber aircraft, as well as enabling forces including air-to-air refuelling, combat search and rescue, ISR,

and support personnel.<sup>79</sup> In the event of multiple limited-scale operations or higher intensity operations, the EAF will go into a “surge mode” where the process will call upon the next AEF pair or pairs to cut short the preparation phase and join the AEF pair already in theatre. If this is still not sufficient, in-theatre AEF pairs will be extended until the Unified Combatant Commander authorizes their withdrawal. While the EAF construct and rotation appears at first glance to be rigid, the reality is quite the opposite. The ability to call-up and extend AEF pairs provides sufficient flexibility to ensure that most contingencies are manageable within the framework.<sup>80</sup>

An important aspect of the USAF model is the requirement to build and sustain operating bases in theatre. Depending on the threat level, there is also a requirement to keep the base secure from hostile or belligerent forces using USAF security forces, or in the cases of higher threat, US Marines. As each AEF operates from multiple expeditionary operating bases, and with approximately 1000 personnel per base, the basing, sustainment and force protection requirements are significant.

Due to its size, capabilities and experience, the USAF is clearly the leader in the development and implementation of the air expeditionary concept. The USAF model easily fulfills all the criteria of the conceptual baseline expeditionary model and possesses all the relevant options of the robust expeditionary model. For smaller nations such as Canada, the capability of just a single USAF AEF is awesome, representing more capacity than exists within

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<sup>79</sup>Peppe and Heide, “Bending But Not Broken ...”, 37; Hebert, Expeditionary Air Warriors ..., 29; and Suzann Chapman, “*USAF to Exceed AEF Rotations*,” Air Force Magazine, February 2003, 15.

<sup>80</sup>*Ibid.*, 37.

Canada's entire Air Force. Nevertheless, there are lessons that nations can draw from an understanding of the USAF expeditionary model, lessons such as tiered readiness, rotation cycles, sustainment in an austere environment, and force protection.

### **UK Model**

In 1998 the Government of the UK conducted a strategic defence review to determine how British defence forces should be adjusted to meet contemporary strategic realities. The results were provided in a document entitled: *The Strategic Defence Review*, which contained details on the formation of a key element of the new defence policy, the Joint Rapid Reaction Force (JRRF). The report concluded that if the UK Armed forces were to “play an effective role in supporting Britain’s foreign and security policy objectives, their ability to conduct a wide range of military activities, over long distances and often at short notice, will be paramount.”<sup>81</sup> The formation of the JRRF would enable the UK to create “force packages to mount short-notice medium scale (i.e. brigade size or equivalent) operations of all kinds across the crisis spectrum ... [mounting] concurrent operations if necessary ...”<sup>82</sup> In the event additional resources should be necessary, they would be added over time using forces maintained at lower readiness levels.<sup>83</sup> In order to realize the JRRF concept, the report recognized a need to provide a “significant increase in the size of [the] readily available joint forces, including front line command, support and [strategic] transport capabilities.”<sup>84</sup> The JRRF is designed to be:

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<sup>81</sup>United Kingdom, Ministry of Defence, *The Strategic Defence Review: Supporting Essays, Joint Operations* (London: The Stationary Office, 1998), 8-2.

<sup>82</sup>*Ibid.*, 8-3.

<sup>83</sup>*Ibid.*, 8-3.

<sup>84</sup>*Ibid.*, 8-4.

... a pool of highly capable force elements, maintained at high and very high readiness and trained to the required joint standards. JRRF is to be deployable and sustainable in joint force packages, tailored to meet the operational requirement, in order to conduct operations up to medium scale warfighting, nationally or multinationally under NATO ... UN ... or ad hoc coalition auspices.<sup>85</sup>

The JRRF concept is based on two different echelons of forces. The first echelon is comprised of high and very high readiness forces and includes land and maritime assets and “a mix of offensive and defensive combat aircraft, reconnaissance aircraft, helicopters, short-range air defence units and supporting tactical air transport and air-to-air refuelling aircraft.”<sup>86</sup> The first echelon also includes combat support, logistic support, air defence, engineer and other assets.<sup>87</sup> Second echelon forces are at high readiness in the event “more substantial capabilities” are required. In addition to second echelon land and maritime forces, “substantial additional air assets to enable operations across the full spectrum of airpower roles [will be available] to provide a robust air contribution to the Joint Task Force.”<sup>88</sup> “First echelon force readiness varies from 48 hours for spearhead forces and a joint task force headquarters ... to completion in 10 days, followed by more substantial second echelon capabilities with a phased entry in 11 to 30 days.”<sup>89</sup> It is anticipated that approximately 110 combat aircraft and over 160 other aircraft would be available and on-call to support the JRRF.

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<sup>85</sup>Richard M. Connaughton, “Organizing British Joint Rapid Reaction Forces,” *Joint Force Quarterly*, no. 26 (Autumn 2000), 90 [journal on-line]; available from [http://www.dtic.mil/doctrine/jel/jfq\\_pubs/autumn00.htm](http://www.dtic.mil/doctrine/jel/jfq_pubs/autumn00.htm); Internet; accessed 17 April 2006..

<sup>86</sup>United Kingdom, *The Strategic Defence Review: Supporting Essays, Joint Operations ...*, 8-4.

<sup>87</sup>*Ibid.*, 8-5.

<sup>88</sup>*Ibid.*, 8-5.

<sup>89</sup>Connaughton, *Organizing British Joint Rapid Reaction Forces ...*, 91.

The more recent 2003 UK Defence White Paper reaffirmed the requirement for a “modern and effective armed forces equipped and supported for rapid and sustainable deployment on expeditionary operations ....”<sup>90</sup> It confirmed the JRRF concept, emphasized the importance of graduated readiness and noted a requirement to make periodic adjustments to the JRRF structure, including a need to ensure establishments were robust enough to “minimise the requirement for units to be reinforced with additional personnel on deployment.”<sup>91</sup> It also noted that several enabling capabilities such as logistic support, medical, engineer and other specialties could not support multiple concurrent deployments and would require force structure adjustments in order to meet “harmony guidelines.”<sup>92</sup> These harmony guidelines relate to the amount of time UK service personnel spend deployed away from their home base and relate, in Canadian terms, to quality of life and the unit rotation ratio.

The JRRF is designed as a robust expeditionary force capable of conducting military operations throughout the spectrum of conflict. It operates on a pool concept where a wide spectrum of forces and capabilities are maintained at various readiness levels, from 48 hours to 30 days, with the specific units and capabilities to be deployed tailored to the crisis at hand. From an air force perspective, the full spectrum of air power can be deployed, from fighters and aerial regulars, to tactical helicopters and long-range reconnaissance, to airlift, all combined with the necessary command and control, operational support, logistics, administration, engineer and medical services. The high readiness posture of the assigned forces and the assured access to

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<sup>90</sup>United Kingdom, Ministry of Defence, *Delivering Security in a Changing World: Defence White Paper* (London: The Stationary Office, 2003), 2.

<sup>91</sup>*Ibid.*, 14.

<sup>92</sup>*Ibid.*, 14.

strategic lift ensure a flexible and rapid response. Personnel policies such as harmony guidelines ensure frequent expeditionary operations do not result in unacceptable attrition levels of personnel due to dissatisfaction with the quality of life. The JRRF concept and the corresponding air component represent a robust expeditionary capability, able to self-deploy rapidly through organic strategic air and sea lift, to respond to UK defence needs.

### **NATO Model**

NATO's expeditionary requirement developed as a result of the changing geo-strategic situation brought about by the end of the Cold War. NATO began to conduct expeditionary operations outside the European theatre and realized that it was ill-prepared for such operations.<sup>93</sup> This, together with the addition of new members to the alliance and the growing military capability gap between Europe and the United States, resulted in several NATO transformation initiatives including the establishment of standing Combined Joint Task Force headquarters, and the creation of the NATO Response Force (NRF). According to NATO's former Commander Allied Air Forces Northern Europe, USAF General Robert H. Foglesong, "The modern, smaller scale threats call for global strategies and a more expeditionary posture that will most often be joint and multi-national."<sup>94</sup>

The NRF will number approximately 20,000 personnel when it reaches full operational capability in 2006 comprised of Land, Sea and Air elements with a deployment readiness of 5-30

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<sup>93</sup>Linda Slobodian, "NATO Too Slow to Attack Terrorism," *Calgary Herald*, 5 November 2004, B10; <http://proquest.umi.com/pqdweb?did=734839531&sid=5&Fmt=3&clientId=1711&RQT=309&VName=PQD>; Internet; accessed 18 April 2006

<sup>94</sup>Robert H. Foglesong, "NATO Air Power - Remaining Relevant," *NATO's Nations and Partners for Peace* Vol.49, Iss. 4 (2004): 156; <http://proquest.umi.com>; Internet; accessed 17 April 2006.

days.<sup>95</sup> According to NATO, it will be “flexible, deployable, interoperable, and sustainable ... ready to move quickly to wherever needed.”<sup>96</sup> The NRF operates on a rotational cycle similar to the USAF model. The cycle commences with a period of individual and unit readiness training culminating with an evaluated collective training exercise, all leading to a six-month deployment vulnerability window. “Standards and procedures for certification of the NRF have been developed, some of them following ground-breaking guidance on transformational elements such as multinationality, sustainability, and deployability.”<sup>97</sup>

The lead-element of the NRF is the Very High Readiness Force (VHRF), representing a sub-set of the NRF, capable of deploying within five days. The VHRF consists of a ground “battalion-sized” force of 1,500 personnel, a maritime component with 3,800 personnel and an air component with 650 personnel.<sup>98</sup> The remainder of the NRF is designed to follow within 30 days. According to NATO, “[i]n 2006, the fully operational NATO Response Force will consist of a brigade-size land component ... a naval task force ... and an air component that will be capable of 200 combat sorties a day.”<sup>99</sup> The NRF air component will be tailored to the task, and include the personnel, air assets and necessary command and control capabilities to support the

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<sup>95</sup>Raymond A. Millen, “Reconfiguring NATO for Future Security Challenges,” *Comparative Strategy* Vol. 23, Iss. 2 (April-June 2004): 131; <http://proquest.umi.com>; Internet; accessed 17 April 2006.

<sup>96</sup>NATO, “After Prague: New Members, New Capabilities, New Relations,” [http://www.nato.int/docu/after-prague/after\\_prague.pdf](http://www.nato.int/docu/after-prague/after_prague.pdf); Internet; accessed 17 April 2006.

<sup>97</sup>Luca Bonsignore, “Key Element of NATO Transformation: The NATO Response Force (NRF),” *NATO's Nations and Partners for Peace* Iss. 2 (2005): 46; <http://proquest.umi.com>; Internet; accessed 17 April 2006.

<sup>98</sup>Millen, “Reconfiguring NATO ...”, 132.

<sup>99</sup>Bonsignore, “Key Element of NATO Transformation ...”, 48.



sortie rate.<sup>100</sup> National combat support and combat service support will be integral to the NRF along with special forces, nuclear, biological and chemical defence, medical units, logistics, communications, intelligence, and other capabilities as necessary “to make it a credible and capable fighting force.”<sup>101</sup> The command and control capability for the NRF will be provided by one of the three NATO Joint Force headquarters, based on a permanent staff cadre and be known as the “Deployable Joint Task Force Headquarters.”<sup>102</sup>

The Canadian government has made it clear that Canada “strongly supports the NATO Response Force concept ... [and intends] to be a regular contributor with sea, land and air components ....”<sup>103</sup> To complement this position, the 2005 Defence Policy Statement, confirmed that NATO was an important body and “critical to the security of our country”. The statement also indicated Canada’s support for the NRF, stating that “the NATO Response Force is critical to the continued relevance of the alliance” and provided its commitment to negotiate specific contribution details to provide “a combination of sea, land and air elements” to the NRF.<sup>104</sup>

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<sup>100</sup>Adam Hebert, “The NATO Response Force,” *Air Force Magazine*, April 2003, 66; available from <http://www.afa.org/magazine/april2003>; Internet; accessed 17 April 2006.

<sup>101</sup>Bonsignore, “Key Element of NATO Transformation ...”, 48.

<sup>102</sup>*Ibid.*, 49.

<sup>103</sup>Department of Foreign Affairs and International Trade, “NATO Transformation.” [http://www.dfait-maeci.gc.ca/foreign\\_policy/nato/nato\\_transformation-en.asp](http://www.dfait-maeci.gc.ca/foreign_policy/nato/nato_transformation-en.asp); Internet; accessed 17 April 2006.

<sup>104</sup>Department of National Defence, *Canada’s International Policy Statement - Defence ...*, 25.

## THE CANADIAN MODEL

Given the modest size of Canada's Air Force and the limited number of aircraft fleets in its inventory, those airpower capabilities which form the basis for the Canadian air expeditionary capabilities are, with few exceptions, represented by aircraft fleets.<sup>105</sup> In terms of Canadian nomenclature, each operational and deployable fleet can be considered an AEF, with the aggregate of all expeditionary fleets and expeditionary support capabilities within the Air Force considered as the Canadian Expeditionary Air Force (EAF). These AEFs include air mobility with the CC-130 Hercules and CC-150 Polaris aircraft; tactical aviation with the CH-146 Griffon helicopter; fighter with the CF-18 Hornet aircraft; long-range patrol with the CP-140 Aurora aircraft; maritime helicopter with the CH-124A Sea King helicopter; and possibly air refuelling with the CC-130T Hercules and CC-150T tankers. One recent development in the employment of CF aircraft which could one day form a candidate fleet for expeditionary operations is a subset of the CH-124 Sea King fleet, known as the CH-124B.<sup>106</sup> These helicopters are currently undergoing modifications to remove the sonar equipment and reconfigure the aircraft as medium-lift helicopters in support of the proposed Standing Contingency Task Force concept, to be discussed later. Of note, the 2005 Defence Policy Statement outlines a plan to acquire a dedicated and purpose-built medium-lift helicopter capability to replace the interim medium lift capability, represented for the time being by the CH-124B Sea King.

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<sup>105</sup>The Air Force possesses other non-flying specialist expeditionary capabilities including the 8 Air Communication and Control Squadron (8 ACCS) designed as a deployable self-supportable unit ready within six hours to provide tactical communications for command and control (C2), air traffic control, navigational aids, airfield facilities and information management systems.

<sup>106</sup> In the mid-1990s, six Sea Kings were modified to facilitate tactical development in passive acoustic sonar operations from helicopters, in preparation for the arrival of the since-cancelled EH-101 Maritime Helicopter Project (MHP).

Each of the AEF fleets are currently participating in expeditionary operations, or have participated in expeditionary operations in the past, and possess the necessary capacity to field at least one rotation overseas while continuing to meet “routine” defence missions at home. To fully understand the expeditionary capability and capacity of Canada’s Expeditionary Air Force, the following sections are dedicated to a detailed examination of the AEFs.

### **Air Mobility**

Canada’s air mobility capability represents one of the most frequent airpower contributors to Canada’s foreign policy objectives.<sup>107</sup> This capability can be deployed as an independent contribution to an international security or humanitarian initiative, or can play a critical role in the deployment and sustainment of other Air Force and CF capabilities. The primary air mobility fleets are the CC-130 Hercules and CC-150 Polaris. In recent years, ageing Hercules aircraft and low serviceability rates have placed tremendous pressure on this capability. A recent government initiative to replace some of the oldest CC-130 aircraft is designed to address many of the serious maintenance and serviceability concerns of this fleet, providing much needed relief.

The typical CC-130 expeditionary package is comprised of two aircraft and three to four air crews, together with the necessary maintenance, command and control, operations support and integral support personnel, including a Mobile Air Movements Section (MAMS) cargo-handling team. The CC-150 fleet is also capable of expeditionary operations although the fleet generally conducts the strategic airlift mission from its Main Operating Base (MOB) in Canada.

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<sup>107</sup>Gongora, “Delivering the Goods ...”, 136.

Nevertheless, the CC-150 can be deployed as an expeditionary package, as was the case after 9-11 when the CC-150 was initially deployed to Germany and later to the Arabian Gulf region to conduct sustainment and re-supply missions.<sup>108</sup> In view of current establishments, the indefinite deployment of the CC-150 as an expeditionary package is limited to a single aircraft, although in view of the historic employment patterns, this should be considered as a significant and acceptable contribution to an operation.<sup>109</sup>

The Air Force also possesses an air-to-air refuelling capability in both the CC-130 and the CC-150 fleets, with four CC-130 aircraft configured as tankers and two CC-150 aircraft undergoing modification to add an air-to-air refuelling capability. Given the limited number of aircraft from each fleet configured for this high-demand capability, these aircraft are unable to deploy as tankers for indefinite operations under the EAF concept. However, these capabilities can be deployed for shorter periods in support of Canada's international objectives.<sup>110</sup>

## **Fighter**

Canada's fighter force is equipped with the multi-purpose CF-18 fighter/attack aircraft which was most recently deployed overseas in support of NATO Operation Allied Force in Kosovo from 1997 to 2000. The CF-18 fleet is currently undergoing a mid-life modernization program designed to extend the life of the aircraft beyond 2015. Once modernization is complete in 2009, and in view of the ongoing domestic airspace control mandate of the force under

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<sup>108</sup>Department of National Defence, "DND/CF Backgrounder: The Canadian Forces' Contribution to the International Campaign Against Terrorism," [http://www.forces.gc.ca/site/Newsroom/view\\_news\\_e.asp?id=490](http://www.forces.gc.ca/site/Newsroom/view_news_e.asp?id=490); Internet; accessed 18 April 2006.

<sup>109</sup>National Defence Headquarters – Directorate of Air Strategic Plans, *EAF Concept – Force Structure Implications*, 27 January 2004, 3.

<sup>110</sup>*Ibid.*, 3.

NORAD, Canada will be able to support the continuous deployment of at least one CF-18 AEU. Should a more potent force be required, additional AEU's could be deployed, albeit for a finite period.<sup>111</sup>

The Fighter AEU is typically comprised of six CF-18 aircraft, and includes pilots, maintenance and support personnel. Based on typical serviceability rates, a typical CF-18 AEU is capable of sustaining four sorties per day for an indefinite period, although it is understood that the AEU could surge or be augmented to increase the sortie rate for a finite period. Activity rates significantly beyond four sorties per day would require the deployment of an additional AEU.<sup>112</sup>

### **Long Range Patrol**

The Long Range Patrol (LRP) fleet is one of the most flexible combat fleets in the CF inventory. The CP-140 Aurora has been deployed on expeditionary operations in support of Canada's international objectives extensively, including hundreds of deployments to track Soviet submarines during the Cold War, during NATO enforcement operations of the Former Republic of Yugoslavia between 1992 and 1996, and most recently to Southwest Asia in support of the War on Terror. Still highly competent at its original anti-submarine warfare mission, the CP-140 is a multi-purpose platform capable of extending a human presence and of directing sophisticated sensors onto a target anywhere over Canada's vast territory and waters, from the northernmost reaches of the Arctic to over a thousand miles offshore. Its long-range missions extend from anti-submarine warfare to surveillance and reconnaissance to search and rescue, to many others.

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<sup>111</sup>*Ibid.*, 26.

<sup>112</sup> *Ibid.*, 26.

Currently undergoing a multi-stage modernization program, the Aurora is expected to serve Canada's interests for many years to come.

As in most other fleets, the LRP AEU is based on the 1994 White Paper's vanguard concept. The AEU is typically comprised of two-aircraft, and includes roughly three air crews plus the necessary maintenance and support personnel to repair and sustain the force. Though capable of autonomous operations from hard-surface runways anywhere in the world, the CP-140 is optimized when supported by a coalition or by a deployed Canadian air operations centre with the necessary command and control, and sensor analysis capability.

### **Tactical Aviation**

Canada's Tactical Aviation capability is, at present, represented by the CH-146 Griffon, a militarized version of the Bell 412 commercial helicopter. This fleet was procured from 1995 to 1997, replacing the Twin Huey and the Chinook in the tactical mobility role, and the Kiowa in the reconnaissance role.<sup>113</sup> In terms of the tendency of the government to use air power to further its foreign policy objectives, the employment of the tactical aviation fleet is only eclipsed by the use of fixed-wing transport aircraft. According to a recent study on the use of air power in support of these objectives, tactical aviation was utilized on seven distinct operations between 1976 and 2003 including Italy, the Sinai region, Central America, Somalia, Haiti and Bosnia-Herzegovina. In many cases, these operations lasted several years with multiple rotations of personnel.

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<sup>113</sup>Department of National Defence, "Canada's Air Force: CH-146 Griffon," [http://www.airforce.forces.gc.ca/equip/ch-146/intro\\_e.asp](http://www.airforce.forces.gc.ca/equip/ch-146/intro_e.asp); Internet; accessed 18 April 2006.

The typical CH-146 AEU is comprised of between six and eight helicopters, eight to twelve air crews, and includes the essential maintenance, integral support and operations support personnel. Of all Air Force operational capabilities, the tactical aviation fleet is likely the most expeditionary, self-contained and ready to deploy. This is largely due to its close alignment with and integration into the Army concept of operations. However, it is interesting to note that the tactical aviation capability has rarely been deployed operationally within the Army construct; instead, it has been sent on the various humanitarian and peace support missions of the last three decades as a stand-alone contribution, independent of the Army.

### **Maritime Helicopter**

In service for over forty years, the CH-124 Sea King represents Canada's current Maritime Helicopter (MH) capability. This aircraft is scheduled to be replaced starting in 2008 by the Sikorsky S-92, designated the CH-149 Cyclone by the Air Force. Unlike the tactical aviation capability, which has often deployed overseas independent of the Army, the MH fleet has rarely if ever been deployed overseas independent of the Navy.<sup>114</sup> That is not to say that the CH-124 Sea King is not a deployable asset. On the contrary, a Sea King is embarked in most naval deployments, including the permanent Standing Naval Force Atlantic, now known as the Standing NATO Response Force Maritime Group. "The MH fleet has experienced an unprecedented level of operations throughout the 1990s that continues to this day."<sup>115</sup> In support of the War on Terror in Southeast Asia, the east coast Sea King base in Shearwater, Nova Scotia,

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<sup>114</sup>Gongora, "Delivering the Goods ...", 141-152.

<sup>115</sup>National Defence Headquarters – Directorate of Air Strategic Plans, "Maritime Helicopter Project Transform Part 1 (Draft), 13 March 2003, 8.

produced 13 helicopter detachments over 18 months “... a rate representing 144% of ... [planned] resources.”<sup>116</sup>

Though not historically deployed independent of the Navy, the MH capability can be considered as part of the Expeditionary Air Force given that all of the baseline characteristics of the conceptual expeditionary model apply directly to the MH fleet. At steady-state, the MH force structure is capable of supporting the simultaneous deployment of two helicopter detachments, although this level of activity has become increasingly difficult given a shortage of experienced technicians and the low serviceability rates associated with an old airframe.<sup>117</sup> When deployed, the basic helicopter air detachment, or HELAIRDET, is comprised of one helicopter, two air crews and a maintenance cadre, with all at-sea support provided by the respective ship.<sup>118</sup>

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<sup>116</sup>*Ibid.*, 9.

<sup>117</sup>*Ibid.*, 7.

<sup>118</sup>*Ibid.*, 11.



## **CANADA'S EXPEDITIONARY AIR FORCE**

The USAF model was examined in detail earlier. Although not a joint package of land, sea and air power such as the UK or NATO model, the USAF model comprises a highly robust mix of combat and enabling airpower, which is designed to operate independently of or jointly with other components of military power. From an organizational perspective, the key to contemporary expeditionary models is the ability to sustain successive rotations of the deployed force, or to surge the capability to meet a crisis beyond the normal capacity of the force, as was done by the USAF during Operation Iraqi Freedom in 2003.<sup>119</sup> From a Canadian perspective, the size and capability spectrum of a single AEF pair is incomparable to Canada's entire Air Force, or for that matter, any other NATO Air Force with the possible exception of the RAF.

### **Basic Characteristics**

Before assessing whether or not Canada's Air Force is an inherently expeditionary force, a brief review of the characteristics of the conceptual expeditionary model is appropriate. As previously discussed, the baseline characteristics of expeditionary forces are high readiness, sustainable expeditionary force generation, strategic mobility, deployable command and control, interoperability, lean in-theatre support, and modularity (task tailored). All of these baseline characteristics are inherent to Canada's Air Force, as will be shown in the following paragraphs, although there exists some capacity shortfalls in the area of in-theatre support which necessitates a reliance on coalition partners, host-nation support, and contractors.

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<sup>119</sup>Hebert, "Longer Deployments ...", 63-64.

High readiness is a fundamental characteristic of expeditionary forces. The underlying operational capabilities of the Air Force, represented by the operational fleets, are by their very nature high readiness. For decades, Canada has had fighter aircraft on air sovereignty alert readiness postures measured in minutes, Hercules transports on 30 minute alert for SAR duties, maritime helicopters and maritime patrol aircraft available within hours for SAR or maritime surveillance and control missions, and tactical helicopters ready to meet counter-terrorism, law enforcement or Army requirements, in many cases as fast as the ground forces can be made available. That is not to say that a readiness to respond for domestic operations can translate directly into a readiness to deploy for expeditionary operations. However, this domestic readiness, combined with the former Cold War mindset of rapid deployment to support NATO's efforts in Europe, and recent operational experience since the 1991 Gulf War has emphasized the importance of high readiness. With the renewed focus on expeditionary operations, each Air Force capability area has developed a rotational system whereby a selected wing, squadron or crew is designated for a fixed period of time as the high readiness element for expeditionary operations. This requirement arose from the policy direction of the 1994 White Paper, and has been maintained ever since, undergoing refinements based both on experience, changes to the force structure, and renewed emphasis on expeditionary operations.

Sustainable expeditionary force generation is another baseline characteristic of an expeditionary force. Sustainable expeditionary force generation is understood to be the ability to sustain an expeditionary force over time through the replacement of deployed personnel with a new rotation of personnel trained and equipped to conduct the requisite in-theatre tasks and operations. Although the Air Force has lost personnel over the years due to various force reduction efforts, a recent force structure review demonstrated that sufficient capacity generally

exists to sustain the various operational capabilities overseas, albeit for finite periods.<sup>120</sup> The main issue that arises is the number of rotations of personnel that can be generated in order to create a rotation ratio that does not lead to burn-out and increased attrition of personnel.

In Canada, the term “unit rotation ratio” is used to represent the number of rotations of personnel at home for each rotation of personnel deployed. The standard rotation ratio used by defence planners is 3:1. This translates into a force structure that has the capacity to generate a total of four rotations of personnel. With typical deployment durations of six months, a 3:1 rotation ratio theoretically results in a service member deployed overseas for six months out of every 24. However, experience has shown that this deployment tempo is unsustainable, leading to personnel retention challenges and premature attrition. In recognition of these issues, force planners have adopted a 4:1 rotation ratio for “land forces and national level units, both of which have historically been deployed at a higher operational tempo ....”<sup>121</sup> These force structure ratios, and separate internal guidelines to ensure CF personnel are returned to Canada for a minimum of 12 months between successive rotations, are aimed at improving the quality of life of personnel, and addressing problems related to personnel retention and attrition.<sup>122</sup>

The UK has developed similar rotation guidelines to ensure a satisfactory quality of life for their service members. Although the rotation ratios vary between the UK armed services, the RAF target is for personnel to spend no more than three months on deployed duties followed by

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<sup>120</sup> National Defence Headquarters, *EAF Concept – Force Structure Implications ...*, 1.

<sup>121</sup> Department of National Defence, “Defence Plan On-Line [Sustain Agenda – Readiness and Sustainment],” [http://www.vcds.forces.gc.ca/dponline/main\\_e.asp](http://www.vcds.forces.gc.ca/dponline/main_e.asp); Internet; accessed 18 April 2006.

<sup>122</sup> *Ibid.*

nine months at their home base, a 3:1 rotation ratio.<sup>123</sup> In developing an expeditionary concept for Canada's Air Force, air staff planners adopted a unit rotation ratio of 4:1 in view of the desire to develop expeditionary packages that could be sustained overseas indefinitely.<sup>124</sup>

Strategic mobility is another baseline characteristic of an expeditionary force, and one which has been a topic of discussion for many years in Canada, both in political and military circles. Strategic mobility describes the ability to transport personnel, aircraft and equipment from their domestic locations to distant theatres of operations, and includes strategic air and sea lift, and potentially air-to-air refuelling. All of the Air Force operational fleets, with the exception of the CH-146 Griffon, are capable of self-deploying their aircraft and aircrews to distant theatres.<sup>125</sup> This self-deployment capability in no way implies that the ground crews, essential support personnel, specialized equipment and aircraft spares can be deployed without dedicated strategic lift, usually airlift. In the current Canadian context, when the strategic airlift requirement exceeds the limited capacity of Canada's CC-130 and CC-150 fleets, contracted strategic lift is essential. Contracted strategic lift is even more critical for the Army, given the inability of the Canadian Air Force or Navy to transport all the necessary equipment for expeditionary Army operations, although it should be noted that Canada's Air Force possesses some tactical and strategic airlift, reliant primarily upon an ageing CC-130 fleet, capable of transporting the soldiers and some of their equipment to a theatre of operations.

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<sup>123</sup>Ministry of Defence, "MOD Public Service Agreement (PSA): Technical Notes," <http://192.5.30.131/issues/finance/psa/2003-2004/target4.htm>; Internet; accessed 18 April 2006.

<sup>124</sup>National Defence Headquarters, *EAF Concept – Force Structure Implications*, 1.

<sup>125</sup>Although the Griffon has self-deployed to locations such as Haiti (following the North American coastline), it requires transport via strategic lift to overseas theatres of operation.

As was discussed earlier, depending on the size and mission of the deployed force, the command and control element can vary from a small detachment operations staff to a Combat Air Operations Centre (CAOC). For Canada, this typically means the deployment of basic administrative command and control capabilities, supported by information technology systems such as the Air Force Command and Control Information System (AFCCIS). In some cases, more robust Canadian command and control capabilities are provided, as is the case with the Air Lift Control Element (ALCE), deployed in support of air mobility operations. In order for the Canadian Air Force to conduct expeditionary combat operations, such as offensive or defensive counter air, air interdiction, close air support, or strategic attack, Canada will deploy personnel to augment a Coalition Air Operations Centre (CAOC), or in the case of maritime or tactical aviation operations, a maritime operations centre and an army headquarters respectively.

The next baseline characteristic is that of interoperability. This characteristic has been an essential element of Air Force operations since the Second World War, with the integration of Canadian pilots, crews and aircraft in the RAF, operating alongside airmen of Commonwealth and other nations against the Axis powers. Following the war, the combined air defence of North America with the USAF under the NORAD partnership has fostered, and in many cases necessitated, Canadian interoperability with the United States. Canada's membership in the NATO alliance, and NATO's focus on standardized doctrine and interoperability, has ensured a Canadian Air Force understanding of the importance of interoperability, and the realization of that interoperability in the doctrine, procedures and equipment of Canada's Air Force. The importance of interoperability is emphasized in *Strategic Vectors* where "transparent interoperability" is one of the eight "strategic vectors" for the future. "Within North America,

our Air Force will need to be interoperable with the United States Air Force .... Abroad, we will need to be interoperable with coalition forces ....”<sup>126</sup>

Of the baseline characteristics remaining to be discussed, the ability to provide lean in-theatre support has been one of the most challenging aspects of deployed operations for Canada’s Air Force over the last 15 years.<sup>127</sup> These challenges are exacerbated by a chronic shortage of maintenance and support personnel across the Air Force. To mitigate this inability to independently provide all the integral and close support necessary to conduct sustained expeditionary operations, Canada has traditionally deployed to airbases where many support services are already available, either through coalition partners or through contractor or host-nation support. This reliance on coalition partners and host-nation support has been one of the key planning considerations for recent Canadian expeditionary air operations.

The current Air Force Support Capability (AFSC) project is aimed at “rationalizing existing support structures ... to provide better combat support to meet the needs of the Air Force.”<sup>128</sup> Current plans call for sufficient rotations of personnel and equipment to provide the requisite close support to deployed AEU’s at two sites simultaneously, one austere site and one well-found site, in a low threat environment.<sup>129</sup> Additional national-level CF general support will provide the remaining support requirements to ensure sufficient in-theatre support and

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<sup>126</sup>Department of National Defence, A-AG-007-000/AG-004 *Strategic Vectors ...*, 41-42.

<sup>127</sup>Howard G. Coombs, “Supporting Canadian Aerospace Expeditionary Forces: Air Power Sustainment in the 21<sup>st</sup> Century,” in *Canadian Expeditionary Air Forces: Bison Paper 5*, ed. Allan D. English, 83-92 (Winnipeg: Centre for Defence and Security Studies, 2004), 83.

<sup>128</sup>*Ibid.*, 84.

<sup>129</sup>LCol R.B. Mann, “Sustainment of Expeditionary Air Expeditionary Operations” (lecture, Canadian Forces College, Toronto, ON, 9 March, 2006).

sustainment is provided to the deployed AEU. These in-theatre support capabilities are a baseline characteristic of the conceptual expeditionary model and fundamental to a truly expeditionary force.

The final characteristic to be examined is that of modularity, a characteristic which speaks to the ability to customize or tailor the expeditionary force to a specific mission. In the Canadian context, the basic expeditionary elements planned for deployment and expeditionary operations are formed such that they represent the smallest doctrinally sound, tactically relevant and self-sufficient packages possible. These expeditionary packages, known as AEU's under the expeditionary concept, and sometimes referred to as Tactically Self-Sufficient Units (TSSUs) in defence planning circles, are designed to integrate into a larger coalition where the necessary force protection, logistic support, and command and control requirements are provided. The TSSUs typically represent a minimum contribution, a contribution which can be doubled or otherwise increased in size by the addition of additional aircraft and personnel. This modularity meets the planning and operational needs of the Air Force, and provides the Canadian government with the flexibility to adjust the Canadian contribution to international operations, depending on the political imperatives of the day.

Notwithstanding a recognized capacity limitation in the area of in-theatre support, an issue currently under remediation through the Air Force Support Capability Project, an examination of Canada's Air Force has shown that the essential baseline characteristics of the expeditionary model are inherent to Canada's Air Force. However, before moving on to a discussion on the impact of the 2005 Defence Policy Statement on the expeditionary concept, a

brief examination of those additional characteristics which would serve to increase the robustness of expeditionary forces will be conducted.

### **Robust Characteristics**

Characteristics which serve to increase the robustness of expeditionary forces include the ability to operate in any terrain or climate, to establish a base of operations through forcible means, to provide full-spectrum force protection, to be capable of reconstitution while forward deployed, to sustain oneself in an austere environment without host nation support, and to be multi-mission capable. Of these characteristics, one could question the contemporary applicability of establishing a base of operations through forcible means as a defining characteristic of a robust expeditionary force. As previously discussed, it appears that only the USMC considers this capability an essential criterion of an expeditionary force. In assessing the relevance of this characteristic as a defining characteristic, one should consider that even the USAF does not plan to fight its way into a base of operations. Although it is difficult to argue that this capability does not increase the robustness of an expeditionary force, it is questionable whether or not this characteristic should be considered a defining characteristic. Likewise, the ability of an expeditionary force to reconstitute while forward deployed may be applicable to a force that has minimal infrastructure requirements but, in view of the extensive infrastructure requirements of a modern air force, even an expeditionary one, is a characteristic that will not be considered further given the task-tailored nature of Canada's expeditionary operations.

Having discounted the applicability of these two characteristics as defining characteristics of a robust expeditionary force, there remain two other robust characteristics that are problematic for Canada's Air Force: the ability to provide full-spectrum force protection in an elevated threat



environment, and the ability to sustain a force in an austere environment without host nation support. Each of these characteristics will be discussed in turn below.

First, the ability to provide adequate force protection in an elevated threat environment is a capability which is likely unattainable for Canada's Air Force on its own; however, should the government, or the CF leadership, determine that the deployment of an AEU to a location where elevated levels of force protection were necessary but unavailable, the concurrent deployment of elements of Canada's land forces could provide this critical capability. Nevertheless, in the absence of an organic air defence and airfield security capability, such as the RAF possesses in the RAF Regiment,<sup>130</sup> and in view of the possibility of using elements of Canada's land forces if necessary, Canada's Air Force will likely not re-direct scarce resources to develop an independent force protection and airfield defence capability.

Second, the ability to sustain a force in an austere environment without host nation support is a characteristic that, to this point, has been beyond the capability of Canada's Air Force. This capability deficiency, though important, has not to date become a critical issue given Canada's historical pattern of operations within a coalition; however, in view of the increasing emphasis on expeditionary operations, and the desire expressed in the 2005 Defence Policy Statement to take a leadership role in expeditionary operations "when it is within Canada's interest and ability to do so," the ability to sustain a force in an austere environment without host nation support may become increasingly important in the future.<sup>131</sup> In fact, *Strategic Vectors*

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<sup>130</sup>The Royal Air Force Regiment is a specialist component of the RAF responsible for force protection, air defence, forward air control and combat search and rescue.

<sup>131</sup>Department of National Defence, *Canada's International Policy Statement: Defence*, 2-3.

makes a specific reference to the re-design of an Air Force Support Capability that will support operations “... within Canada and around the globe, including unprepared locations.”<sup>132</sup>

Of the remaining additional robust characteristics, the capability to operate in any terrain or climate and the capability to offer multi-purpose capabilities are two characteristics that are inherent to Canada’s Air Force, although there are acknowledged deficiencies in strategic lift. These deficiencies are currently the subject of much debate within Canada, and are issues that were recognized for remediation in the recent Defence Policy Statement. While not possessing the range of aerospace capabilities of the USAF or the RAF, Canada’s Air Force enjoys *bona fide* multi-purpose capabilities both in terms of equipment and range of missions; from fighters to transport aircraft, from humanitarian support and disaster relief to combat operations. In addition, by virtue of its experience operating throughout Canada’s diverse geography and climate extremes, the Air Force is capable of operations in practically any terrain or climate.

Overall, Canada’s Air Force possesses all of the expeditionary characteristics of the baseline expeditionary force that, with some increase in support capacity, fulfill all of the criteria of the baseline expeditionary model. Of the additional characteristics which define the robust model, noting that forcible entry to a base of operations and the ability of an expeditionary force to reconstitute while forward deployed have been discounted as relevant characteristics in the Canadian context, Canada’s Air Force possesses some of the remaining robust characteristics but is deficient in others. Specifically, the Air Force is able to operate in any terrain or climate and possesses multi-purpose capabilities, but lacks both the ability to sustain itself in an austere environment, and the capacity to provide its own full-spectrum force protection in a heightened

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<sup>132</sup>Department of National Defence, A-AG-007-000/AG-004 *Strategic Vectors ...*, 46.

threat environment without the assistance of Canada's land forces, coalition partners, or host nation support.

## THE 2005 DEFENCE POLICY STATEMENT

The 2005 Defence Policy Statement was the first comprehensive policy document on defence since the 1994 White Paper. Although over 10 years have elapsed since the White Paper was published, the three main themes of protecting Canada, defending North America, and contributing to international peace and security, have remained constant with the 1994 White Paper, and for that matter, the defence policy statements of the last several decades.<sup>133</sup> In protecting Canada, the Defence Policy Statement draws a firm link between the defence of Canada and international peace and security. Put another way, “[s]ecurity in Canada ultimately begins with stability abroad.”<sup>134</sup> As for the increasing importance of expeditionary operations, the Defence Policy Statement emphasizes the threat to international peace and security posed by failed and failing states, and directs the CF to focus their capabilities to address this problem. According to the policy, the “Canadian Forces will focus its expeditionary capabilities on operations in these states, including in a leadership role when it is in Canada’s interest and ability to do so.”<sup>135</sup>

The policy statement also announced an increase in the size of the CF by 5,000 Regular and 3,000 Reserve personnel, and informs that these additional forces will give the CF the capacity to take part in “challenging international operations anywhere in the world ....”<sup>136</sup> The statement also provides direction to raise the capacity of the CF to sustain personnel overseas

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<sup>133</sup>Department of National Defence, *Canada’s International Policy Statement – Defence ...*, 2.

<sup>134</sup>*Ibid.*, 2.

<sup>135</sup>*Ibid.*, 2-3.

<sup>136</sup>*Ibid.*, 3.

from the 1994 departmental planning figure of 4,000 personnel, to up to 5,000. It also affirms an intention to “deploy around the world with our friends and allies as a part of a multilateral approach to international operations.”<sup>137</sup> Overall, the government has announced that significant additional resources will be provided to the CF to improve their ability to deploy and sustain overseas operations. In conducting these expeditionary operations, the CF is tasked to become more responsive. “They will arrive on the scene faster, make a rapid transition to operations once there, move more effectively within theatre, and sustain deployments, in some cases, for extended periods.”<sup>138</sup>

Although there are many similarities between the 1994 White Paper and the 2005 Defence Policy Statement, particularly in terms of the roles of the CF, the desire to work within multinational or coalition frameworks, and the designation of high readiness and normal readiness forces to respond to international contingencies, the 2005 statement urges the CF to operate in a more integrated fashion. Where the 1994 policy directed the CF to designate land, sea and air forces to operate within a larger coalition, but not necessarily as a joint package, the 2005 statement emphasizes the need for these forces to operate together, in a much more highly integrated manner than was previously envisioned. For example, the 1994 White Paper directed the CF to be prepared to deploy “as single units or in combination” various elements of the land, maritime and air commands.<sup>139</sup> The high readiness elements included, *inter alia*, “two ships (one on each coast), one battle group, one infantry battalion group, one squadron of fighter

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<sup>137</sup>*Ibid.*, 4.

<sup>138</sup>*Ibid.*, 11.

<sup>139</sup>Department of National Defence, *1994 Defence White Paper* ..., 38..

aircraft, a flight of tactical transport aircraft ... and a headquarters element.<sup>140</sup> Although these disparate elements could be combined to operate jointly, this was not the emphasis and the CF was not envisioned to fight together as a joint force. Under the 2005 policy, the emphasis has shifted dramatically to the deployment of CF elements to operate *together* as part of a cohesive joint force within a multidimensional Team Canada approach.<sup>141</sup> This team would also operate in a combined manner with the UN, NATO, and other allies and coalitions, although the Canadian contribution would operate together as a joint force whenever possible.<sup>142</sup>

This new integrated focus is best reflected in the intention to create a new joint Standing Contingency Task Force (SCTF). The new task force is to be a high-readiness force “made up of existing, designated maritime, land, air and special operations elements, organized under a single integrated [joint] combat command structure.”<sup>143</sup> According to the draft concept of operations, the SCTF is to be deployable within ten days to confront crisis, from peacetime engagement to combat operations. It is designed to be an “expeditionary amphibious combat capability for ... operations in an interagency [and] multinational environment,” and by nature of its amphibious capability, is optimized for the littoral.<sup>144, 145</sup> Of note, the SCTF will not be trained or equipped

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<sup>140</sup>*Ibid.*, 35.

<sup>141</sup>“Team Canada” is a term used by the Chief of Defence Staff, Gen Rick Hillier, to represent a whole-of-government approach to a regional engagement issue that consist primarily of the government functions of Defence, Diplomacy, Development and Commerce.

<sup>142</sup>Department of National Defence, *Canada’s International Policy Statement – Defence ...*, 13, 32.

<sup>143</sup>*Ibid.*, 13.

<sup>144</sup>National Defence Headquarters, “Draft Version 3 Standing Contingency Task Force Concept of Operations,” *circa* 2005, 6.

to conduct amphibious assault by inserting troops against established enemy positions; rather, it will land the force ashore tactically through the use of helicopters and landing craft in order to allow the landed force to move into an environment ranging from permissive to hostile.<sup>146</sup> The draft SCTF Concept of Operations provides the SCTF Vision:

At Full Operating Capability ... the SCTF will be a combat capable seaborne expeditionary and amphibious force. It will be fully integrated and will consist of a HQ with an embedded Team Canada element, an Amphibious Task Group, a Landing Force, a Naval Task Group, an Air Expeditionary Unit [AEU], CANSOFCOM elements [special forces] and a Support Group.<sup>147</sup>

The core AEU will consist of several “multi-role medium lift marinized [sic] helicopters and LRPA [Long Range Patrol Aircraft] to support the broad spectrum of naval, land and special operations.”<sup>148, 149</sup> Additional capabilities that could be added include fixed-wing tactical airlift such as the CC-130 Hercules, air traffic control elements, and unmanned aerial vehicles.<sup>150</sup> The SCTF is designed to establish a forward presence, shape the operational environment, conduct maritime and land operations in the littoral and then hand-off the operation to follow-on

<sup>145</sup>The littoral is defined in the Draft Version 3 Standing Contingency Task Force Concept of Operations as “a coastal region consisting of the seaward area from the open ocean to the shore that must be controlled to support operations ashore, and the landward area inland from the shore that can be supported and defended directly from the sea .... The size of the littoral will vary from mission to mission.”

<sup>146</sup>National Defence Headquarters, “Draft Version 3 Standing Contingency Task Force Concept of Operations ...”, 6.

<sup>147</sup>*Ibid.*, 8.

<sup>148</sup> The AEU discussed in Draft Version 3 Standing Contingency Task Force Concept of Operations is a composite AEU, comprised of elements from different fleets or AEFs. In discussions thus far, each AEU is comprised aircraft from a single capability area.

<sup>149</sup>National Defence Headquarters, “Draft Version 3 Standing Contingency Task Force Concept of Operations ...”, 15. *circa* 2005, 15.

<sup>150</sup>*Ibid.*, 15.

forces.<sup>151</sup> The SCTF will be designed to deploy for extended periods, with rotations of personnel scheduled to occur at six month intervals.<sup>152</sup> In fact, each rotation of the SCTF is expected to follow a 24-30 month readiness cycle, with the high-readiness rotation holding a six month vulnerability or on-call period.

If the SCTF is actually implemented in its proposed form, it will represent a new era of joint operations for the CF. The SCTF will be Canada's joint rapid reaction force, ready to contribute to international peace and security where and when required. However, the amphibious operations doctrine, training and equipment, including the specialized ships and helicopters, will take time to acquire and will require specific government approval. Nevertheless, the SCTF marks a new era in jointness and a heightened operational focus for the CF.

The 2005 Statement also provides additional insight into how the government envisions improving the expeditionary capabilities of the CF. In terms of getting the force to the theatre, the government announced its intention to increase the strategic airlift capacity of the CF by either acquiring or contracting additional capability. In addition, the statement confirmed the government's intention to complete the conversion of two CC-150 aircraft to provide a strategic air-to-air refuelling capability. As for tactical mobility, the statement indicated an intention to acquire several medium or heavy lift helicopters to move personnel and equipment from forward bases and ships to where they are needed in theatre. Taken together, these improvements in

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<sup>151</sup>*Ibid.*, 13.

<sup>152</sup>Six months represents the author's estimate given traditional readiness cycles and deployment lengths.



strategic and tactical lift and mobility will significantly improve the ability of the Air Force to conduct and support expeditionary operations.

The Defence Policy Statement gives direction to the Air Force to provide and sustain specific capabilities overseas for international operations from all air operational capability areas, either as enablers to the Standing Contingency Task Force and the Mission-Specific Task Force, or as integral components thereof. The statement describes some air capabilities that are to be sustained for only six months, such as six CF-18 aircraft, one CC-150 aircraft configured for air-to-air refuelling, six maritime helicopters for deployment with the naval task group, and two CP-140 Long Range Patrol aircraft to support land and sea-based forces. Other capabilities are to be sustained overseas indefinitely such as two maritime helicopters, one CP-140 as the forward element of the Standing Contingency Task Force, and a new medium to heavy lift helicopter capability to support land operations. The statement also makes reference to “a globally deployable special operations aviation capability” which will likely be used to support overseas operations by Canada’s special operations forces.<sup>153</sup> Whether this capability is based on the existing CH-146 Griffon helicopter or whether it will be based on a new and yet to be acquired aircraft remains to be seen.

Although the Defence Policy Statement has provided an emphasis on more highly integrated CF operations, and has adjusted the force packages designed to support international operations from vanguard elements and contingency forces to standing contingency and mission-specific task forces, the underlying requirement to deploy and sustain high readiness forces in an expeditionary manner in order to further Canada’s foreign policy objectives remains unchanged.

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<sup>153</sup>Department of National Defence, *Canada’s International Policy Statement – Defence*, 30.

Canada's Air Force, with a long history in expeditionary operations, has developed the organizational underpinnings of a contemporary expeditionary force. Today's expeditionary force structure, based on air expeditionary units, can be traced back to the 1994 White Paper and the associated vanguard plans. Though the capacity of Canada's Air Force is modest, especially when compared to the USAF, much of the terminology and many of the concepts of the Canadian model are drawn from the USAF experience. Other allies, such as the UK and NATO have also developed similar structures.

## CONCLUSION

Expeditionary operations are not new to the CF or to the Air Force. Canada's experiences in the conflicts of the 20<sup>th</sup> Century have demonstrated that Canadian security is synonymous with international security. Canada's geo-strategic position, surrounded by three oceans and essentially isolated from foreign conflict, has meant that Canada's forces have had to deploy overseas to directly influence the battle and support our values. These deployments are, in effect, expeditions.<sup>154</sup>

As a result of the expeditionary nature of Canada's military participation in international peace and security activities, a force structure has evolved that reflects this expeditionary reality. That is not to say that the CF is not structured for homeland defence or domestic contingencies; rather, that the resultant force structure reflects both requirements. For the Air Force, the requirement to retain, and perhaps improve this expeditionary capability is at the heart of the Air Force vision, "to make the Air Force more expeditionary and better able to deploy, employ, support and sustain operations away from home ...."<sup>155</sup>

The contemporary rationale for improving the expeditionary capability of the Air Force is rooted in the employment patterns of the CF and the Air Force over the last fifteen years. During this period, the Canadian government has dispatched elements of the CF from the maritime, land, and air environments in a variety of roles, from humanitarian assistance to peace support operations, to combat, all in support of Canada's international objectives. As a result,

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<sup>154</sup>Fergusson, "Over There, From Here ...", 45.

<sup>155</sup>Department of National Defence, A-AG-007-000/AG-004 *Strategic Vectors* ..., 12.

expeditionary operations formed a key component of the 1994 Defence White Paper. The 2005 Defence Policy Statement describes a strategy of ensuring defence at home by ensuring peace and stability abroad. To realize this strategy, the policy recognizes the renewed importance of expeditionary operations, and sees Canada and CF most likely involved in providing security and stability to failed and failing states. It creates a new joint rapid reaction force, composed of maritime, land, air and special operations forces all organized under a single integrated command structure and known as the Standing Contingency Task Force. Previously, where the high readiness elements of Canada's maritime, land and air environments were not necessarily expected to operate together as a joint force, under the 2005 policy the emphasis has shifted dramatically such that the various CF elements are expected to operate *together*, as part of a cohesive an integrated joint task force.

A review of various contemporary expeditionary models has provided some context for assessing the expeditionary nature of Canada's Air Force. Of the models examined, Gongora's conceptual model has proposed defining characteristics of a baseline and a robust expeditionary force, while the USAF, UK and NATO models have provided real points of comparison. An analysis of these models indicates that Canada's Air Force possesses all of the baseline characteristics of an expeditionary force; however, the analysis also revealed some capacity deficiencies in the baseline characteristic of in-theatre support, an issue currently being addressed by the Air Force Support Capability initiative.

In terms of robust characteristics, the relevance of some of the characteristics that define a robust expeditionary force is open to interpretation, most notably the ability to establish a base of operations through forcible means and the ability to reconstitute while forward deployed. The

remaining robust characteristics represent either capabilities which currently exist in the Air Force, or are capabilities that must be provided by coalition partners or a host nation. One critical characteristic of the robust expeditionary force which cannot be addressed by the Air Force alone is the ability to provide full-spectrum force protection to the deployed AEU. While this capability is currently provided by coalition partners or a host nation, should Canada wish to deploy an AEU to a location where host nation or coalition partners are not able to provide this service, the support of Canada's land forces would be essential in providing this vital capability.

The Air Force is determined to respond to the increased expeditionary demands of the coming years, and as one looks to the future, there is not expected to be any decrease in the demand for the CF to operate overseas.<sup>156</sup> Canada's Air Force is also no stranger to expeditionary operations. Over the last half century, the characteristics of air power, especially speed, range and flexibility have made the Air Force the instrument of choice for the government when responding to international humanitarian crisis and natural disasters, support to traditional peacekeeping and observer operations, complex peace support missions, and combat operations.<sup>157</sup> The Air Force has recognized the increasing importance of expeditionary operations, and has embodied expeditionary operations in its vision for transformation. With lessons drawn from the USAF and other allies, the Air Force has taken its vanguard experience and refined it to develop its contemporary expeditionary concept. In so doing, it has realized that it already possesses all of the baseline characteristics of an expeditionary force, and many of the characteristics of a more robust expeditionary force. It is now focused on strengthening its

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<sup>156</sup>Department of National Defence, *Canada's International Policy Statement – Defence ...*, 10.

<sup>157</sup>*Ibid.*, 28.

capability and capacity for expeditionary operations. With this in mind, it appears that the Air Force has the expeditionary foundation to transform to an “expeditionary, network-enabled, [and] results focused Aerospace Force for the 21<sup>st</sup> Century.”<sup>158</sup>

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<sup>158</sup>Department of National Defence, Strategic Vectors ..., 2.

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