



STRATEGIC AIR AND SEA LIFT
FOR
THE CANADIAN FORCES

A Paper by the Royal United Services Institute of Nova Scotia

Halifax Nova Scotia

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Introduction

The Royal United Services Institute of Nova Scotia (RUSI NS), comprising some 230 retired and active members of the Canadian Forces, the Royal Canadian Mounted Police, other security agencies and prominent citizens of Nova Scotia, has produced the following Paper on the requirements for adequate Strategic Air and Sea Lift for the Canadian Forces.

The Paper was completed by Colonel Murray A. Lee (ret.) who headed a team of writers and researchers who serve on the Security Affairs Committee (SAC) of RUSI (NS). This Paper has been endorsed by BGen. Colin Curleigh (ret), Chairman of SAC, and approved by RUSI's Board of Directors.

The need to quickly get Canadian troops and their equipment to trouble spots around the world has increased significantly in recent years. The intent of this Paper is to provide facts and figures for our politicians, military planners, the media, the citizens of this country and, most importantly, to members of our Institute. The bottom line is that we have lost the capability to deploy our forces and this paper will recommend to the Government of Canada what we believe is a credible solution to a large problem which impinges on our national sovereignty.

John F.Harrison

President

Royal United Services Institute of Nova Scotia

Executive Summary

The present method of sea and air lifting Canadian troops and their equipment to trouble spots around the globe is, to a large extent, by chartering ships and aircraft. One example in reinforcing this statement is to examine recent deployments of the Canadian Forces. The cost to perform these tasks and put troops on the ground in Kosovo, East Timor and Afghanistan (Operation Apollo) totaled **\$80,892,006**.

The breakdown is as follows:

Cost of chartering strategic sea lift to Kosovo \$5,140,000 (June 1999 – June 2000)

East Timor \$643,500 (Oct 99- Apr 01)

Afghanistan \$1,437,015 (Oct 01 & Feb 02)

TOTAL \$7,220,515

Cost of chartering strategic air lift to Kosovo \$9,481,236 (Op Kenetic)

East Timor \$3,645,600 (Op Toucan)

Op Apollo \$53,474,006

TOTAL \$ 66,600,842

The incremental cost of strategic air-to-air refueling to deploy the CF-18 fleet to Aviano, Italy (and this was only 18 of the aircraft) was \$61,923 and the redeployment to Canada was \$52,658 for a total of **\$114,581**. (Timeframe Mar 99 – Jun 99)

Readers may recall the problems with the GTS Katie that ran into financial troubles while returning to Canada with Canadian military equipment. The ship refused to put into port and Canadian military personnel had to intervene to get their equipment back. The incremental cost of the charter was \$2,660,367 but the full cost for the interception and return of CF equipment was \$ **6,956,086**. (Timeframe Jul 30-Aug 6 2000)

The total of almost **\$81 million** does not include the cost of operating the aircraft involved in the above examples.

For fiscal year 2002/2003, the incremental cost of maintaining the C-130 fleet is \$4,656 per hour while the full cost to maintain and operate the aircraft is \$14,478 per hour. In

the past, the costs to charter the Antonov 124 and the Ilyushin 76 have been \$23,000 per hour and \$10,700 per hour respectively. The Canadian Forces have had access to the C-17 Globemaster and C-5 Galaxy under a Memorandum of Understanding with the United States Department of Defense. In these instances, the US DoD charges a rate of \$7,283 per hour to utilize the C-17 and \$16,000 to utilize the C-5.

The above costs do not include figures for the planned deployment to Afghanistan by the Canadian Brigade for Operation Athena this summer.

Recommendations

RUSI (NS) makes two recommendations to the Government of Canada to provide sea and air lift capabilities to the Canadian Forces:

1. **Lease strategic airlift on a long-term contract.** It is clear Canada cannot afford to purchase aircraft such as the C-17, and should follow the model provided by Britain's Royal Air Force which negotiated a seven-year lease with Boeing Corporation for C-17 Globemasters. RUSI (NS) has learned that an eight-year lease of four C-17 Globemasters would cost US\$750 million, including the training packages. Boeing Canada has such a package prepared for DND. A NATO working group, of which Canada is a member, is proposing a pool of aircraft. This solution is deemed unsuitable for Canada due to availability and type.
2. **Build sea lift capable ships.** The Canadian Navy has historically built its ships in Canadian shipyards to Canadian specifications. By doing the building here in the immediate future, Canadian shipyards that are now idle can use their skilled maritime engineers and a state-of-the-art workforce with the obvious industrial benefits and economic spin-offs for the Canadian economy. The ALSC (Afloat Logistics and Sealift Capability) project is studying a vessel that will have roll-on-roll-off capability, underway refueling and a side ramp for very heavy equipment. The Department of National Defence foresees a requirement for four, 28,000 ton ships at a base cost of \$50 million each, ramping up to \$100 million fully equipped for operations.

The Background

The Navy

The Maritime Forces prime sea lift capability is provided by two ships, one on each coast. HMCS Preserver and HMCS Protecteur, based on the east and west coasts respectively, provide a limited capability to support operations offshore. These ships now are 35 years old, having been launched in 1968/69. An additional ship, HMCS Provider, was based in Halifax until being decommissioned in the 1990s because she was a single-hulled oiler.

Basically, the two Operational Support Ships or Oil Replenishment Ships (AORs) are too small and have no roll-on-roll-off (RO-RO) capability. This makes them unsuitable for land forces equipment. Also, they cannot carry any significant complement of soldiers for Canadian Forces' operations outside Canada. Commercially, Canada does not have any Canadian registered roll-on-roll-off ships and relies on charter services to provide this capability.

Our sources say the ALSC project has not been discussed for some time. The problem is believed to be that the Army has not clearly stated what it needs to lift anything beyond a traditional "battle group" of around 1,800 personnel with combat and logistic support. In other words, the force the Army still envisages is "mechanized" in the image of the NATO formation in Europe, less tanks and self-propelled artillery. Despite the pressure applied by Strategy 2020 and its implementation documents, the Army does not seem willing to move ahead on lighter and more mobile force concepts. This quandary is perhaps understandable when one considers that the long awaited defence review has still not been announced thus precluding CF planners to state their requirements.

The Navy, as the primary rapid response force, feels it needs AORs to be able to deploy more than a single ship integrated into a U.S. or NATO formation. Thus the Navy's focus is on replacing the AORs and considers sea lift a secondary requirement.

The ALSC project has the following statement of requirement for the new class of ships. All functions currently performed by the AORs including underway refueling and replenishment (RAS) plus the capability to carry containers on deck. It will also be a RO-RO ship with cargo carried in the hangar and on the flight deck as well.

Additionally, plans call for the ships to discharge cargo over the jetty using either available stevedoring equipment or using ship fitted cargo handling equipment at a bare bone jetty. Cargo can be off-loaded with the use of landing craft/sea trucks over the beach from the ship lying off. The flexible transfer system will include a ramp. A well dock, similar to that used by the US Marines, is contemplated to stow, launch and

recover the sea trucks.

Each ship is planned to have a 2500 metre lane. This is in addition to reefer space, POL (petroleum, oil and lubricants) and water. While the statement of requirement does not discuss helicopters, it is assumed the ships will be enhanced with two of the new helicopters and will have a maintenance capability.

The ALCSs are intended to serve two roles. The first is to transport and land an army formation of Battle Group size. They will carry their headquarters, vehicles and equipment plus initial supplies. This requirement calls for a 7500 metre lane or three ships. The second task is to land and support an operation at a second location. This task is expected to require 2500 metre lanes. Therefore, the stated requirement is for four ships. Conceivably, there would be two ships berthed at each coast to provide the needed flexibility.

The Air Force

Currently, the Air Force has in its inventory five A-310 Airbus long-range strategic air lifters. These aircraft were purchased from defunct airline companies in their original

passenger configuration. Since their purchase in 1992-93, two of the aircraft have been modified to conduct long-range air refueling operations to support deployments of the CF-18 Hornet fighter fleet. The CC-150 Polaris (military name for the A-310) can carry up to 194 passengers or 32,000 pounds of cargo. Even though side-loading cargo doors were installed, the planes cannot carry any outsized cargo larger than a Jeep and trailer.

The other aircraft in the airlift fleet is the CC-130 Hercules. Canada currently has 32 of these tactical airlift aircraft designed for intra-theatre operations but used as strategic carriers. Four of these aircraft are KC-130 tanker versions but due to their speed and fuel capacity cannot be used as strategic tankers for the fighter force deployments overseas.

Additionally, all 32 Hercules cannot be used for airlift as a number of them are dedicated to providing Search and Rescue operations at Greenwood Nova Scotia and Trenton Ontario. These aircraft are also getting old as they were purchased at various times from 1960 to 1991. The current E and H models do not have the extended cargo bays and

Canada did not consider updating their fleet with the J model as have the U.S., UK and Australia. A similar comparison can be made with the problem the Navy has with outsized cargo, i.e. there are no commercial aircraft available in Canada from any source with the capability to haul the needed equipment for deployments abroad.

Discussion of the Requirement

Considerable discussion has taken place over the last five years with respect to Canada's capability to deploy an expeditionary force overseas. Because the Canadian Forces lack the ability to deploy to theatres of operation, it has relied on renting, leasing or chartering various aircraft and ships as a means of getting the assigned forces to their operating areas, sometimes with risk and at great cost.

Planners at National Defence Headquarters in Ottawa have been working for a number of years on the development of a Capital Equipment program to meet the needs of the Forces. As weRUSI pointed out earlier in this Paper, there is a need for a replacement ship for the AORs, now called the Afloat Logistics and Sealift Capability (ALSC) project. DND (Reference F) states:

“A vital strategic Maritime project currently under review is the ALSC project. This project is intended to provide a replacement for the existing operational support ships with platforms that will meet the requirement and support needs of the existing ships and provide Canada with a strategic sea lift capability to support joint force operations.”

The Navy is clearly planning to go ahead with a Made-in-Canada solution to the sea lift problem and has included the ALSC in the Capital Equipment Expectations Table as detailed in the Defence Planning and Management Long Term Capital Plan. A note to the table states that “target investment for Strategic Mobility capability is \$3.5 billion.” This applies to both the ALSC and Future Strategic Airlift.

It is interesting to note there is no mention in the Plan of procurement of strategic airlift in the Air Force section. However, the Chief of the Air Staff, LGen Lloyd Campbell states:

“...the department and the CAF have determined that a strategic airlift is required.” He goes on to say “the C-17 is one of those options most definitely because it is a very capable aircraft and probably the only one of the capacity that currently exists.”

When asked about a more affordable Airbus A400M, he said: “The A400M will be somewhat less expensive and is somewhat less capable than the C-17 in size terms. The biggest issue here, I think, is that we really do need more tactical transports. The C-130 is an outstanding tactical airlifter and will continue to service us for quite a long time. What we really need is something that can take outsized cargo.”

The aforementioned \$3.5 billion for strategic mobility is most interesting. The dollar figure is for both programs – air and sea. However, when we examined the speech by the Minister of National Defence to the

Conference of Defence Associations on Feb. 27, 2003, he had this to say:

“The Canadian Forces will not be unilaterally purchasing large transport planes at a cost of some \$3 to \$5 billion dollars. We will consider other much more cost-effective options such as a strategic lift capability shared with NATO allies, including the United States.”

This statement is interesting for two reasons. First, no mention was made of any sea lift capability and secondly, the figure he quotes is far beyond any stated either by DND or NATO planners (\$3.5 billion as opposed to \$3 to \$5 billion).

As a sideline to this discussion, readers will recall the latest Sea King fiasco. After the crash of the Sea King on HMCS Iroquois, the government scrambled to charter sealift

to get the helicopter to the ship. At a cost of \$180,000 and a three week delay, the sea King was transported to the Gulf on a Saudi Arabian ship. The nineteen air and ground crews were then flown over to meet their aircraft. This comedy could have been averted if we had our own strategic airlift which costs approximately \$7,000 per hour to fly over.

For a 10 hour flight, the cost would have been \$70,000 and the ship would have been fully operational almost immediately

The Government's Future Plans

At this time, there is no Government of Canada statement that will assist in knowing where we stand on the need to acquire new ALSC ships. Indeed, in an interview with Fred McMahon, Director of the Centre of Globalization Studies at the Fraser Institute in Vancouver, he states: “...at sea, the Navy has not fully explained how or when it will replace its two 30-year-old supply ships. In the air, Canada's transportation aircraft are too old and small to operate in war zones.”

In an article in the Defence News by David Pugliese in Ottawa, entitled “Canadian Airlift Hinges on NATO Pool Plan”, it is reported the plan to purchase the C-17 Globemaster was rejected. Pugliese wrote: “In 2000, the Canadian Air Force determined the C-17 best met its strategic airlift needs and planners started laying the groundwork for buying six of the aircraft. Indeed, the Air Force had already sent crews to train with the USAF in Charleston South Carolina. Although final government approval had not yet been obtained, the service was looking at initial deliveries to begin around 2005.

On March 18, 2002, in a television interview on CBC, Prime Minister Jean Chretien questioned why aircraft could not be rented when needed. He said it didn't make sense for Canada to spend a large amount of money on the planes since they would not be required on a full-time basis. This started the change in planning.

In the Pugliese article, the Vice Chief of the Defence Staff, LGen George MacDonald said Defence Minister John McCallum had made it clear that the military could not afford an outright purchase of transport aircraft.

At the November 2002 NATO summit in Prague it was reported the Canadian military had shelved its plan to buy the C-17 and would rely instead on a proposed NATO scheme to create a pool of shared strategic-lift aircraft.

RUSI (NS) questions this scheme which has been rejected by Britain's Royal Air Force. Will a pooled approach be really cost-effective and, more importantly, will the aircraft be available when required? Nic Boivert of the Council for Canadian Security in the 21st Century put it succinctly: "If we (Canada) had wanted to go to Iraq, would the French or the Germans have lent us the planes?" Let's examine the NATO plan.

NATO Countries Airlift Lease Options

One larger air lifter still on the drawing boards is the Airbus Industrie A400M. A number of European nations are counting on this aircraft to provide the answer to their air lift requirements for the 21st Century. However, delays in production, the signing of firm contracts et al have forced certain NATO members to look for another solution to their air lift problems. The countries involved are France, Canada, Norway, Germany, Denmark, Luxembourg, Hungary, Poland, the Czech Republic, Turkey and Portugal. At the Nov. 22, 2002 summit in Prague, these countries signed a letter of intent to research options for acquiring strategic airlift aircraft. Two options have been presented to NATO: the C-17 Globemaster built by Boeing Corporation and the AN-124-100 built in Kiev, Ukraine. These two companies presented the NATO working group with a 10-year leasing option for 12 C-17s for US\$3 billion and a US\$1 billion price for six

AN-124s. Germany has insisted these figures must come down.

The bottom line is that NATO expects to have a clear picture of the airlift option at the informal meeting of NATO defence ministers in Brussels on June 12, 2003.

These plans raise other problems. It must be remembered that there will be nine more NATO members added in 2004 and the strain on the assignment and use of the 6-12 aircraft fleet will be enormous, especially when it is taken into account that NATO will be forming a standby deployable Corps. Who gets the airlift and in what priority? Can any be stationed in Canada for our use?

It was reported in the Defence News on March 31, 2003 that the NATO planning group is now pursuing an air lifter compromise. This compromise is a mixed fleet of C-17 and Antonov An-124.

The Germans, who chair the working group, now favour the An-124 as the backbone of the fleet. This is a poor decision, based on politics and cost. Primarily, the An-124 is a huge aircraft restricting it to operating from large airfields. It has no capability for using smaller battlefield runways and has no self-protection capability.

Additionally, the plan sees NATO acquiring only five An-124s and two C-17s. To share these meager resources with 12 current members and the proposed additional countries post 2004 is a solution which is fraught with problems. Canada, if she chooses to go this route, will only get airlift if and when available. RUSI (NS) is certain none of these aircraft will be based in Canada. No mention has been made by DND planners as to the cost in NATO infrastructure funding to support this plan. It will not be cheap and the air force will have lost all flexibility and Canada will have given away yet another piece of our sovereignty.

The “great Canadian compromise” once again rears its head due to lack of political will to fund and equip the Canadian Forces. We are deeply concerned to that the Chief of the Air Staff and the Vice Chief of the Defence Staff, both experienced airmen, have opted to abrogate their responsibility to stand up to the Minister by stating the true facts and requirements of DND.

It is the opinion of RUSI (NS) that if Canada chooses this so-called cheap option, it is making a grave mistake which will only be proven once Canadian troops are stranded on foreign soil with no way to extricate themselves due to a lack of Canadian resources.

Canadian Industrial Offsets and Economic Benefits

The Institute does not foresee any industrial offsets or economic benefits to the Canadian aviation industry with respect to airlift regardless of what option is finally chosen. The NATO plan would simply mean Canada spending money offshore. At this point we cannot ascertain how much money we are discussing, but rest assured whatever the final cost of the NATO option, we will not be getting a “bang for the buck” regardless of how much we contribute.

The Navy situation is an entirely different matter. Other than the recently leased-to-buy Victoria Class submarines, the Navy has historically purchased and built its ships in Canadian shipyards. Weapons systems and communications suites have been built elsewhere but the hull and propulsion systems have been built in Canada.

The Saint John shipyards have no major Government or private contracts on the horizon. Why not build the ASLCs in Canada with the obvious economic spin-offs? What will the economic benefit to Atlantic Canada and indeed the rest of the country be if we were to contract the construction of four ALCS ships at a cost of \$400 million? Prosperity, expertise, perhaps offshore sales? We need these ships, we need to retain the ability to deploy to contingencies overseas and we need to maintain our sovereignty. Is \$400 million dollars too much to ask?

Conclusions

The Royal United Services Institute of Nova Scotia is concerned with defence and security issues. We strongly believe that the issue of Strategic sea and airlift is a looming weakness to our sovereignty and security. The time has passed when we can depend on our Allies to provide all we need when we need it. We forecast that the deployment of the Canadian brigade to Afghanistan this summer will see the folly of our dependence on others to allow us to meet the commitments our government has given the Canadian Forces to carry out. With the huge re-deployment of forces from the Gulf region by the United States and Britain, and to a lesser degree by Australia, do we honestly think we can depend on them to provide us with the necessary transport? We think not, and once again we will spend an enormous amount of money out of the Forces meager operations budget to charter sea and airlift from nations which to some degree are not reliable. Only time will tell but the bottom line is that we require an integral capability to be self-reliant. Only by acquiring our own airlift and sealift can Canada maintain its sovereignty and fulfill its commitments to NATO, the UN and our allies. It is time to stop looking for the “cheap” solutions to our defence needs and fund the department to carry out its mandate and, as a reminder, that mandate is the security and defence of the Canadian people.

Recommendations

The Royal United Services Institute of Nova Scotia recommends to the Government of Canada the following:

- a. That DND reconsider the option of depending on the NATO airlift pool as our sole source of strategic airlift
- b. Have the Minister of National Defence fast track a Statement of Requirement for the Navy to obtain four ALCS ships
- c. Enter into negotiations with Boeing Canada to get the “best bang for the

buck” in leasing our own C-17 aircraft with a view to making a presentation to Treasury Board for approval at the earliest opportunity, and

- d.. Request cost proposals from our major shipyards for the construction
of the ships and the time it would take to procure them.

Only by maintaining a strong and independent strategic lift capability for our country can Canada carry out its defence commitments and provide Canadians with the sovereignty and protection the Government of Canada is obligated to provide to its citizens.

Acknowledgements

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