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## **Why Canada Needs a Robust Arctic Air Rescue Capability**

### **A Policy Update Paper**

By

**Ron Wallace**

CDFAI Fellow

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1600, 530 – 8<sup>th</sup> Avenue S.W., Calgary, AB T2P 3S8

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## **ABOUT THE AUTHOR**

Dr. Ron Wallace recently retired as Chief Executive Officer of a Canadian-US defence manufacturer. He has worked extensively internationally, including the Arctic regions of Canada and Russia, where he gained experience in northern engineering and environmental research.

In the summer of 1950 an RCAF *Lancaster* aircraft carrying out an air drop operation at Alert crashed and killed all 9 aboard when a parachute became entangled in the tail of the aircraft. All the crew members are buried at the airstrip. On October 30, 1991, a CAF *CC-130 Hercules* flying in "Operation Boxtop 22" crashed 30 km short of the Alert runway. Of 18 aboard, 4 died in the crash. The pilot, Captain John Couch, subsequently died during the 30 hours that it took search and rescue teams as they struggled heroically to reach the crash site through a fierce Arctic blizzard. In 1992 Robert Mason Lee documented in his book *Death and Deliverance* how rescuers, starting from their military post located only a few kilometres away, fought their way in the polar darkness to the crash site through howling winds, whiteout conditions and the extreme cold with a wind chill down to -70 C.

Such experiences point out the daunting, even nightmarish, realities of having to carry out an Arctic winter rescue of either civilian or military personnel involved in aviation accidents. There also remains the not insubstantial task of cleaning up a contaminated remote site. Is it possible that the Canadian Arctic could be subject in future to an accident with nuclear materials resulting from airborne military activities? As far-fetched as such scenarios may sound, it has already happened in, or near, Canadian Arctic air space not just once, but twice.

Fortunately for Canada, the first such incident occurred in Danish (Greenland) airspace. On January 21, 1968 a US Air Force Strategic Air Command *B-52G Stratofortress* from the 380<sup>th</sup> Strategic Bomb Wing based at Plattsburg Air Force Base, armed with four *B28F1* thermonuclear weapons, caught fire over Greenland and crashed 12 km west of Thule Air Base.<sup>1</sup> Six crew members bailed out with the loss of one, the co-pilot. At the time of the crash, Danish and US rescuers rushed to the scene. Radioactive materials were widely dispersed after the crash and the fire that ensued from 225,000 lbs of unused aviation fuel burned for six hours atop the sea ice of Baffin Bay. The Danes and Americans mounted a huge clean up operation named Project Crested Ice to clean up debris scattered in a 1.6 by 4.8 km area. In spite of the subsequent use of a Star III submersible the recovery teams, working in extreme conditions of cold and darkness, were not able to locate, or recover, one lost weapon. By the time of the conclusion of the cleanup operation nine months later, on 13 September 1968, over 700 specialized personnel from the US and Denmark, including representatives from over 70 US government agencies, had worked at the site. There have been claims of long-term damage to the health of certain locals and to the environment.

Given the very serious resources dedicated to the recovery and clean-up operations involved with Project Crested Ice, it may be worthwhile to recall that this accident, similar to the 1991 *Hercules* crash at Alert, occurred relatively close to a major military base. In both cases, rescuers and cleanup crews had the very material advantage of a major, nearby logistics and support base. It may be sobering to consider the plausible future consequences of any future accidents involving civilian or military aircraft that may occur in the more remote regions of Canada's northern airspace, including the Arctic Archipelago.

On January 24, 1978 almost precisely 10 years after the USAF *B-52G* crash at Thule, Greenland, *COSMOS 954*, a Soviet nuclear-powered surveillance satellite, slammed into Canada's Northwest Territories. It was a chilling example of the USSR's (now Russian Federation), albeit unintended, ability to inflict material nuclear contamination on the Canadian north. The Soviet craft was a Radar Ocean Reconnaissance Satellite (*RORSAT*) that had gone out of control, preventing the operators in the USSR from sending it into a higher, more stable orbit. Monitored by NORAD, and with no useful information on flight status emanating from the

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<sup>1</sup> Wikipedia, 2008c: Corera, 2008.

USSR, the satellite 'de-orbited' and came crashing into the Great Slave Lake region of the Northwest Territories. It showered radioactive debris over an area of 124,000 sq km stretching southward from Great Slave Lake into northern Saskatchewan and Alberta. The resulting search and cleanup operation dubbed "Operation Morning Light" involved over 200 military and government personnel from the US and Canada. Unfortunately, less than 1% of the highly radioactive material from the satellite's power source was ever recovered in spite of the extensive search efforts that lasted until October 1978.<sup>2</sup> The search and attempted cleanup cost Canada \$14 million of which only \$3 million was subsequently recovered as damages from the USSR.<sup>3</sup> The *COSMOS 954* incident, once again, highlighted the challenges for Canada to maintain and protect a 'pristine Arctic' in an age of military over-flights and nuclear technologies carried either in aircraft or as orbiting nuclear reactors used in military reconnaissance satellites.

In future, there is no doubt that Canada will be compelled to respond to uninvited, perhaps significant, challenges that may literally come to us from 'out of the Arctic air.' Claims of sovereignty compel Canada to assume responsible management and control over our claimed lands. Will Canada be up to meeting the aerial challenges that 'arrive from above' in our Arctic region?

Perhaps Canadians should heed the recent advice of the young students of Tuktoyaktuk, NT. If we are to maintain, protect and serve our Arctic, including all of the northern Canadians who live there, Canada had *better* be prepared to "take off, eh!" In the past, Canada's ability to act 'above the ice' has played a pivotal role in maintaining our claims to Arctic sovereignty. The future will demand no less a commitment from Canada and possibly a great deal more.

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<sup>2</sup> AECEB, 1980.

<sup>3</sup> Bein, 1986.

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