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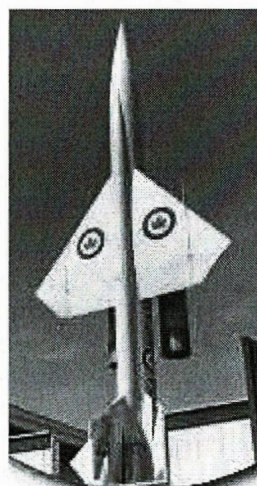
Enduring Legend

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Canada's first nuclear weapon, the Bomarc missile from Boeing.

By Brahm Rosensweig, June 28, 1999

The torturous tale of the Arrow is ultimately a story about men making decisions. With the hindsight of history, the observer is left with the distinct impression that many of these decisions were ill-informed, and were made in an atmosphere of prejudice against the Arrow project. The tide of the day seemed to have turned against the Arrow, and as the prevailing opinion gathered momentum, all evidence that pointed to the merits of going ahead with the program was swept away.

After the cancellation of the CF-105, history took an ironic turn. Canada was still faced with a need to defend its skies from the threat of Russian nuclear warhead, whether from ICBMs or bombers. The record shows that very soon after the cancellation of the Arrow, perhaps even before the destruction of all the prototypes, the government was already becoming aware of its blunder.

To appreciate the situation of Canadian air defence in the post-Arrow period it helps to look at the Bomarc missile, which contributed greatly to the feeling that the Arrow was no longer needed.

The Bomarc was an unmanned missile that carried a nuclear warhead. It wasn't big on accuracy, so it could only take out a nuclear-missile-bearing enemy by detonating a nuclear explosion close to it. Needless to say, this wasn't a particularly advantageous situation for Canadians, who would get most of the radioactive fallout on their territory. If the Americans set up the Bomarc along the northern border of their country, as they planned, the detonation would take place over Canada's most populated areas. This undesirable scenario played a big part in influencing Defence Minister George Pearkes' decision to acquire two Bomarc bases in the North of Quebec and

Ontario ? at least the battle would be carried away from Montreal and Toronto.

The problem was that Canada would be hard-pressed to afford the Bomarc and the Arrow. Bomarc, oddly enough in light of future rationales for the Arrow cancellation, was never designed to take out intercontinental ballistic missiles (ICBM), but rather bombers that had slipped through the manned interceptor defence. (There were at the time of cancellation no weapons at all to deal with ICBMs). Bomarc also had a short range of 400 kilometres and couldn't replace the Arrow. The Americans themselves were using it in conjunction with manned interceptors.

Here were other problems with the system. The SAGE network which was designed to control the Bomarc was susceptible to electronic jamming, a technology that the Russians were known to have.



A NORAD map circa 1960

Was Canada obliged to buy the Bomarc from the day it signed onto the NORAD agreement? There is some evidence to support this possibility. But it seems clear that both Pearkes and Charles Foulkes, Chairman of the Chiefs of Staff Committee, were quite sold on the Bomarc idea themselves. The arguments of the time reflect the heavy financial

burden of the Arrow program in combination with the Bomarc and SAGE system. They do not, however, mention that Canada was under no obligation to take on the Bomarc, (the Americans themselves admitted the Bomarc was designed not for Canada, but entirely for the defence of the American Strategic Air Command) but did so largely because of the convictions of men like Pearkes. Interviews with him in later years suggest that relatively vague American promises of access to large amounts of U.S. aircraft tipped the scales for him to abandon the Arrow.

In 1958, before the Arrow was cancelled, the U.S. planned to build forty Bomarc bases. But Bomarc was a flawed system and turned out to be an expensive dud. It began to be phased out by the American military almost before it was deployed in Canada. The number was reduced to eighteen, and then to twelve. Canada was told in mid July of 1960 that work on the two bases in Canada was being slowed down.

On Feb. 4th, 1960, less than a year after the cancellation, Gen Laurence Kuter, the head of NORAD, told the RCAF that 9 CF-100 squadrons should be replaced by newer aircraft, and suggested 6 squadrons of McDonnell F-101Voodoos. Ironically, this was one of the alternative designs the RCAF had studied, but rejected, before embarking on the Arrow.

The political implications of purchasing American aircraft so soon after the Arrow cancellation were devastating. Diefenbaker agonized over the situation, and seemed to realize he had been fooled, claiming that he had been against the cancellation all along. On March 8th, 1960, Cabinet decided against purchasing aircraft, opting to postpone. On July 4th a proposal was put before Cabinet to exchange 37 CL44s, freighters built by Canadair in Montreal, for 66 Voodoos. A deal was announced by Diefenbaker about a year later on June 12th, 1961, but there is no record of any CL44s being sent to the USAF. The final deal was for Canada to man sixteen Pinetree Line radar bases in exchange for the Voodoos, and the Canadian aviation industry was left out in the cold.

One of the promises made when the Arrow was cancelled was that of Defence Production Sharing, a way to rationalize the trauma that cancellation of the Arrow would wreak on Canadian industry. Under this system, Canadian industry was to get a piece of the pie in future defence production contracts for NORAD. This wasn't particularly successful, as is illustrated in the following excerpt from an essay written by a former employee of Avro.

Not so well known is the fact that defence production sharing turned out to be a playing field sharply tilted in favour of the U.S. The purchasing procedure in the U.S. followed the normal practice of issuing a specification to those on the bidder's list in the U.S. and calling for tenders to be in by a certain due date. An information meeting would be arranged by the agency calling for tenders so that all the prospective bidders would have a chance to ask questions and get any uncertain areas cleared up. When the specification was issued to U.S. suppliers, it would also go to a joint U.S./Canadian committee who would decide if Canadian suppliers could take part in the bidding. If the answer was yes, the specification would then be sent to the Canadian government, which would circulate it to Canadian firms.

With these built in delays, by the time a Canadian firm got the specification, the date of the information meeting would be past and the due date for tenders rapidly approaching. There were even cases in which the request for tenders arrived after the closing date. Thus, frequently it was not worth the effort to prepare a bid. Should a Canadian firm decide to bid, there were a couple of other hurdles to overcome. Offshore bids had an automatic 15% penalty assessed against them. If an American firm that was in an area of high unemployment put in a bid, it had an advantage of up to 20% over both American and Canadian bids. Crumbs from the table would be a better name than Defence Production Sharing.

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The Avro Arrow feature was originally produced by a partnership of EXN.ca, Discovery Channel Canada and the Canada Aviation Museum.

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