

Missiles From the South: The Bomarc

by Grant Dawson

Recent events have revived interest in the RCAF's two Bomarc surface-to-air missile squadrons. Though often maligned by historians for its shortcomings, in the early-mid 1960s the Bomarc was nevertheless Canada's first line of defence against supersonic bombers from the Soviet Union.

The renewed attention is due to two factors: the success of the CBC's movie *The Arrow* (1996), coupled with the recent transfer of a Bomarc missile and four display aircraft from the Sir Winston Churchill Memorial Park in CFB Edmonton, Alta, to the Alberta Aviation Museum at the Edmonton Municipal Airport (please see "Of Interest," page 34, *Airforce*, winter 1998). This latter event is especially significant because that Bomarc is one of only three remaining in Canada – the rest were shipped by truck back to the United States for eventual use as high-altitude target drones. The other two are on display at the National Aviation Museum in Ottawa and at 22 Wing North Bay, Ont. In this context, a brief re-examination into the issues surrounding the air force's only unmanned missile seems appropriate.

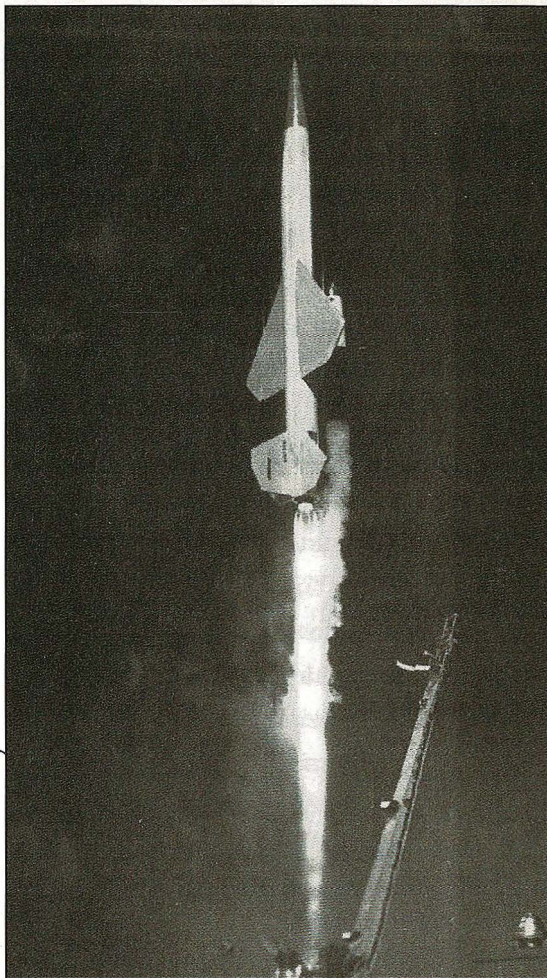
The Bomarc missile was a Cold War weapon, equipped with a nuclear warhead, designed to stop Soviet bombers. It was part of a larger defence system known as SAGE (semi-automated ground environment), which also included radar sites on the Pinetree Line, the Mid-Canada Line and the Distant Early Warning Line (DEW Line).

Conceived by scientists at the University of Michigan's Aeronautical Research Centre and developed by Boeing, the Bomarc was originally in place at Chanute AFB, Illinois and Eglin AFB, Florida (both were Bomarc training bases) and elsewhere in the USA. The Americans preferred to deploy them in Canada for the air defence of North America. Unfortunately, the Bomarc involved painful choices for the RCAF and the government of the day. That was because our nation had an

indigenous program, Avro Canada's all-weather air superiority fighter-interceptor, the CF-105 Avro Arrow. The Arrow was an ambitious and costly, cutting-edge aircraft that according to many historians and defence commentators, such as author Palmiro Campagna in his book *Storms of Controversy* was "the wave of the future."

However, in Jul 1958 Canada succumbed to American pressure and agreed to purchase the Bomarc. The air force's resources were limited. It could afford the Arrow development program, but not that along with the Bomarc/SAGE systems. After trying and failing to sell the Arrow to the U.S., the RCAF was forced to cancel the CF-105. Instead, the air force received 66 aging McDonnell CF-101 Voodoos from America's Air National Guard, as well as the CIM-10B (coffin-launched interceptor missile) Bomarc to guard Canada's Arctic back door.

The RCAF operated two surface-to-air missile squadrons, the first, 446 (Surface/Air Missile) Sqn. Construction of the necessary facilities began in 1960 near RCAF Stn North Bay, Ont, and the squadron formed as a lodger unit of that station on 28 Dec 1961. In keeping with its continental



A Bomarc missile is tested at Tyndall AFB, Florida.

Security at Bomarc sites was extremely tight. Air force policeman Sgt Robert Stevenson guards a missile site at North Bay, Ont in Jul 1964.





The Bomarc missile site at La Macaza, Que., was operational from 1962-72. 447 (Surface/Air Missile) Sqn maintained 24 CIM-10B missiles in 28 shelters.

defence role, operational control was exercised by Northern NORAD Region through the 41st NORAD Division and not by the station. The unit was redesignated 446 (Bomarc) Sqn when it received its first nuclear warheads on 31 Dec 1963.

446 Sqn's Bomarc's were housed in specially designed shelters, the "coffins," in a compound separate from RCAF Stn North Bay. The shelters were innocuous looking buildings with a roof that glided open under 3,000 lbs of hydraulic pressure. Inside, the squadron's 28 Bomarc's could be raised and fired in a few seconds, though none were ever launched in this country.

Canada never actually owned the Bomarc's warheads, though it possessed the missile itself. As had previously been agreed, the warheads remained in the custody of the USAF. This arrangement continued throughout the Bomarc's service in the RCAF. All of the construction work except for the engines was completed at Boeing's Missile Produc-

tion Centre in Seattle, Wash. The only Canadian firm involved was Canadair of Montreal, Que., which designed the missile's wings.

The other Bomarc unit was 447 (Surface/Air Missile) Sqn which was formed on 15 Sep 1962 at RCAF Stn La Macaza, Que. Construction for the La Macaza site began in the autumn of 1960 and the operational squadron received its first warhead in late 1963.

Unlike its sister squadron, 447 was not established near any existing station and as a result, the full infrastructure found at any self-contained station – chapels, swimming pools, barracks and so forth – had to be built. La Macaza also differed from North Bay in that it had a 6,000 foot runway immediately adjacent to the station, allowing for the rapid transfer of equipment such as the squadron's nuclear warheads. Once again, the warheads were not Canadian-owned but rather remained in the custody of the USAF. Operational control of 447 was exercised by the Northern NORAD Region through the Bangor NORAD Sector.

Initial training for Canadian Bomarc operators was given along with USAF personnel at Chanute AFB. Refresher training at Eglin AFB was also carried out jointly. Once operational, 446 and 447 Sqn's remained on standby around the clock until disbandment on 1 Sep 1972. 447 Sqn later reformed as a helicopter squadron, flying the Boeing-Vertol CH-147 Chinook from 1 Jan 1979 to 1 Apr 1991.

Neither unit ever fired a Bomarc in Canada. Periodically, however, 446 and 447 members went to Tyndall AFB in Florida to fire the missiles (with deactivated warheads). In the latter stages of the testing program, Canadian Bomarc's and Canadian crews travelled south.

Even with the tests, the Bomarc remained an untried weapon of dubious effectiveness, designed to meet a hypothetical bomber threat that never materialized. Though it was difficult to see this at the time, the unmanned missile was not the answer to Canada's air defence. As author Desmond Morton said: "Only a manned aircraft could verify whether a radar blip was an errant jetliner, a flock of Canada geese, or a Soviet bomber."

The Bomarc belongs to a fascinating and important era in Canada's military history. It also illustrates, rather clearly, the consequences of allowing another nation to plan and dictate our defence policy. ☉

(Ed note: Grant Dawson, M.A., is a Ph.D. student in history at Carleton University in Ottawa.)



One of three Bomarc's remaining in Canada is on display at North Bay, Ont. (photo by Dave Palangio)