Rocket Research in Canada

The Defence Research Board is giving preliminary study to a proposal for an expanded rocket research program in Canada.

The new proposed project would concern research into upper atmosphere phenomena such as aurora borealis, the electrically-charged ionospheric belt, cosmic rays, meteors, solar radiation, chemical composition of the atmosphere and electron density distribution, which is important in radio wave propagation.

Such a project would involve initially the firing of two rockets 60 to 100 miles into space with maximum instrument payloads of 150 pounds. It would be in addition to the DRB rocket program already in progress.

United States Nike-Cajun rockets were used in November in two successful firings of Canadian-instrumented nose cones about 90 miles into space from Fort Churchill, Man. The Board's Armament Research & Development Establishment (Carde) at Valcartier, Que., which built the cones and their instruments, plans to fire Canadian-made high-altitude rockets this year, possibly in the summer or fall.

Nearly 50 CARDE-designed rocket motors were fired in the establishment's static test bed last year. Seventeen-inch-diameter rocket engines are about to be tested statically.

This program is connected with the Board's research into development of solid-fuel propellants to power countermissiles capable of destroying ICBM's in flight.

The proposal to the Board for the new project came out of a recent study conference at the Defence Research Telecommunications Establishment at Shirley Bay, near Ottawa. The proposal then was placed before a symposium on rocket research of the upper atmosphere organized by the National Research Council. The idea was to interest scientists from non-government as well as government agencies in a rocket research program apart from the purely defence program at Valcartier. Officials say this object was fully achieved. Scientists from several Canadian universities delivered papers at the symposium on what new and vital information could be gleaned from a rocket research program.

There is no indication when a decision may be taken on whether to undertake such a program.

Price of Falcons

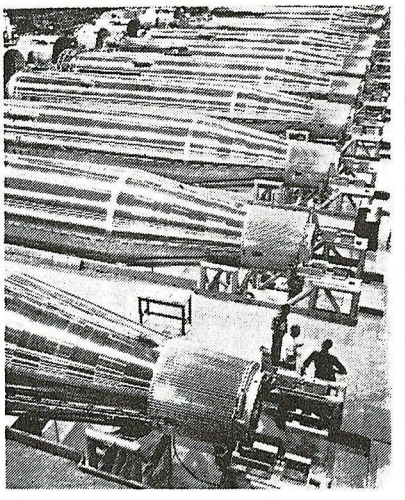
Ottawa estimates cost of the Falcon air-to-air missile, which may be used in the Avro Arrow, at approximately $30,000,000. This amount would purchase 1000 Falcons at a price of $30,000 each.

Bomarc Sites to be Set

No decision has yet been made by the Federal Government on location of Bomarc launching sites. According to Defence Minister Pearkes, "several sites are now being looked at, and some preliminary surveys have been made."

Mr. Pearkes mentioned that a spot near Lac Macaza, a wilderness emergency air strip some 120 miles north of Montreal, is among the possible sites under consideration. There are to be two Bomarc bases, one in Ontario and one in Quebec.

The sites will be roughly situated on a line drawn from Sault Ste. Marie to Quebec City; it is felt that from here the anti-aircraft missiles would be able to defend the industrial area lying to the south. The sites will be smaller than 100 acres each and the Bomarcs will likely be launched from below ground level. The Bomarc B's destined for use with the RCAF will have an effective range of plus 400 miles.



ATLAS ICBM PRODUCTION: First photo of the USAF's Atlas missile production line shows the assembly and check-out section of the line. The stainless steel missiles are 10 ft. in diameter, 75 ft. long. At upper left, booster sections are pulled back to permit installation of boosters and sustainer engine of the Atlas.

Firefighting Missile

The Sidewinder, which built a reputation during the days of the Quemoy crisis, appears to be in for an important new role in the fighting of major fires. The U.S. Forest Service has been experimenting with the use of the Sidewinder with helicopters. Suspended on a platform under the helicopter, the missile is fired while the mother ship hovers. In flight, the missiles are controlled by infrared sensing devices which lead them to targets producing the greatest heat. In this way, the fire-extinguishing version can seek out and destroy the heart of the fires.

Shortly, it is hoped that the method can be brought into play to squelch fires in industrial plants, oil refineries and chemical factories. The last remaining link to make this plan fully workable is already under development. Experts hope for a solid, foam-type material designed particularly for extinguishing high-intensity fires.

Wizard Anti-ICBM

The U.S. Defense Department's Advanced Research Projects Agency has authorized two contracts totaling more than $25 million with the Convair Division of General Dynamics Corp. One contract is for theoretical and limited experimental studies of ballistic missile defence systems; the other for basic research into phenomena involved in ballistic missile operations. The work at Convair will be under the direction of J. M. Pasternak, director of the Wizard anti-ICBM studies for the past four years.

U.K. Rocket Fuel Plant

A peroxide fuel plant, claimed to be the largest in the world, was opened at Warrington, Lancs., England, at the end of November by Laporte Chemicals Ltd. The plant will provide high test peroxide fuel for rocket motors and guided weapons.

The company's output of high strength hydrogen peroxide will now be doubled, and a new method of manufacture will cut production costs. Apart from supplying the aircraft in-