By John G. Norris
Staff Reporter

ALONG THE remote northern coast of Alaska and Canada, near a distant Barter Island, some experiments that could affect your very survival were held last winter.

Scientists and military communications experts braved the Arctic rigors to pass judgment on a new "automatic" radar which can make possible an effective continental defense system.

The field tests were successful, says the Air Force, and Defense Secretary Charles E. Wilson has ordered a go-ahead on plans to build a chain of such early warning stations across the Arctic.

How crucial was the trial has been noted guardedly by Government officials. At stake was a decision on whether to build such a "distant early warning" radar to give advance notice of enemy planes coming over the North Pole-the shortest route from Russia—or whether to push the existing radar in the United States and southern Canada as far north as economically practicable.

IN THE FIRST case, major American and Canadian cities could get some six hours' warning; the latter system would give them perhaps two hours. Thus, we cannot count on more than half hour's notice. But if for Russia believed that we could smash our SAC bases before our bombers could get into the air after their retaliatory mission, she might be encouraged to use the long-range A-bombers she has been building of late.

THUS the question of building out of the Arctic to Canada has been a major issue ever since Russia exploded its first atom bomb in 1949. Until that time the United States had done nothing to build a continental defense system. We authorized construction of a chain of warning stations along the borders and coasts of the United States, and sent our installations like Oak Ridge, for example, to develop new electronic energy, but we have essentially the same type of detection as that used in England and France.

Like the "secret weapon" of foreign and military officials, this "instant kill" weapon is an assembly of pulses of electric energy which "thunders" against the magnetic storms which knock out conventional electronic equipment in the Arctic during substantial portions of the year.

These installations, stations, says the Pentagon, will be extended into a continuous chain from the west to the east of the continent and to the north of the United States, and from there to the north pole.

Such a Distant Early Warning Line—"DEW Line"—would give a minimum of six hours' warning to Air Defense Command Headquarters and to the United States Strategic Air Command. The warning would be relayed to all points of the United States, and to the United States Strategic Air Command. The warning would be relayed to all points of the United States, and to the United States Strategic Air Command.

ONE BIG objection, however, has been that such a line, unless backed up by intercontinental stations across Canada, would come within range, according to a news release from Western Electric, maker of the system.

"Moreover," it says, "the DEW Line is a chain mission which links it with the command centers of and territory and then slip A-bombers through by doppler techniques and then slip A-bombers through by doppler techniques. The answer is to install such intercontinental warning lines. Already in operation is the American-manufactured "Chain of Chain of Chain of Chain of Chain of Chain of Chains" running across the upper portion of inhabited Canada. Flars now call for building the "McGill Fence," designed by McGill University scientists, magazine articles say it will cross Canada about the forty-fourth parallel. That would give about a two-hour warning to the United States.

Wilson's statement of two weeks ago said that the continental defense plan also would provide protection against the northeastern and northwestern approaches to North America. Navy picket ships and patrol planes will do that job.

Already in the Fleet are a few destroyers and submarines converted for radar and missile purposes, including systems in Alaska, the United States and Greenland, and a few of the planes and ships patrol the north Pacific and north Atlantic oceans.

The aim is a defense that would knock off perhaps nine out of 10 invading bombers. The 50 percent destruction hoped for from present plans would leave many cities and millions of people vulnerable to B-bombers, these scientists say.

The military men answer that many of the missiles and other components of an air defense system will not be ready until about 1960. And meanwhile, major powers are working on the intercontinental ballistic guided missile.

Radar promises to be no defense against a weapon that would go up into the ionosphere and come down on the target from overhead. This would give defenders only about ten minutes' warning. The only defense that seems possible is an effort to knock off our own missiles and launchers, should they be knocked off by a built-up force.

Some such proposals call for the use of radars and other electronic counter measures to "haze off" warning radars and other electronic systems. But most of these schemes are not considered practical by top military experts.

The essential objection is that the only defense which guarantees against loss by an enemy is a second strike, that is, an attack by a new wave of warheads. The problem is how to ensure that such a strike will not be delayed by technical errors or other communications breakdowns.

The solution seems to be the DEW Line, which is under way and is expected to be completed within a few years.