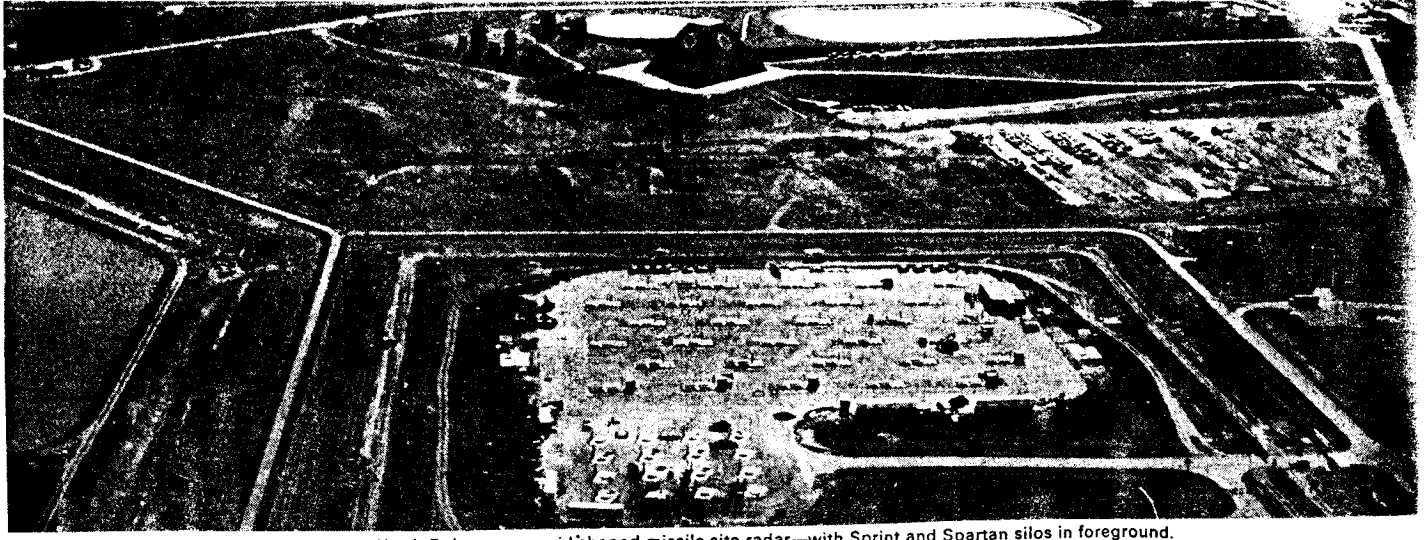


Key part of Safeguard complex in North Dakota—pyramid-shaped missile-site radar—with Sprint and Spartan silos in foreground.

SAFEGUARD: WHAT U.S. GOT FOR $5.4 BILLION

After years of debate, the first—and only—U.S. anti-ballistic-missile complex is about to be completed. The catch is that few people really know why—or even if it will work.

All that remains of the multibillion-dollar Safeguard system—designed to defend the U.S. against Russian missiles—can be found in the farmlands of North Dakota.

Safeguard is supposed to shoot down Soviet intercontinental ballistic missiles before they can knock out 150 American ICBM's at Grand Forks Air Force Base.

The main problem is that nobody knows if it will really work.

That uncertainty has plagued Safeguard ever since it was proposed to Congress in 1969 by the Nixon Administration. Final approval to deploy the system came only on a close vote after a long, headline-making debate.

When finally authorized, the plan called for 12 sites to protect the entire U.S. land-based missile force.

Then, in 1972, the U.S. and the Soviet Union agreed to limit their anti-ballistic-missile systems to two sites each and, in 1974, to one. The Russian ABM complex is built around Moscow. The U.S. idea of protecting Washington was scrapped.

Now, the sole U.S. ABM site is going into operation. The Army on April 1 declared as ready for action part of the Mickelsen Safeguard Complex, 100 miles northwest of Grand Forks, N.D. All missiles are scheduled to be in place in October.

The price tag. Cost of the Mickelsen site alone is estimated at 906 million dollars. All told, though, the Defense Department has spent 5.4 billion on research, testing, construction and equipment since work first began on ABM technology in 1955.

In theory, at least, any Russian missiles aimed at the Minuteman ICBM complex at Grand Forks would be intercepted by Safeguard. Then the 150 Minutemen could retaliate.

Thus, strategists reason, the second-strike capability would deter the Russians from a surprise attack on the U.S.

But serious doubts remain. Safeguard has succeeded in 47 out of 54 aerial tests above the Pacific Ocean. Yet critics contend that it can't be relied on outside of such laboratory conditions.

Neither the Army, which runs Safeguard, nor top civilians at the Pentagon are making great claims. Still, it is believed, the mere fact that the complex exists will keep Moscow guessing.

The Safeguard system is designed to work this way:

A full alert at Mickelsen would be touched off by indications—from space satellites over Russia or other intelligence means—that Moscow was in the process of firing an ICBM at the U.S.

The complex would engage the enemy first with its long-range radar, called perimeter-acquisition radar, or PAR. This radar, as high as a 12-story-tall building, watches in a 120-degree arc facing north. Its mission is to detect Russian missiles 1,500 miles away and record their paths on high-speed computers. At that point, the missiles would be within just a few minutes of the U.S.

A shorter-range radar, called missile-site radar (MSR), takes over tracking the enemy missiles when they are 600 to 800 miles away.

The MSR, which looks like a space-age pyramid, consists mainly of four giant radar "eyes" that cover all points of the compass.

Within seconds, MSR relays information to more computers, which launch and guide Spartan anti-ballistic-missile rockets to interception points as far as 100 miles or more away.

Thirty Spartans, each with a nuclear warhead that has the explosive power of about 1 million tons of TNT, are stored underground at the MSR site.

If enemy warheads elude the Spartan barrage, smaller Sprint missiles would be launched. Also guided by the MSR, the Sprints are designed to hit the incoming missiles at up to 25 miles away. Seventy Sprint missiles in underground silos will be located at the MSR site and four launch areas scattered up to 20 miles away.

The order to fire the Safeguard ABM's would come from the President in Washington, but the timing would be decided by computers at Mickelsen.

Slim force. Everything is so automatic in the ABM system, in fact, that very few people at Mickelsen are involved in actually operating Safeguard.

The civilian force is primarily responsible for maintaining the missiles, radar and computers. Other civilian workers carry out kitchen, motor-pool and building and grounds duties.

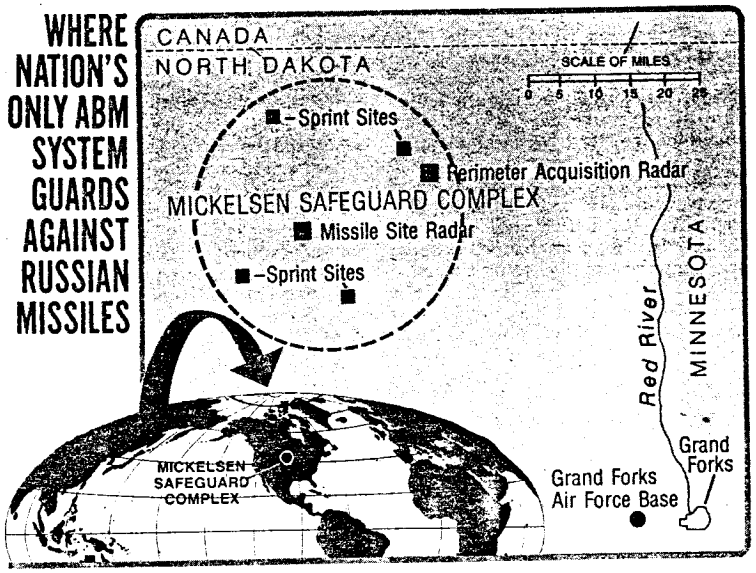
Only 461 of the 2,000 base employes are in the service. They man the computers, supervise the civilian work force and guard the base from trespassers.

Most of the post facilities are adjacent to Nekoma, a community of about 120, and are clustered around the MSR building. The PAR building is 40 miles away.

In the surrounding farming communities, the new base has meant an annual payroll of about 14 million dollars. Another 7.8 million in federal aid has been distributed for schools, highways and other needs.

For all the doubts about Safeguard's usefulness, Pentagon experts insist that the billions spent on it are not wasted. Technology developed in the program, they say, is playing a part in other weapons programs.

Even if the complex never sees action, its champions assert, it is worth the cost if its presence deters Russia from making the test.



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