Edited extract from: *Department of Defense Annual Report for Fiscal Year 1968*, (Washington D.C.: U.S. Government Printing Office, 1971).

Annual Report of the Secretary of Defense, Operational Forces, pp. 21-23:

Antimissile Defenses

The primary means of detecting a missile attack remained the operational Ballistic Missile Early Warning System (BMEWS) consisting of three long-range radar sites guarding the northern approaches to North America. It was being supplemented by over-the-horizon (OTH) forward scatter radar facilities. This OTH system, with separated transmitting and receiving stations, utilizes the ionosphere as a signal reflector to give early warning of missiles. A back-scatter OTH system with co-located transmitters and receivers and other advanced detection devices was also being developed. We also continued to improve our capabilities to detect and track satellites. The capability to destroy hostile satellites within certain ranges was maintained.

As for active missile defenses, the Secretary of Defense announced on September 18, 1967, that the United States would begin deploying an austere anti-ballistic missile (ABM) defense system to counter the potential threat being posed by the Communist Chinese development of nuclear warheads. In addition, such a system would provide protection against an improbable, but possible, accidental launch of inter-continental ballistic missiles (ICBM's) by any of the nuclear powers and might provide a means for the defense of our MINUTEMAN sites, if such a defense should become desirable. Designated SENTINEL, this system will draw on the technology derived from the extensive research and development effort initiated in 1956 as NIKE-ZEUS and reoriented in 1962 as NIKE-X.

The proposed SENTINEL system called for more than 15 missile radar sites to provide an area defense for the United States, including Alaska and Hawaii, during the mid- and late 1970's. The system includes five principal elements: (1) A large, low frequency, phased array, Perimeter Acquisition Radar (PAR) for surveillance, target acquisition, and tracking at ranges of over 1,000 miles; (2) a smaller, phased array Missile Site Radar (MSR) for control of U.S. interceptor missiles; (3) the SPARTAN surface-to-air missile for intercepting ICBM's, submarine-launched ballistic missiles (SLBM's), and Fractional Orbiting Bombardment Systems (FOBS) outside the earth's atmosphere at a range of several hundred miles; (4) the SPRINT surface-to-air, high acceleration missile for terminal defense interceptions at ranges between 15 and 25 miles and altitudes of 5,000 to 100,000 feet; and (5), a data processing system.

The design, fabrication, and testing of these elements progressed satisfactorily during the year. The Army awarded design contracts for the installation of the PAR at operational sites without the intermediate step of prototype testing, because this radar incorporates proven components and technology and full system tests of its performance can be simulated. A development model of the MSR was being constructed at the Kwajalein Test Site in the Marshall Islands, where the SPARTAN missile successfully

completed its first test flight on March 30, 1968. A number of successful test flights of the SPRINT missile were conducted at the White Sands Missile Range, New Mexico, during the fiscal year and a test launch facility was under construction at Kwajalein. The data processing system was also being installed there in preparation for future tests against U.S. ICBM's. Concurrently with the development and testing effort, the Department of Defense began the selection, acquisition, and design of the first six tactical sites for the SENTINEL system with construction scheduled to begin during the coming fiscal year.

Annual Report of the Secretary of the Army, Force Development, p. 176:

Systems Development

One of the most significant developments in air and space defense in recent times was the U.S. decision to proceed with the deployment of the NIKE-X missile system on a limited or "thin" basis. Designated the SENTINEL System, its importance is illustrated by the fact that a Sentinel System Office was established in the Office of the Chief of Staff, and Lt. Gen. Alfred D. Starbird was named the Sentinel System Manager, heading the organization established to develop and field the system.

SENTINEL will consist of five major components-two radars, a data processing system, and two missiles. The radars--Perimeter Acquisition Radar (PAR) and Missile Site Radar (MAR)--are designed to achieve high operating speed and traffic-handling capability using the phased-array technique. The data processing system comprises a complex and sophisticated digital computer and a display subsystem. The two interceptor missiles are SPARTAN and SPRINT, both capable of carrying a nuclear warhead; the long-range SPARTAN is designed to intercept targets outside the earth's atmosphere, and SPRINT, with a high rate of acceleration, will engage generally within the earth's atmosphere. At present, it is planned to deploy 15 to 20 SENTINEL batteries throughout the United States, including Alaska and Hawaii. The system is to be operational in five to six years at an estimated total investment of over $5 billion. The limited deployment will provide area coverage of the United States against a potential Chinese Communist missile threat, with an option to expand the system to counter a Soviet missile threat to U.S. inter-continental ballistic missiles (ICBMs).

Annual Report of the Secretary of the Army, Research and Development, p. 245:

Firepower

The decision to deploy a ballistic missile defense system, necessitated by a potential threat from Communist China, was announced on September 18, 1967. This defense will incorporate certain NIKE-X components. Christened the Sentinel System, its research and development will be under the Sentinel System manager. The NIKE-X advanced development program, designed to develop new components to defend against

more massive or more sophisticated attack, remains the responsibility of the chief of Research and Development.

A new surface-to-air missile system, known by the abbreviation SAM-D, continued its progress in a state of advanced development. Primary emphasis was placed on component development, including completion of configuration studies, continuation of experimental radar design, and initiation of the designs of a weapon system computer and an experimental model guidance section. The objectives of the advanced development program are to refine and validate system concepts, to assemble and demonstrate principal components, and to establish an effective government-contractor team for engineering development.

Annual Report of the Secretary of the Navy, Seapower capabilities, pp. 334-335:

Future Strategic Systems

Defensive--The Navy conducted extensive investigations in fiscal year 1968 of a very promising baseline design, the Sea-Based Ballistic Missile Intercept System (SABMIS). From a sea.based antiballistic missile system accrue the advantages of mobility, "early midcourse intercept, and defense-in-depth, as well as a capability against the Fractional Orbital Bombardment System (FOBS).

Annual Report of the Secretary of the Air Force, Defensive Forces, pp. 403-404:

Missile and Satellite Warning

On November 3, 1967, the Secretary of Defense announced that the Soviet Union was developing a fractional orbital bombardment system (FOBS) which would permit an attack on the United States from routes over the South or North Poles. To augment the Ballistic Missile Early Warning System (BMEWS) against the new threat, the Air Force put the forward-scatter over-the-horizon (OTH) radar, still in the research and development stage, into interim operation. This OTH radar is capable of detecting the launching of missiles and satellites as well as of FOBS.

As early as April 1962 the Air Force had begun studies of an interim warning system against the threat of ballistic missiles launched from hostile submarines. In November 1964 the Secretary of Defense approved development of the 474N sea-launched ballistic missile (SLBM) detection system. To obtain the detection and surveillance segment of the SLBM detection system, the Air Force completed modification of six SAGE height-finder radars to the AN /FSS-7 configuration and planned to install a seventh at a site under construction at Laredo, Tex.. The missile warning display segment of the system will warn national leaders of SLBM launches by showing the information received from these radars and other sources.

The SPACETRACK system consisted of radars, cameras, and computers to detect, identify, and track all man-made objects more than l,300-in orbit, and make this

information readily available. This far flung system was coordinated by the Space Defense Center located in the NORAD Combat Operations Center in Cheyenne Mountain, Colo. The Air Force proposed several modifications and additions to improve SPACE TRACK. The FPS-85 phased-array radar, which could detect and track far more space objects simultaneously than earlier sensors, was undergoing testing at Eglin AFB, Florida, and was scheduled to become operational in December 1968.