

086320

~~NOT TO BE RELEASED OUTSIDE THE General Accounting Office except on the basis of written approval by the Office of Legislative Liaison, a record of which is kept by the Distribution Section, Publications Branch, OAS~~



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

RELEASED

22-0599
3.16.12

B-168482

JUN 22 1973

27
20
19
7

CI+
-R

The Honorable Les Aspin
House of Representatives



Dear Mr. Aspin:

On December 19, 1972, you requested that we examine the Navy's current cost estimates of building Project Sanguine. You expressed an interest in our evaluating (1) the Navy's claims that it would cost from 10 to 15 percent more to build Sanguine in Texas rather than in Wisconsin and (2) the Navy's various cost estimates of building the Sanguine system.

Sanguine is a proposed communication system for sending messages (particularly high-priority messages) from a transmitting location in the United States to the Navy's fleet ballistic missile submarines and to other U.S. Forces. The system, involving the use of extremely low frequency radio waves, is still in the developmental stage, and its exact design has not been determined. The operational system, if built, is planned to be in three stages, each stage increasing the system's capability, with the system ultimately providing almost worldwide coverage to submerged submarines.

In 1968-69, a test facility for Sanguine was constructed in Chequamegon National Forest in Wisconsin. The Secretary of Defense told the Navy in January 1973 that (1) test facility operations should be continued at the present site in Wisconsin but no further major installations should be made at the site or elsewhere in Wisconsin and (2) for planning purposes, the Navy should assume that the initial operational Sanguine, if built, would be located in Texas.

According to the Navy, it has no specific cost data to support its claim that it would cost from 10 to 15 percent more to construct Sanguine in Texas rather than in Wisconsin. Although the Navy has estimated the cost of building Sanguine in Wisconsin, it has not estimated such a cost for Texas. Navy officials said that its 10 to 15 percent higher cost estimate for Texas was a rough estimate based on the Navy's belief that a larger first-stage facility would be needed in Texas because of the greater distance from the planned operating areas and the higher conductivity of the ground.

~~701577~~ 096320

The Navy designed a computer program (cost model) to estimate the cost to build Sanguine in Wisconsin. The Navy has developed two estimates of the total cost of building Sanguine. The second, or current, estimate is about one-fourth the cost of the first estimate which was made about 5 years ago. The cost reduction was due largely to technological breakthroughs during 1969-70 which permitted a reduction in power and antenna size. The cost estimates for Sanguine, the Navy said, are confidential and have not been released to the public. We are forwarding a separate supplement, classified "Confidential," showing the Navy's current estimate of the total cost and the principal elements of cost to construct Sanguine in Wisconsin.

The Navy awarded contracts in April 1973 to three contractors to independently evaluate (or validate) the Navy's existing concept of the Sanguine system design. In addition, the cost model originally developed for Wisconsin is to be validated as to methodology and will be used as a basis for preparing and validating system costs for locating Sanguine in Texas and Michigan. Concurrently, each contractor will develop an optimized Sanguine system and the related construction cost for locating the first two stages of Sanguine in Texas and the third stage in Michigan. According to the Navy, Texas does not have an area containing the needed low ground conductivity which is large enough for a full three-stage Sanguine system. Both the validating of the existing system cost and the developing and validating of the estimated cost for locating the system in Texas and Michigan are expected to be completed about April 1974. In view of the Navy's plans to obtain independent evaluations of the estimated cost of building Sanguine, we did not attempt to evaluate the existing estimated cost for locating the system in Wisconsin.

In our work, we held discussions with Navy officials and reviewed pertinent documents. We did not inquire into (1) feasibility studies and alternative systems to accomplish Sanguine's capabilities, (2) environmental studies, or (3) studies to develop cost-effective techniques and devices to mitigate, or eliminate, interference with electric power and telephone systems. As agreed with your office, we have not asked Navy officials to review and comment on this report.

We trust the information furnished meets your needs, and we shall be pleased to discuss the matter further with you if you wish.

B-168482

We will not distribute this report further unless copies are specifically requested and then only after your agreement has been obtained.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "James B. Acheson". The signature is written in dark ink and is positioned below the typed name.

Comptroller General
of the United States