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NATIONAL SECURITY AND  
INTERNATIONAL AFFAIRS DIVISION

JUN 5 1984

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Mr. John W. Boyd  
Associate Administrator for Management  
National Aeronautics and  
Space Administration

The Honorable James P. Wade, Jr.  
Principal Deputy Under Secretary for  
Research and Engineering  
Department of Defense

Subject: NASA's Requirement for a Single Solid Rocket  
Refurbishment and Assembly Facility at Kennedy  
Space Center (GAO/NSIAD-84-124)

GAO evaluated the extent to which the National Aeronautics and Space Administration (NASA) examined possible alternatives to constructing a single solid rocket booster refurbishment and assembly facility for the space shuttle at Kennedy Space Center. NASA plans to construct the facility to meet projected requirements of both NASA and the Department of Defense (DOD) to refurbish 24 solid rocket booster flight sets a year by fiscal year 1988. Additional capacity is needed because NASA will be able to refurbish only 16 sets a year when modifications to existing facilities at Kennedy Space Center are completed in 1984.

In a draft report that we provided to you in February 1984, we proposed that NASA and DOD evaluate activating a facility at Vandenberg Air Force Base, which was designed to process 10 booster flight sets a year, before proceeding with the award of a contract specifying construction at Kennedy Space Center.

In response to our proposal, NASA and DOD studied solid rocket booster facility alternatives. The study concluded that the costs of using a combination of facilities at Kennedy Space Center and at Vandenberg Air Force Base would exceed the costs of using a single facility at Kennedy Space Center by \$140.3 million,

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and the difference would have been greater if a more recent launch rate schedule were used than the April 1982 schedule used to compare costs.

We assessed the adequacy of this study by examining the methodologies NASA and DOD used to compare the alternatives and by determining whether the data was complete, accurate, and reasonable. Our assessment was hampered because neither NASA nor DOD had developed detailed documentation to support the study. Consequently, we relied on NASA and DOD officials to provide data supporting cost estimates and to explain their methodologies.

Our assessment disclosed a number of problems with the study such as the following:

- Inflation rates were not consistently applied to all types of costs by NASA and inflation rates used by NASA and DOD were different.
- The number of boosters processed under the plan for the new facility was different than the number under the alternative approach.
- The types of labor included in NASA's estimate were different than those included by DOD.
- The learning curve used by NASA was not consistent with DOD's.

However, after adjusting the cost comparison to consider these factors, it still appears that using a single facility at Kennedy Space Center will provide a cost advantage. Consequently, we are not making any recommendations.

If you desire further information, please contact Klein Spencer, Group Director, on 275-4265.

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Senior Associate Director