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THE SECRETARY OF DEFENSE  
WASHINGTON, THE DISTRICT OF COLUMBIA

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MEMORANDUM FOR ASSISTANT TO THE PRESIDENT FOR NATIONAL SECURITY AFFAIRS

SUBJECT: Assured Access to Space Initiative

On 1 February I provided you my thoughts and concerns regarding the current activity to implement the complementary expendable launch vehicle (CELV) program and provide the Space Boosters report requested by the Congress. As I stated in my 1 February memorandum, NASA has taken exception to DoD's program to implement the President's National Space Strategy. Their position was that a Shuttle derived vehicle, the SDV-1E, should be considered as a sole source alternative in lieu of the options being evaluated in the CELV competition (Titan and SRB-X).

Recently, NASA has suggested a completely different position. They are no longer advocating any launch vehicle alternative to satisfy the DoD requirements for the near term, but are instead recommending that the approved DoD program be deferred pending another year of study.

The JCS and I firmly believe that an additional year of study is unlikely to produce new requirements, new facts, or additional insight. This one year delay, desired by NASA, will increase spacecraft design costs, prevent us from meeting the JCS required launch schedule, and reduce the competitive factors that have given us the favorable bids on the CELV.

Immediate resolution is needed so that the report will represent a consolidated Administration position and be submitted expeditiously to Congress. The committee expects this report to aid their evaluation of the FY 1986 budget submittal.

Attached to this memorandum is a joint NASA/DoD issue paper and a DoD position paper outlining a suggested course of action. NASA will provide you a separate paper outlining their position.

The JCS and I strongly recommend that the President approve the continuation of the Defense CELV program as currently defined.

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Authority: EO 13526  
Chief, Records & Declass Div, WHS  
Date: JUN 29 2015

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JOINT DOD/NASA ISSUE PAPER

DECLASSIFIED IN FULL  
Authority: EO 13526  
Chief, Records & Declass Div, WHS  
Date: JUN 29 2015

SUBJECT: Report to Congress on Space Boosters

ISSUE:

(U) How should the Administration program for a Complementary Expendable Launch vehicle be implemented?

(U) DoD proposes to complete its procurement of ten Complementary Expandable Launch Vehicles while NASA proposes instead that DoD and NASA continue for one year a joint study of alternatives. The difference must be resolved to submit the subject report to the Congress.

ADMINISTRATION POLICY GUIDANCE:

(S) NSDD-144 - (National Space Strategy) - The national security sector must pursue an improved assured launch capability under peace, crisis, and conflict conditions. This capability must satisfy two specific requirements -- the need for launch system complementary to the STS to hedge against unforeseen technical and operational problems, and the need for a launch system suited for operations in crisis and conflict situations. Unmanned, expendable launch vehicles could satisfy operational needs for a launch system which complements the STS and extends our ability to conduct launch operations further into the spectrum of conflict.

(S) In order to satisfy the requirement for assured launch, the national security sector will pursue the use of a limited number of ELVs to complement the STS. Selected national security payloads will be identified for dedicated launch on ELVs, but will remain compatible with the STS.

BACKGROUND:

(U) In response to several space architecture and launch vehicle studies, and a DoD net assessment on the total space operation and space launch posture, the SECDEF and the President determined that placing total reliance of the Space Transportation System for sole access to space represents an unacceptable risk in the national security sector. As a result, the President directed the DoD to acquire an unmanned, expendable launch vehicle (ELV) capability to be used as a complement to the Space Shuttle for critical DoD missions.

(U) As the DoD Executive Agent for space launch, the Air Force was directed by the SECDEF in the Defense Space Launch Strategy to acquire a limited number (10) of upgraded expendable launch vehicles to support operational requirements by October 1988.

(U) The Air Force released an RFP calling for competitive bids for an ELV capable of placing Shuttle-sized payloads on orbit, to meet a October 1988 required initial launch capability.

(U) Industry responded with bids for a Titan-derived and an Atlas derived launch vehicle. NASA proposed a Shuttle-derived vehicle, the SRB-X. The industry competition is complete and the Titan 34D7 was selected by the Air Force. The Titan

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34D7 is now being evaluated in a competition with the SRB-X. The competition will be completed by mid-February.

(U) A Space Booster Report has been requested by the Appropriations Conference Committee by January 15, 1985. In attempting to provide this report an issue has arisen. Namely, DoD and NASA cannot agree on the basic course of action: DoD proposes to complete its procurement of ten Complementary ELVs while NASA proposes instead that DoD and NASA continue for one year a joint study of alternatives.

(U) Without resolution, the report cannot represent an Administration position and be submitted to Congress. The committee expects this report to aid their evaluation of the FY 1986 budget submittal.

ALTERNATIVES:

(U) 1. Complete the competition between the Titan 34D7 and the shuttle-derived SRB-X to provide a complementary ELV to satisfy critical national security launch requirements. This program fully meets the President's objective of improved assured launch capability while providing a basis for longer term national launch needs. (see attachment)

(U) 2. NASA and DoD should defer the DoD CELV program and perform a one year joint study of the alternative systems that could be made available to meet the President's objective of improved assured launch capability and their implications for longer-term national launch needs. (see NASA submittal)

DECISION:

Approve Alternative 1 \_\_\_\_\_

Approve Alternative 2 \_\_\_\_\_

Office of the Secretary of Defense **SUSC 552**  
Chief, RDD, ESD, WHS +  
Date: 29 JUN 2015 Authority: EO 13526  
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Reason: \_\_\_\_\_  
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Attachment

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Chief, Records & Declass Div, WHS  
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DOD POSITION

IT IS THE POSITION OF THE DEPARTMENT OF DEFENSE THAT THE ADMINISTRATION PLAN FOR THE ACQUISITION OF TEN EXPENDABLE LAUNCH VEHICLES (ELVs) TO COMPLEMENT THE SPACE TRANSPORTATION SYSTEM (STS) BE CONTINUED AS APPROVED AND PROGRAMMED AND THAT CONTRACT AWARD BE MADE AS SOON AS SOURCE SELECTION IS COMPLETED (FEB 1985).

DISCUSSION

The strategy for a more assured access to space is in recognition of an increasing national security dependence on space-based assets. This requirement has been validated, accepted, and approved as national policy. While the STS has proven to be highly reliable and the DOD remains fully committed to it for the majority of its payloads, total reliance on any single system for access to space represents an unacceptable national security risk.

DOD's efforts to competitively select the best source of ten ELV's for launches between 1988 and 1993 will be completed this month. This program, coupled with the STS, will meet all known and defined national requirements through the 1990s. The complementary ELV program (CELV) is designed to be timely, low risk, and cost effective. To the greatest extent affordable, it seeks to provide a complement by minimizing commonality with STS components, facilities, and industrial base. Furthermore, while satisfying immediate national security requirements, the program, when coupled with the STS, provides a sound foundation for progress toward the nation's long term space transportation goals for all sectors -- civil, commercial, as well as national security.

In parallel with this competitive selection process, NASA advocated another vehicle (SDV-1E) for consideration as a sole source alternative to the winner of the competition. A fundamental impasse emerged when NASA insisted that the DOD accept the NASA Shuttle derived vehicle (SDV-1E) as an alternative in lieu of the winner of the DOD competitive procurement; or, that the competitive procurement be terminated and NASA and the DOD continue to study needs and alternatives for an additional year.

Since the production of current expendable launch vehicles is being terminated, the industrial base has begun to dismantle its capability and reallocate its resources. Therefore, the NASA proposed one year study will eliminate the industry CELV options as viable alternatives to meet near-term national security requirements and limit the longer term national options. Shuttle-derived options will then be the only remaining alternatives.

DOD and NASA have cooperated in the development of space launch vehicles since the inception of NASA in 1958. Joint DOD/NASA programs, studies, and reviews are routine and standard ways of conducting coordinated activities. DOD and NASA have jointly and independently evaluated the family of Shuttle-derived vehicles for several years. In addition to this normal liaison, there have recently been numerous Administration and Congressionally directed studies. The DOD CELV acquisition program is based on this extensive and thorough foundation of study material, and represents the best approach to implement the National Space Strategy. An additional year of study is unlikely to produce new requirements, new facts, or insight additional to that already in hand.

RATIONALE

The DOD program to competitively procure ten CELVs offers the following advantages:

- COMPLEMENTARY CAPABILITY: The heart of the National Security requirement for complementarity is to avoid total dependence on a single STS space launch system and minimize the impacts of DOD exercising its priority and displacing other STS users. To the greatest extent affordable, the complement must be as independent as possible of STS hardware, facilities, and industrial base. As a Shuttle derivative largely dependent upon STS components, facilities, and industrial base, the NASA SDV-1E would have many of the same elements of risk inherent in a single space launch system.
- SCHEDULE: Joint Chiefs of Staff Priority 1 and Priority 2 operational missions drive the October 1988 schedule. The CELV competition was specifically designed to meet this schedule. The NASA SDV-1E alternative fails to support this schedule by one to two years. The additional year delay desired by NASA will increase spacecraft design costs and preclude all options from meeting this priority schedule.
- SECURITY: Potential security compromises which could provide indications of the posture of our critical space assets for missile attack warning and strategic communications can be alleviated by the use of dedicated launch systems. In times of crisis, information regarding the operational capability of these assets would be of strategic importance to our adversaries. Unmanned Shuttle derived launch systems which rely on STS facilities would provide the same visible indications of intentions to replenish these strategic space assets as do the highly visible STS operations.
- INDUSTRIAL BASE: Production of NASA and DOD expendable launch vehicles is currently being phased out and will terminate completely in 1986. Once the U.S. ELV industrial base has been dismantled and expertise reallocated, it could not be reconstituted without significant lead time and capital investment. In contrast, the Soviet Union, China, France, and Japan continue to build and exploit new expendable launch vehicles. A broad based, viable domestic ELV industry is essential to maintain U.S. technological superiority and space leadership.
- COMMERCIALIZATION: The Presidential initiative to encourage the development of a viable U.S. commercial ELV industry reinforces the national security objective of maintaining a strong industrial base. The DOD CELV program directly complements the commercial ELV activity. Defense strongly supports the commercial ELV initiative as an excellent means of capitalizing on significant previous U.S. investments and maintaining U.S. ELV technological leadership.
- COST: Defense is firmly convinced that the competition between U.S. industrial manufacturers has produced the best CELV configuration to meet our requirements. In addition, the ability to contract for these services on a fixed price basis is the most effective way to control government costs in a constrained fiscal environment. A sole source award to the existing NASA contractors for an accelerated program is not likely to produce the low price NASA is quoting. (In four previous estimates the development cost of SDV-1E class vehicles has been estimated to range from \$850-1600M. NASA now quotes under \$500M.)

The NASA Shuttle derived option (SDV-1E), introduced outside this competitive process, is estimated to cost three times that of the CELV candidates; this significantly exceeds (by \$2 billion) the funds available in the President's budget for this program.

Date: JUN 29 2015

- GROWTH CAPABILITY TO MEET LONGER TERM NEEDS: No studies to date have identified any valid requirements for lift capability greater than that provided by the STS and CELV. However, all CELV candidates possess sufficient flexibility to support evolutionary growth in payload weight through the 1990's.

Further, significant increases in growth capability to meet future heavy-lift requirements are best supported by maintaining a variety of launch vehicle options. Current studies indicate that the CELVs represent the most cost effective solution to near-term requirements in addition to providing the lowest cost path toward an eventual heavy-lift capability.

#### SUMMARY

- Recent studies have confirmed that there are no identified requirements or needs for additional launch vehicles other than those of the national security sector.

- The DOD CELV program is based on an extensive body of studies and maintains all options to meet future needs. Specifically, this program:

-- Satisfies All Requirements

--- Provides true complementary capability

--- Meets schedule

--- Improves security for highest priority missions

-- Represents the lowest cost

-- Maintains U.S. industrial base

-- Supports ELV commercialization initiatives

- The NASA proposal to delay procurement is unacceptable from a national security standpoint and does not support the full range of national space initiatives. We have done enough studies; it is now time to decide.

- The satisfaction of urgent, defined, near-term national security requirements for a Shuttle complement must not be compromised by further delays in the hope of finding some presently undefined national needs that would produce a different decision.

-- DOD fully supports continued joint efforts to study future launch vehicle needs in parallel with the CELV procurement.

- The DOD CELV program satisfies the near term requirements, provides the least costly, most flexible and robust approach to future space launch needs of the United States, and maintains America's technological superiority.

#### RECOMMENDATION

SUPPORT THE APPROVED DOD PROGRAM TO COMPLETE THE CURRENT SOURCE SELECTION AND AWARD A CONTRACT FOR THE DEVELOPMENT OF TEN CELVs AS SCHEDULED.