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NASA/DOD Interface

I am pleased to report that the NASA/DOD interface is alive and healthy. The NASA/DOD relationship is a long standing one with its roots back in the early days of the NACA (National Advisory Committee for Aeronautics). In 1958, Congress passed the National Aeronautics and Space Act, which replaced the NACA with the new NASA organization. This act established roles and responsibilities for the NASA and the DOD with respect to both aeronautics and space. To provide a formal forum for top level review and coordination, the NASA/DOD Aeronautics and Astronautics Coordinating Board (AACB), co-chaired by the NASA Deputy Administrator and the Undersecretary of Defense for Research and Engineering, was formed in September 1960.

Since NASA's inception, there has been a continuing extensive NASA/USAF relationship in the area of expendable space launch vehicles (ELV's). Since the early ELV's were direct descendents of the ballistic missiles, the expertise and management resided with the Air Force. Consequently, NASA's early space launch needs were provided by the Air Force. As space activities increased and the ELV's evolved into improved and modified versions, NASA assumed more responsibilities, leading to today's posture where NASA is responsible for the SCOUT, Delta, and Atlas/Centaur vehicles, and the Air Force is responsible for the TITAN family and the ATLAS E/F/H vehicles. However, there is cross-utilization and each agency supports the other in procurement, launch operations, and certain development tasks. Range support continues to be a major USAF responsibility.

The manned space programs--Mercury, Gemini, and Apollo--managed by NASA, received extensive DOD support. During this era, the assignment of military detailees to NASA reached its peak, with over 200 DOD personnel assigned to NASA during the period 1963-1970, and over 300 during 1967-1968.

The birth of today's NASA/DOD Space Transportation System interrelationship took place in 1969 when the President established the multi-agency Space Task Group (STG) to consider the nation's future space goals and objectives for the post-Apollo period. During the STG activity, the NASA and the DOD worked together to evolve concepts and requirements for a new national Space Transportation System (STS). The Air Force was designated by DOD as the Executive Agent for all STS matters, and in February 1970, NASA and the USAF established by joint agreement the NASA/USAF Space Transportation System Committee to provide an instrumentality for joint review and recommendations concerning development and evolution of the STS. In October 1970 the AACB Manned Space Flight Panel and Launch Vehicle Panel were merged to more effectively coordinate the transition from expendable space launch vehicles to the Space Shuttle.

With the approval of the Space Shuttle development program in January 1972, the structured arrangement of NASA/DOD responsibilities and management interfaces continued to evolve. The Air Force was a key participant in the Source Evaluation Board activities for the Space Transportation System. In April 1972, the DOD concurred in the selection of KSC and Vandenberg AFB as STS launch and landing sites and agreed to provide the general purpose Space Shuttle facilities for all users at VAFB. In November 1972, the Deputy Secretary of Defense issued direction and guidance to expand DOD's efforts on the Space Shuttle, with added emphasis on evaluating the Shuttle's new and unique capabilities, and completion of planning efforts on VAFB Shuttle facilities and upper stage requirements. He also directed the formation of the DOD Space Shuttle Users Committee, chaired by the Air Force, with NASA representatives as official observers. This committee, comprised of representatives from the Air Force, Army, Navy, OSAF, and OUSD/R&E, reviews and validates DOD's firm and projected requirements for utilization of the STS and submits these data to NASA for incorporation into the national STS mission model.

To formalize the NASA/DOD relationships, a NASA/DOD Memorandum of Understanding on management and operation of the STS was signed on January 14, 1977, by the Secretary of Defense and the Administrator of NASA. This agreement was revised and approved on March 27, 1980. This agreement states that DOD will use the STS and participate as a partner in specified development, acquisition and operations activities. These activities include the development of the Inertial Upper Stage (IUS), initiated in 1976 and scheduled for a first flight on the Space Shuttle in January 1983 and the acquisition, activation and operation of the VAFB Space Shuttle facility, scheduled for an initial launch capability in October 1985. Also, a Memorandum of Agreement on Basic Principles for NASA/DOD Launch Reimbursement was signed on March 7, 1977, by the Acting Director of Defense Research and Engineering and the Deputy Administrator of NASA. The agreement is currently under revision and several issues remain to be resolved.

Now I would like to talk about today's environment and the very active interfaces at all working levels. First, our forum for discussing top level policies and issues is a bi-weekly luncheon meeting where Dr. Mark and I meet with Pete Aldridge and other DOD representatives. These meetings are particularly valuable for coordinating our views and positions prior to OMB reviews and Congressional meetings or hearings. Second, the transition from the development phase to the operational phase has expanded the interface areas and prompted Lt. Gen. Henry and I to form a USAF Space Division/NASA STS Steering Group "to facilitate achievement of the joint goals of the USAF Space Division and NASA regarding the STS program." We had our first meeting in March and our second meeting in August where we worked current issues and established functional working groups in major areas of interface activity. Careful attention was paid to insure coordination and compatibility with existing STS working groups.

There are currently about 90 military detailees in NASA, with the majority at JSC, including the military astronauts. Others working on STS are located at Headquarters, KSC, and MSFC. Conversely, NASA has personnel located at the Space Division and at Vandenberg AFB. Additionally, the Air Force has co-located groups at JSC and KSC. The Manned Space Flight Support Group under the Space Division's Deputy Commander for Space Operations is located at JSC and supports STS flight operations while training personnel for eventual assignment to the Air Force's CSOC. The Air Force Support Office, STS Division of the 6555<sup>th</sup> Aerospace Test Group at Patrick AFB is located with the KSC Shuttle Program Office and coordinates and supports ground and launch operations. Throughout the STS community, members of each agency serve on the other agency's committees, boards, and panels and extensive formal and informal day-to-day interface activities are underway in a great many areas.

To better understand the breadth of the NASA/DOD interface activities let me cite some specific areas of joint endeavor:

- extensive payload integration--dedicated payloads, mixed cargo payloads, pallet experiments, cabin experiments, small self contained payloads
- upper stage development/operation--SSUS-D for GPS, IUS, Centaur
- KSC/VAFB coordination--common equipment procurement, operational procedures, facility design, model testing, KSC processing for VAFB early flights
- security throughout the STS environment
- ADCOM/SPADOC support of STS operations
- JSC/SCF flight operation activities

- STS flight assignments and traffic models
- STS logistics
- Safety and Reliability
- STS Costs and Reimbursements
- Payload specialists
- Space station planning
- Space policy formulation--ex. Space Launch Policy Working Group

It is evident from this partial list that the NASA/DOD interface pervades every aspect of the STS environment. Again, let me reiterate that, despite this complexity, the interface is not only functioning very well, but improving as we gain STS flight experience.

In summary, we are confident that the STS development is progressing satisfactorily and will meet our joint objectives. We are working hard to provide a level of mission reliability and fleet size to support the assured launch capability required by high priority national security missions. Finally, we both recognize the importance of evaluating and demonstrating new and unique uses of the STS to gain more effective and flexible military space operations.