

Air Force, NASA Settle Launch Dispute

A compromise has been found: the Air Force gets its Titans, NASA protects the shuttle, and both will study new launch technology

A yearlong dispute between the National Aeronautics and Space Administration (NASA) and the Air Force, stemming from the latter's decision to launch certain Defense Department (DOD) satellites on expendable Titan rockets instead of on the space shuttle, has now been resolved to the satisfaction of both parties.

At the same time, and perhaps more important in the long run, NASA and the DOD have inaugurated a joint study of advanced launch technologies that could form the basis of a new series of vehicles in the 1990's. Possibilities include a second-generation space shuttle and an unmanned heavy-lift launch vehicle with a capacity similar to the Saturn 5 rocket used in the Apollo lunar program. The latter could be used to launch components of the "Star Wars" strategic defense system.

The key to the Air Force/NASA dispute lies in the designation of the shuttle as the nation's "primary space launch system," which has been a consistent theme in both the Carter and Reagan administrations. NASA officials have preferred to interpret the phrase to mean that federal agencies will launch their satellites *only* on the shuttle. The fixed costs of operating the shuttle facilities at the Kennedy Space Center and elsewhere are very high, they argue. So the more flights the shuttle makes, the cheaper the cost per flight. In particular, NASA is depending on the Pentagon for about one-third of the shuttle payloads.

In the spring of 1984, however, Air Force officials unilaterally announced that, starting in the late 1980's, they would put ten of their satellites into space using more conventional, expendable launch vehicles such as the venerable Titans (*Science*, 29 June 1984, p. 1467). Their decision seems to have stemmed partly from a concern about the reliability of the shuttle and its ability to function in a crisis, partly from a bureaucratic desire to retain control of their own launch system, and partly from a realization that the Titan production lines were about to shut down unless new orders came in to keep them open.

There ensued a long interagency dispute and, in private, a surprising amount of real personal bitterness (*Science*, 24 August 1984, p. 812). It ended only on 25

February when President Reagan signed a National Security Directive dictating a compromise. The Air Force will get its ten Titans, launching them at a rate of approximately two per year during the period 1988-1992. But NASA gets a guarantee that the Pentagon will commit to at least one-third of the shuttle flights during the next decade—eight per year if NASA can achieve its target rate of 24 flights per year. Meanwhile the Pentagon gets a price break on the shuttle. But NASA will get the payments as a fixed yearly fee plus a charge per flight based

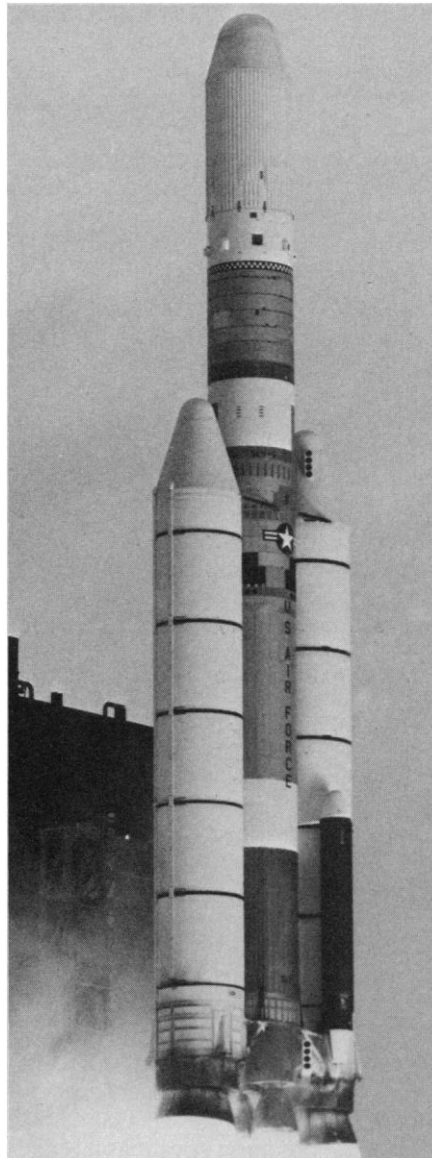
on incremental costs; the idea is to make it advantageous for the DOD to fly on the shuttle as often as possible. The details of the pricing policy are still being worked out.

Officials from both sides seem quite happy with the agreement. "They've kissed and made up on that one," says one observer in the White House, where the compromise was negotiated. Moreover, the resolution of the dispute has now cleared the way for the joint study on advanced launch technology, in which the agencies have a strong common interest.

The study grew out of a widespread concern in the aerospace community that research in this area has been neglected during the long effort to perfect the shuttle. Examples of possible new technologies include computer-controlled launch facilities that would allow the launch team to be cut from 2000 people to 20, advanced liquid oxygen/hydrocarbon engines in the 1- to 2-million pound thrust class, or cryogenic propellant scavenging from the shuttle tanks for use at the space station. Most of the technologies seem to be generic and would be applicable to any number of possible new vehicles in the 1990's.

Officials emphasize that this new study does *not* represent a decision to build a second-generation shuttle, a heavy-lift launch vehicle, or anything else. Instead, NASA and the DOD will spend the next year surveying the proposed technologies, setting some priorities, and making sure that everything important is being covered by somebody; a report is scheduled for the spring of 1986. The research itself will continue into the 1990's. Only then will decisions be made as to which vehicles, if any, to build.

Officials also emphasize that this new study does not represent a merger of the civilian and military space programs. NASA will retain the responsibility for civilian manned systems, such as the second-generation shuttle, and the DOD will be responsible for unmanned systems such as the heavy-lift vehicle. On the other hand, the Pentagon's Strategic Defense Initiative Office will be working closely with both study participants, since its needs are expected to be a dominant force in the space program of the 1990's.—M. MITCHELL WALDROP



The Titan III-C

The Air Force now has the go-ahead to launch ten of its satellites with Titans.