A New Image for the Space Shuttle

The advent of the shuttle's first all-military flight highlights the Pentagon's long-standing influence on an ostensibly civilian program

On the afternoon of 23 January, the space shuttle Discovery is expected to climb into space carrying a novel and supposedly highly secret cargo: a reconnaissance satellite designed to intercept a wide variety of electronic communications, radar signals, and telemetry from intercontinental ballistic missile tests. After a number of orbits around the earth, the shuttle will discharge the satellite from its payload bay, and a booster rocket will be used to loft it to an altitude of approximately 35,000 kilometers, where it will be parked over the Soviet Union.

Although the flight will be the fifteenth in the shuttle program, it is only the first devoted wholly to military purposes. As such, it represents the start of a new chapter in the shuttle's public image—a chapter in which the predominantly military character of the program will unavoidably become more visible. To some, the new image may seem jarring, because the National Aeronautics and Space Administration (NASA) and the Department of Defense (DOD) have heretofore largely skirted discussions of the military's influential role in the shuttle program. But the topic has become more noteworthy with the onset of flights controlled by the Air Force and subjected to a news blackout on the grounds of national security.

According to the latest NASA estimates, approximately 30 percent of the shuttle's flights over the next 10 years will be devoted to military missions. Yet the basic costs of the shuttle and its associated launch and servicing equipment—now estimated at more than $15 billion—have been paid almost entirely through NASA's civilian budget, a fact that has heavily influenced the public perception of the shuttle as a civilian program. This misunderstanding can be explained in part by the fact that NASA has routinely but quietly absorbed the costs of military requirements for the shuttle.

From the start, for example, military needs dictated that the shuttle be designed with unusually large wings, rugged thermal protection, an unusually large payload bay, and unusually powerful engines. But none of the added costs for these items has been borne by the Pentagon. Each time a military payload is ferried into space on the shuttle, it costs NASA approximately $400 million. Yet the Pentagon is assessed only $32 million, amounting to a subsidy from ostensibly civilian funds of roughly $368 million.

Confronted by such statistics, military officials like to point out that the Pentagon has invested $3.5 billion of its own funds to buy a launch pad and associated equipment at Vandenberg Air Force Base in California, as well as a secure flight control room at NASA's Johnson Space Flight Center in Houston, Texas.* According to congressional auditors, however, this neat division of military and civilian space operations has been something of a financial ruse. NASA has long insisted that none of its expenditures on the shuttle are exclusively for the Pentagon's benefit. But the General Accounting Office (GAO) has concluded that in recent years as much as 20 percent of the civilian budget supports the Pentagon's use of the shuttle.

Some NASA expenditures, amounting to tens of millions of dollars, are for items that clearly serve both military and nonmilitary functions, such as improved engines for both the orbiter and a rocket booster, as well as a variety of experiments on board the shuttle regarding flight aerodynamics, plasma physics, astronomy, biology, chemistry, and radiation. Both NASA and DOD have benefited from modifications to test equipment and launch or control facilities at three different NASA centers. In addition, NASA has flown a sophisticated reconnaissance radar on two shuttle missions,

*These expenditures are only a fraction of the total DOD expenditures on space activities, which total $9.9 billion in the current fiscal year—as compared to NASA's total budget of $7.2 billion. The gap between military and civilian expenditures for space is expected to widen in future years.

Empty Space Talk

Last month, when the Washington *Post* published supposedly secret information about the forthcoming all-military flight of the space shuttle, it was immediately accused by Secretary of Defense Caspar Weinberger of offering "aid and comfort to the enemy." But nothing in the *Post*'s account, or in similar stories appearing elsewhere, offers the Soviet Union information that cannot be deduced from the voluminous unclassified literature available to armchair analysts. Nor were any truly sensitive data revealed, such as how the satellite works or its precise technical limitations. This is freely admitted in private by knowledgeable officials in the Department of Defense.

Why then did Weinberger make such a chilling accusation? The most likely explanation is that he wants to discourage reporting about satellites that may be launched by the shuttle in the future, whose overall purpose could effectively be masked. This is not an unreasonable Defense Department goal. The trouble is that it seems senseless in this particular case, especially when backed by government threats to investigate mere speculation.

The Pentagon also botched its explanation of a policy for the release of information about the forthcoming military shuttle mission, as well as those to follow. Officials said they will reveal approximate but not precise launch times, for example, and that they will not reveal launch or flight trajectories and altitudes for either the shuttle or its payload. This information can readily be obtained by Soviet reconnaissance ships and intelligence satellites, but Air Force personnel claimed that its denial would help confuse the Soviets and make their task more difficult. Instead of offering this lame explanation, they might have revealed the real purpose: to prevent an attack on the shuttle by foreign or domestic terrorists during or shortly after its launch, and to forestall Soviet countermeasures against flights intended solely for reconnaissance rather than satellite deployment.

—R. JEFFREY SMITH

which gathers images of use to both civilian and military analysts. (The radar is capable of penetrating cloud cover, vegetation, and even the earth's surface to a depth of 1 meter in certain areas, making it an obvious intelligence asset as well as a valuable research tool.) Despite their dual use, all of these projects have been financially underwritten by NASA without any DOD assistance.

Other NASA expenditures, such as that for a photographic experiment on board the thirteenth shuttle mission, solely benefit the Pentagon, the GAO has concluded. The experiment was conducted with a huge, high-resolution stereographic camera, constructed at NASA expense, at the Pentagon's explicit request, and the resulting negatives were carefully inspected prior to their release to ensure that no sensitive information would be disclosed. The Pentagon also got a free ride on the fourth shuttle mission, when a package of military instruments and experiments was flown at NASA expense along with a variety of civilian experiments. Even now, NASA is spending roughly $350 million in ostensibly civilian funds for new, lighter booster rockets, needed so that the shuttle can lift unusually heavy military—not civilian—satellites.

NASA tolerates these financial shenanigans partly because it wants the Pentagon's continuing political support for the shuttle program. But an additional reason that strong public protests have never been made is that NASA's top management has long been seeded with military personnel. Three of the agency's directors and at least two of its deputy directors had worked for the Pentagon or one of its major contractors prior to their appointment. The first shuttle program manager, Myron Malkin, had previously worked as a director of Air Force missile programs. The third manager, James Abrahamson, was a lieutenant general in the Air Force. Even the shuttle's astronaut corps has been dominated by military personnel. Fully 45 percent of those who have flown to date were active duty military officers, paid by the Defense Department, on extended loan to the shuttle program, while another 8 percent were retired military officers. Gary Payton, the payload specialist on the forthcoming shuttle mission, is an active duty officer, like all of his colleagues on the flight, and 24 additional military payload specialists are now being trained by the Air Force.

Detailed knowledge of these factors has prompted a few candid insiders to acknowledge that the military long ago assumed a dominant role in the shuttle program. Hans Mark, who served as a Secretary of Air Force prior to his appointment as NASA's deputy administrator, told an aeronautics conference several years ago that "NASA is in fact a minor user and not the driver [of the shuttle]. That's not something the NASA folks like to hear, but it is true."

Seen in this perspective, the forthcoming all-military shuttle mission is not a break from the past but a continuation of previous practices. It represents not the militarization of space but a public symbol of the military's substantial existing presence there.—**R. JEFFREY SMITH**

Young Plans Management Reforms at FDA

The new FDA commissioner is also concentrating on learning the ways of Washington

Six months ago, the Reagan Administration appointed Frank E. Young, dean of the University of Rochester medical school, to be commissioner of the Food and Drug Administration (FDA), which has broad authority over the nation's food, drugs, cosmetics, and medical devices. The choice was surprising because Young was not among the initial contenders for the post. In the several months he has been FDA chief, Young has impressed many with his enthusiasm for the job. Like previous commissioners, he had virtually no experience in Washington, but he is introducing himself widely around town and is also beginning to set some long-term goals for FDA.

When the Reagan Administration last year went looking for a new commissioner to succeed cardiologist Arthur Hull Hayes, Jr., it first courted two women scientists in academia. The action was widely interpreted as an effort to close the gender gap as the presidential elections drew near. In the meantime, Washington heavyweights were pressing the Administration simply to name acting commissioner Mark Novitch, a Democrat, to the post. Even the Pharmaceutical Manufacturers Association lobbied for Novitch, a widely respected veteran of the agency.

Young is not the least bit bothered that he was not the Administration's first choice for the job. "I like these kinds of challenges," said the stocky, 53-year-old commissioner in a recent interview. "I'm learning the process and it's different. I love to learn."

That is certainly borne out by his career. A native of upstate New York, Young received his medical degree from State University of New York at Syracuse and a doctorate in pathology from Case Western Reserve. His subsequent research focused on microbiology and the genetics of *Bacillus subtilis*. He was a faculty member for 14 years at the University of Rochester where he became dean of the medical school in 1979. Two years later, he was appointed vice president of the university's health affairs, a post that extended his administrative responsibilities to the university hospital and the nursing school. According to Rochester University treasurer LeRoy Thompson, the hospital was in the red when Young was appointed, but was in the black when he left because the billing and computer system were revamped under his initiative. It is widely rumored that when Young was asked to head FDA a university review committee was about to oust him as dean because of purported dissatisfaction with his management style. Young said, "I was not operating on that assumption when I took this job." Young is a member of the Institute of Medicine and served briefly on the recombinant DNA advisory committee at the National Institutes of Health (NIH). "He comes to the job with considerable assets," says Donald Kennedy, Stanford University president and a former FDA commissioner.

He has divided his time at FDA among three main areas: reviewing the management of the $400-million agency, introducing himself to a multitude of groups in Washington, and developing a policy statement on the agency's role in regulating biotechnology products. He is making an unusually concerted effort to meet