NASA Seeks New Funds to Replace Crashed Research Plane

The National Aeronautics and Space Administration is moving quickly to find and finance a replacement for the *Galileo*, the space agency's $5 million jet research aircraft that was destroyed on 12 April in a midair collision with a U.S. Navy plane near San Francisco. Sixteen persons aboard the two aircraft—including all 11 crewmen, scientists, and technicians on the *Galileo*—died when the planes in clear weather collided, plunged into the 12th fairway of the Sunnyvale municipal golf course, and burned.

Only a few days after the accident, a joint team of Navy and NASA investigators was hard at work on the West Coast seeking the cause of the collision, while in Washington NASA's deputy administrator, George M. Low, was conferring with key members of the House space committee about replacing the *Galileo*. Congressional staff sources said Low was seeking a $5 million addition to the agency's fiscal 1974 budget to replace the four-engine jet as expeditiously as possible.

The space agency's haste stems in part from its desire to have the added money tacked onto the annual space authorization bill before the measure leaves the friendly provinces of the House committee for a floor vote late this month. Giving the space program more money on the House or Senate floor, even a modest sum, is politically risky these days, and NASA would prefer to draw as little fire there as possible.

With this thought evidently in mind, Representative Charles Mosher (R–Ohio), the ranking minority member of the House space committee, offered an amendment in committee on 16 April that would provide the extra $5 million. Mosher was obliged to retreat temporarily, however, in the face of skepticism from fellow committeeman Joseph Wydler (R–N.Y.), who said he wanted to see a thorough justification for buying a new plane. At week's end, NASA was still composing its case.

Perhaps the most persuasive argument in the space agency's favor is that it really has no other "laboratory" plane whose size and versatility approach that of the *Galileo*, which NASA had planned to use extensively this year for development work on instruments and control mechanisms of the space shuttle. Moreover, without the *Galileo* or something very much like it, the United States may have a hard time holding up its end of a multimillion dollar, international weather research project scheduled for the southern Atlantic during the summer of 1974.

This project is a main component of the Global Atmospheric Research Program (GARP), a huge data-gathering enterprise being supervised by a consortium of international scientific organizations and sponsored in part by the United Nations. One of GARP's objectives is to improve present understanding of the processes of storm formation, and this is the mission of GATE—the GARP Atlantic–Tropical Experiment—to which the *Galileo* was assigned. In all, the United States has committed itself to spend about $30 million on the GATE project.

The GATE undertaking will involve the deployment of a rather large fleet of ships and planes, working simultaneously with ground observation stations in Africa and Latin America and with earth satellites, to survey in great detail the formation of weather fronts in the main spawning ground of hurricanes, the tropical Atlantic. In all, 14 nations—including the United States and the Soviet Union—have committed 23 ships and 6 planes to the 3-month project. Of all the planes available, according to officials of the National Atmospheric and Oceanic Administration (NOAA), only the *Galileo* was capable of making crucial high-altitude surveys of developing storms. "This was the key aircraft in GATE," Walter Telesetsky, NOAA's coordinator of the U.S. portion of the project, told *Science*. "We don't know what we're going to do now."

The aircraft NASA now must replace was a Convair 990, an early competitor of the Boeing 707 airliner that never caught on in the commercial market. For the space agency's purposes, however, the Convair proved ideally suited. The agency bought the plane in 1965 and thereafter used it to test most of the instruments now in use on the latest weather satellites. With still other instruments peering through special portholes in the cabin ceiling and out what were once the passenger windows, planeloads of university researchers tracked solar eclipses across the South Pacific, followed spectacular displays of the northern lights across the Canadian arctic, and observed the planet Mars several years ago on one of its closest approaches to earth.

Recently, the *Galileo* itinerary had emphasized earth resources. In March, it completed a series of ocean and weather observations in the Bering Sea in conjunction with a Soviet plane. NASA scientists said this project, which grew out of the cooperative science agreement signed with the USSR last year, had been "highly successful." None of the data gathered on that mission was lost in the crash.

The *Galileo*'s last flight was a routine, 2-hour swing out over the Pacific to check the feasibility of using cameras to track whales and other sea mammals. Budgetary uncertainties left some doubt as to whether the project could proceed, but John W. Yusken, the NASA scientist who was interested in the idea, wanted to pursue it anyway. Yusken, of San Jose, California, was among the 11 killed in the collision.

The circumstances of the accident are still unclear. Both the NASA jet and the Navy plane, a turboprop submarine hunter practicing "touch and go" landings, were approaching Moffett Field, a naval air station shared by NASA's Ames Research Center, about 30 miles south of San Francisco. Witnesses gave conflicting accounts as to which plane struck the other.

The *Galileo* was well known among scientists around the world, and its loss moved many to telegram their condolences to Ames. Tragic as it was though, the accident could have been much worse. As more than one NASA official pointed out, at least 80 percent of its flights carried at least twice as many passengers.

—R.G.