

Nuclear Flight Programs Canceled As President Trims FY'65 Budget

Washington—President Johnson's economy ax last week fell on the Rover nuclear propulsion flight program, military budget requests and the hiring policies of the U. S. government.

Atomic Energy Commission and National Aeronautics and Space Administration in a joint announcement Dec. 24 said the Lockheed Rift (reactor-in-flight test) project is canceled; the Kiwi ground reactor part of the Rover program will continue unchanged, and the Nerva (nuclear engine for rocket vehicle application) development effort will be stretched out.

The joint AEC-NASA Space Nuclear Propulsion Office estimates 1,300 employes will be affected by the cancellation and stretch-out—675 at Aerojet, 400 at Lockheed and 200 at Westinghouse. AEC is expected to save \$25 million in Fiscal 1964 and \$54 million in Fiscal 1965 while NASA is expected to save \$15 million in Fiscal 1964 and \$88 million in Fiscal 1965.

These economy efforts, the agencies said, "will save as much as \$180 million of planned and programmed funds in Fiscal 1964 and 1965." AEC and NASA said that they have invested \$450 million on Rover. President Kennedy, after visiting Rover installations in December, 1962, rejected proposals to accelerate the program and approved less than requested (Dec. 17, 1962, p. 28). President Johnson's action shows he too agrees with those advisers who contend it is too early in terms of the nuclear

technology to invest heavily in actual space flight vehicles. He is expected to ask about \$160 million for Rover in Fiscal 1965, or about \$100 million less than the agencies requested.

Los Alamos Scientific Laboratory will continue Kiwi nuclear reactor ground tests through the next 12 months and make a try to develop higher powered graphite reactors under the project name of Phoebus.

The stretch-out of the 1,000 megawatt Nerva engine project, being conducted by Aerojet and Westinghouse, will be accomplished by postponing flight system development. Instead, the contractors will concentrate on reactor engineering and the subsystems needed to develop an operating experimental nuclear propulsion engine. AEC and NASA said they contemplate building a flying version eventually, but did not specify a schedule.

NASA's Marshall Space Flight Center directed Lockheed's Rift project. The agencies claimed "almost all" of the \$14 million already invested in Rift is applicable to other programs. No flight hardware has been built. The Rift program called for delivery of the actual flight stages and testing them in 1966

Boeing to Build Lunar Orbiter

Washington—Boeing Co. last week was selected for a \$60-million contract from the National Aeronautics and Space Administration to build five Lunar Orbiter spacecraft.

Boeing's proposal was selected after NASA's top management re-examined bids submitted by five firms. The others were Hughes Aircraft Co., Lockheed Missile and Space Div., the Martin Co. and TRW Space Technology Laboratories.

NASA said Boeing's proposal was selected because it offered the greatest assurance of mission success. The Boeing proposal included use of a three-axis stabilization system similar to the one on the successful Mariner 2 Venus spacecraft, an Eastman Kodak-developed camera system and Radio Corp. of America power and communications systems.

AVIATION WEEK & SPACE TECHNOLOGY learned that Boeing's bid of \$60 million was the highest, but that the firm won the contract because of the high reliability factor in the spacecraft design approach.

Of all NASA's programs, the lunar flight program has been the least successful. All three Atlas-Able flights in

Minuteman Decision

President Johnson is to meet with the joint chiefs of staff at his Texas ranch Dec. 30 and then is to decide whether to procure 50 or 150 USAF-Boeing Minuteman missiles in Fiscal 1965.

Air Force Chief of Staff Curtis E. LeMay is arguing for the larger number, and Defense Secretary Robert S. McNamara favors the smaller procurement. The President's decision will determine whether the U.S. by mid-1969 has 1,200 or 1,950 Minutemen. Another issue to be discussed is whether to build a jet interceptor for the continental air defense forces.

and 1967. Last year the flight date slipped to 1970 because of engineering problems with the Kiwi reactor.

President Johnson discussed other economy moves between meetings with high government officials at his Texas ranch over the Christmas holidays. He said \$9 billion in military budget requests was denied. This, however, is not unusual. Defense Secretary Robert S. McNamara said he denied \$13 billion in Fiscal 1964 budget requests from service chiefs (AW Jan. 21, p. 26). The other economy move was setting ceilings on the level of employment for all government executive agencies. He said there will be fewer federal employes in 1964 than there were in 1963.

Apollo Guidance Probe

Washington—Reports critical of the Apollo guidance development program have been turned over to staff members of the House space committee for further investigation.

Aviation Week & Space Technology disclosed that members of the committee planned a brief investigation before the Christmas recess (AW Dec. 23, p. 27). Following two meetings last week, Rep. Olin E. Teague (D-Tex.) said the reports cast enough doubt on the reliability of the system being developed under the direction of the Instrumentation Laboratory of the Massachusetts Institute of Technology to warrant further investigation.

NASA maintains that addition of backup on-board computers, which switch on automatically when a failure occurs in the computer system, answers most of the criticisms in the industry reports under study by the House space committee.

1959 and 1960 failed and all five Ranger flights—three of them lunar photography missions—were unsuccessful.

NASA canceled five Ranger flights—Rangers 10 through 14—on Dec. 13, (AW Dec. 23, p. 28), cutting the program back to four remaining flights. Ranger 6, the next scheduled, is to be launched in February.

With the first manned landing still scheduled in late 1968, time is fast running out for the reconnaissance of lunar landing sites by unmanned spacecraft.

Although the remaining Ranger flights and the first of the Surveyor soft lunar landings are scheduled to take place before the first Lunar Orbiter flight in 1966, the Lunar Orbiter is viewed as a determined attempt to insure availability of lunar surface pictures if all else failed.

NASA said the incentive contract with Boeing (AW Oct. 7, p. 32) would provide for a spacecraft of 800-lb. or under to fly on the Atlas Agena rocket. The spacecraft is to carry scientific instruments, as well as cameras, to measure radiation levels and micrometeoroid density.