



# NEWS RELEASE

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
400 MARYLAND AVENUE, SW, WASHINGTON, D. C. 20546  
TELEPHONES: WORTH 2-4155 ----- WORTH3-6925

**FOR RELEASE:** IMMEDIATE, TUESDAY  
December 24, 1963

RELEASE NO. 63-285

*5 p.*

N64 12064 *✓*  
CODE-1

NUCLEAR ROCKET PROGRAM REVISED

*News Release 63-285*

The National Aeronautics and Space Administration and the Atomic Energy Commission today announced a revision of the ROVER program, this country's nuclear rocket propulsion program.

The revised program places the emphasis on ground-based research and engineering and defers further development of flight systems.

- more -

*(Open)* 24 Dec. 1963 5p *(Orig)*

*Available from NASA,  
Wash., D. C.*

*Office of Scientific and Technical Information,*

This means that ROVER's Kiwi (Ground reactor) project is unchanged, that Nerva (Nuclear Engine For Rocket Vehicle Application) will be continued but with its flight objectives deferred and Rift (Reactor In-flight Test) is cancelled. Rift has been a technological project without actual hardware development to date.

The revision provides adequate funding for continued development of nuclear propulsion and at the same time, by deferring flight systems and tests related to Nerva and Rift, will save as much as \$180 million of planned and programmed funds in FY '64 and '65.

AEC and NASA will concentrate on ground reactor and experimental engine research, development and tests with particular emphasis on analyzing and understanding power levels, temperatures, operating life and the problems of frequent and reliable restarts.

Work toward the development of the flight systems is deferred until the technology learned from the Kiwi and Nerva projects has been satisfactorily established. The continuing projects will be directed toward ultimate use in flight systems.

**CASE FILE COPY**

By reorienting the nuclear program in this way, NASA and AEC officials said they can make effective use of the \$450 million investment to date. It also means that the agencies can fund in FY '65 at a level substantially less than FY '64.

The major elements of the revised program include a continuation of advanced technical developments, completion of the Kiwi reactor effort and its phasing over to the higher-powered Phoebus system, and a redirection of the Nerva engine project.

Research and engineering development will continue in such areas as advanced reactors to operate at a variety of power levels and associated non-reactor components such as pumps, nozzles, and control systems. This work will be carried out both in-house at such laboratories as the AEC's Argonne National Laboratory and NASA's Lewis Research Center and by industrial and university contractors.

The Los Alamos Scientific Laboratory of the AEC will continue Kiwi reactor tests through Calendar Year 1964. This Laboratory is, at the same time, beginning an increased effort in the area of higher-powered graphite reactors, a project known as Phoebus, and will provide basic design

and technology. This element of the Rover program is being carried out with no substantive changes.

the 1000-megawatt Nerva engine project being conducted by the Aerojet General Co., and the Westinghouse Electric Co., is now aimed at an experimental ground or non-flight engine system.

The major effort will be on reactor engineering and on other essential subsystems necessary to create an operating experimental nuclear propulsion engine. Those elements essential to the ground test program will be included. This revised project will require a lower level of funding but contemplates undertaking an eventual flight system development.

The Rift project, under contract with Lockheed, was directed by NASA's Marshall Space Flight Center. Almost all of the \$14 million of research and engineering effort already undertaken is applicable to the chemical rocket systems under development and the design and engineering work specifically associated with the nuclear systems will be available for eventual application to flight systems. Since no flight hardware fabrication has been started, this project can be terminated now without having incurred the large costs associated with flight system development.

- 5 -

The entire nuclear rocket program except for the Rift portion is under the direction of the joint AEC/NASA Space Nuclear Propulsion Office.

The present ROVER nuclear rocket program provides the foundations for the advanced flight missions. These advanced missions could include a logistics ferry for a lunar base, very heavy deep space probes, and even manned exploration of the planets.

- end -