SPACE

Rocket Reactor Tested

➤ A NEW nuclear reactor model designed for model space rockets, the Kiwi B-1-A, has been tested on the ground. Six more B-models will be tried before an atomic rocket will be launched.

The Kiwis are named for a non-flying Australian bird because the nuclear rocket using the Kiwi reactors will never "fly" as a first stage booster lifting the rocket off the ground.

However, the Nerva nuclear rocket engine powered by a Kiwi reactor may be used on advanced Saturn rocket models as second or third stages for manned mission flights to the moon and the planets Venus or Mars.

The nuclear rockets will have great advantage over chemical rockets because they can boost heavier loads farther with less fuel than chemical rockets now used.

The National Aeronautics and Space Administration reported in Washington, D. C., that the tests took place at Jackass Flats, an Atomic Energy Commission test site about 120 miles from Las Vegas, Nev. The Kiwi reactor has been developed at the Los Alamos Scientific Laboratory, N. Mex., operated by the University of California. The Kiwi reactors are part of the joint National Aeronautics and Space Administration and AEC Project Rover, an upper-stage nuclear rocket program.

Tests of the Kiwi B-1-A, originally begun in November, were abruptly brought to an end Nov. 7 by a hydrogen gas explosion. The reactor uses gaseous hydrogen as a propellant. However, no radioactivity was involved at the time, NASA reported. The Kiwi B-1-A model is the fourth nuclear reactor tested for the Rover project. The three earlier ones were simpler "breadboard" models of the A series, under development since 1959 and forerunners for the new B-series.

When the B-models have been tested, 30 to 40 of the final reactor model will be ordered for testing in the Nerva engine. Each reactor will be used only once.

The upper stage nuclear rocket is expected to be about 40 feet high and 27 feet in diameter. It could be ready for test flights in 1966 or 1967, but no mission flights are likely until one to two years after that.

• Science News Letter, 80:415 December 23, 1961

CHEMISTRY

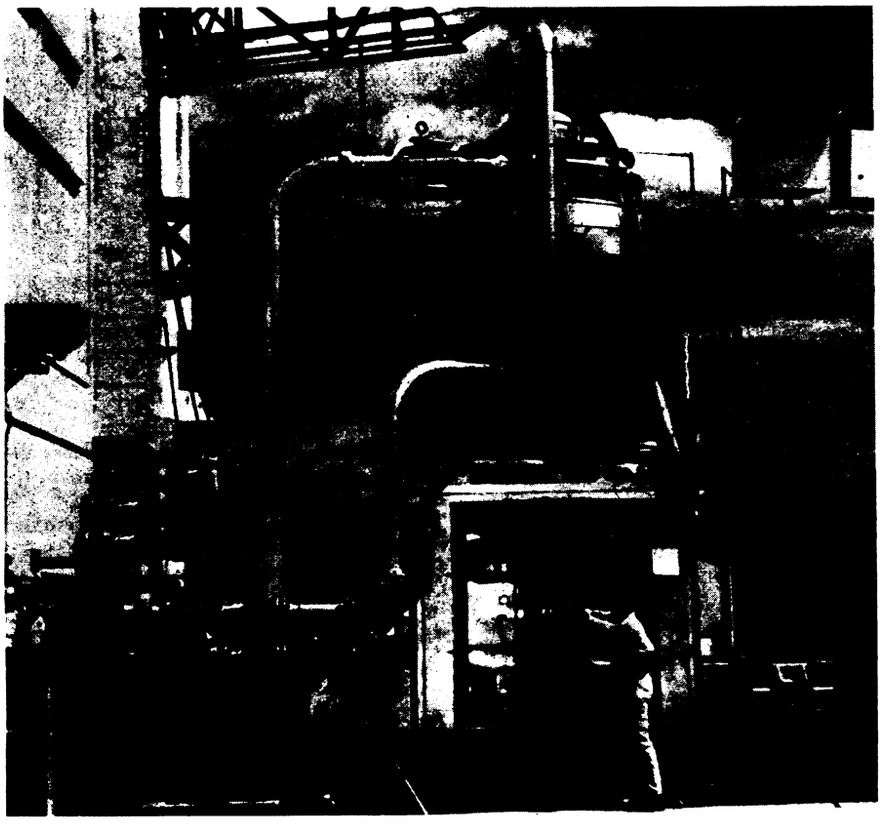
Fluidized Petroleum Coke Looks Like Snow

See Front Cover

➤ WHAT APPEARS to be Christmas snow flakes on the front cover is really a photomicrograph of fluidized petroleum coke.

General Electric Company scientists at the Hanford, Richland, Wash., plant magnified the "flakes" as part of the study of raw materials to be used in an atomic reactor.

• Science News Letter, 80:415 December 23, 1961



NUCLEAR POWER FOR ROCKETS—Residual radioactivity count is made after a low power test of a Kiwi-A Prime, one of the atomic reactors developed to study the feasibility of nuclear rocket propulsion.

NUTRITION

Less Time in Kitchen Foreseen for Future

➤ THE WOMAN in the house will spend less time in the kitchen in the future, the Nutrition Foundation predicts.

This will be due to increased use of what the food people call "convenience" or prepared food. More use of pre-cooked whole meals is also foreseen.

The Nutrition Foundation, an organization of food manufacturers, distributors and companies in related industries, also joined the national drive for weight control.

The average American adult is 15 pounds overweight, the Nutrition Foundation warns. The organization predicts that in the future:

"More adults will cease thinking of food solely in terms of calorie-counting, and eat, in moderation, for enjoyment and to provide abundant energy and good health. Successful weight control comes through changing one's food habits, and keeping food intake in balance with the energy output."

Celebrating its 20th anniversary, the Nutrition Foundation gave citations to: Dr. George W. Beadle, chancellor, University of Chicago; Dr. Vincent du Vigneaud, professor of biochemistry, Cornell University Medical College; Dr. Conrad A. Elvehjem, president, University of Wisconsin; Dr. William C. Rose, professor of biochemistry emeritus, University of Illinois; Dr. Fredrick J. Stare, professor of nutrition, Harvard School of Public Health.

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MINING

Greater Protection For Coal Miners Sought

➤ NEW STANDARDS for testing and approving automatic "methane-monitoring systems" for use in underground coal mines have been proposed by the Bureau of Mines to provide greater safety for the miners.

The "monitoring" system, important in today's highly mechanized coal mines, detects concentrations of methane gas before they build up to potentially explosive and dangerous proportions.

Workers are warned if methane accumulates, and all electrically powered equipment in the affected part of the mine is automatically shut off.

The proposed standards were developed through laboratory and field experiments, including actual mining trials.

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