

## NUCLEAR PHYSICS

# H-Bomb Is Russian Asset

**An H-bomb attack could wipe out most U. S. cities, but it would have less effect on Russia's less centralized population. Moscow would be the only Russian target.**

► IN case of H-bomb attacks on the U. S. we shall have to write off most of the big cities in the country. This is the opinion of Dr. Ralph E. Lapp, who worked on the atom bomb during the war and who since has headed the Nuclear Physics Branch of the Office of Naval Research.

"Horrible as it may sound," he said, "we must be prepared to lose 10 to 15,000,000 people in the first day of the superbomb."

Because of the many American cities with large concentrations of population in contrast to the very few large centers of population in Russia, Dr. Lapp thinks that the H-bomb will be much more dangerous to us than to the Soviet Union.

An H-bomb is likely to produce a one-million ton equivalent TNT explosion, Dr. Lapp figures. "If we look in Russia for targets compatible with a one-million ton explosion we find that only one city qualifies. That is Moscow."

On all other Russian targets, Dr. Lapp said, "it might be more feasible to use the explosive force of an improved A-bomb.

"Even a casual inspection of American cities," Dr. Lapp pointed out, "reveals that we have far more compatible targets than Russia. In a certain sense we are rather like the man who lives in a tar paper shack and develops a flame thrower to protect himself."

Dr. Lapp noted that close to 20,000,000 people live in New York, Chicago, Philadelphia, Detroit and Los Angeles. "There is very little we can do about those cities, except to stop them from getting any worse."

As for Washington, Dr. Lapp declared that "no one will ever be able to convince industry that it should disperse or civilians that they should limit the size of the cities, if nothing is done about the overcentralization of government agencies."

He recommended as a first step that the Navy move out of Washington and that many branches of the Army and Air Force move out of the Pentagon. "The Pentagon should be drastically cleaned out. The space can be used for dead records."

"Most importantly," he went on, "we must avoid the concentration of key individuals in one locality. For example, I would think it entirely proper that the Senate meet in Alexandria, Va., and the House in Bethesda, Md."

Calling for more information on the government's atomic policies, Dr. Lapp said, "What we need now is a prospectus on

the H-bomb. With the simple facts about H-bomb effects, we can proceed to see how the use of the H-bomb against us forces us to modify our civilian life."

Dr. Lapp figures that an H-bomb will weigh about 25 tons and, consequently, will be extremely hard to deliver over the target. When it gets there, however, "certainly the detonation of such a superbomb would

be an awesome spectacle. The H-explosion would form a miniature sun glowing brilliantly in a searing flash of heat. At the moment of explosion there would be a flash of very penetrating nuclear radiation, but this would die out quickly and there would be little prolonged radioactivity."

Figuring that the strength of the explosion would equal one million tons of TNT, Dr. Lapp said that 100 square miles would be damaged and the area seared by the heat rays would range from 200 to 400 square miles.

"The heat effect from the H-bomb will be the most enhanced property of the weapon," he declared. He expects that the bomb will be exploded from a height of four miles above ground zero.

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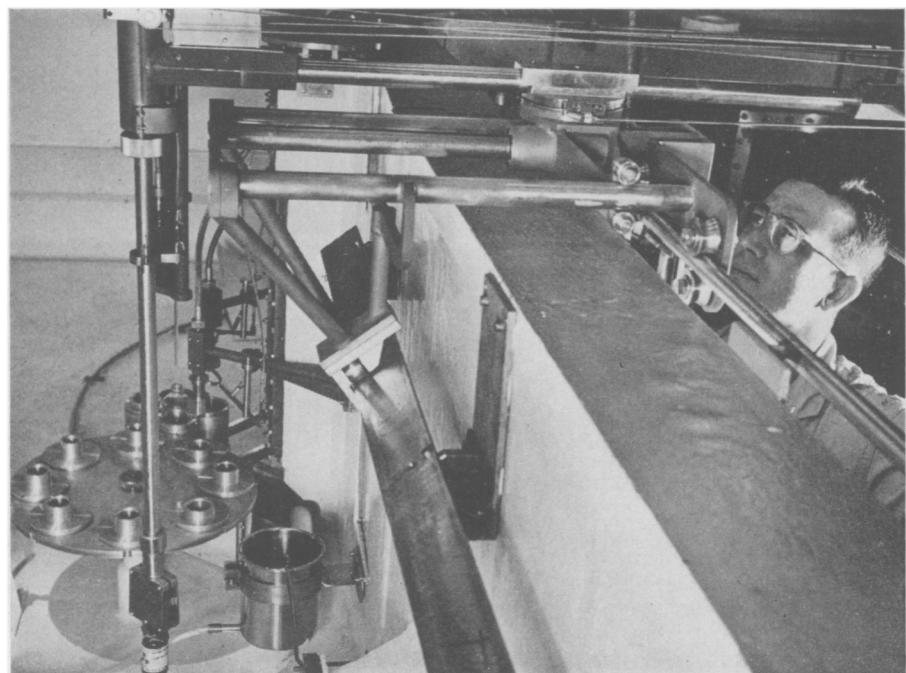
## NUCLEAR PHYSICS

# Improve Isotope Shipping

► MORE than 700 research projects using radioisotopes to promote health and cut industrial waste in the United States and 21 other countries are expected to profit from improved isotope shipping facilities just opened at the Oak Ridge National Laboratory.

New buildings where dangerously radioactive fission products from the atomic

pile can be stored behind adequate shielding walls and handled with production-line methods by remote control have been put into service by the Carbide and Carbon Chemicals Division of the Union Carbide and Carbon Corporation, operating the plant for Atomic Energy Commission. At the same time the Commission announced



**HANDLED WITH CARE**—Remotely controlled complex equipment is used in handling radioisotopes for shipment from Oak Ridge National Laboratory. The packing tongs shown are transferring a shipping bottle from the area of bottle-decapping, pipetting and sealing toward the barricade section (not shown) where the shipment is measured for radiation level and deposited inside the shipping container.