

June 28, 1967

FOR IMMEDIATE RELEASEHIGH-PERFORMANCE NUCLEAR REACTOR DEVELOPED IN THE EUROPEAN COMMUNITY.

WASHINGTON, D.C., June 28 -- Experiments carried out by the European Atomic Energy Community's industry on a prototype nuclear fuel of the vortex type has opened up new possibilities for boiling water reactors producing twice the power -- for the same volume -- of American reactors of the same type.

After a six-month's operation in the Kahl nuclear power plant, near Frankfurt, West Germany, the new fuel-element assembly was examined in detail. Excellent mechanical behavior and the absence of traces of corrosion or abnormal deposits were the most notable results of the experiments. Under an agreement with the operators of the power plant and the manufacturers of the assembly, the companies AEG (Allgemeine Elektrizitätsgesellschaft - Germany) and SNECMA (Societe Nationale d'Etude et de Construction de Moteurs d'aviation - France), who are developing the design on behalf of Euratom, it was decided to continue the experiment for an additional 14 months. Thus, mechanical and chemical reactor behavior will have been the subject of test covering a total of 20 months.

The vortex-type fuel assembly is based on an invention by the French company, SNECMA. It consists of metal bands twisted between the fuel rods in the assembly proper. These "twisted tapes" impart a rotational movement to the steam-water mixture flowing along the assembly and thus project the water in the mixture onto the heating rods by centrifugal force. A reactor of such a design could produce a power density twice that obtained with the present generation of US-designed boiling water reactors. It would lead to a marked drop in the size of the reactor and in the weight of the fuel charge and consequently the cost price of the energy produced.

The development of vortex-type boiling water reactors is being pursued by AEG in Germany and SNECMA in France, which are linked by several Euratom contracts. A major contribution to the program is being made by a series of in-loop tests being conducted at Euratom's Ispra establishment in Italy.