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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

APR 3 1980

Ms. Patti Dawson
c/o Setauket School
Main Street
Setauket, NY 11733

Dear Patti,

I am writing in response to your letter to Dr. Joseph M. Hendrie regarding the Three Mile Island plant. I regret that this answer to your letter has been delayed. The accident and its consequences have created a substantial increase in the agency's workload, which has prevented me from responding to you as promptly as I would have liked to.

The gas bubble at Three Mile Island was hydrogen gas, formed within the reactor vessel by a chemical reaction between water and the zirconium alloy cladding material of the fuel rods. The hydrogen bubble did not escape from the reactor building.

The small dose of radiation that was received by people in the area came from radioactive gases that escaped from the auxiliary building. The average dose of radioactivity received by the population within 50 miles of Three Mile Island was approximately 4 millirems. The maximum exposure to any individual was less than 100 millirems, which is less than the yearly dose each person receives as a result of natural background radiation. Doses at these levels result in less than one health effect over the lifetime of all people in this area. Natural background radiation received by people in the Harrisburg, Pennsylvania, area is approximately 125 millirems per year. To put these doses into perspective, note that a traveler flying round trip in a jet between New York City and Los Angeles receives 5 millirems from cosmic rays in the natural background.

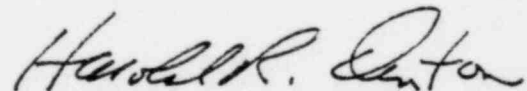
No citizens of other nations were directly affected by the Three Mile Island accident. Other nations are, however, concerned about what we have learned from the accident and what we will do in the future to clean up the Three Mile Island plant. The international nuclear community is being informed about our efforts.

I agree with you that nuclear plants should be built and operated as safely as possible. We have taken a number of actions with respect to all nuclear power plants as a result of the Three Mile Island Incident. Specifically, full-time inspectors have been assigned to each operating plant utilizing Babcock and Wilcox pressurized water reactors like those at Three Mile Island. In addition, all such plants were shut down and the licensees of each plant were instructed to provide us with additional information about their facilities in light of the Three Mile Island incident. After review of the information provided, orders were issued to the licensees that required them to make immediate plant modifications, to provide additional operator training, and to revise certain operating procedures. Additional long-term actions were ordered to further upgrade certain plant systems and operator training and procedures. All of these plants, except of course the Three Mile Island plant, have complied with the orders and have been permitted to resume operation.

Enclosed is a summary of the report "Investigation into the March 28, 1979, Three Mile Island Accident by Office of Inspection and Enforcement" (NUREG-0600), which describes the causes of the accident.

We are pleased to provide you with this information.

Sincerely,



Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Encl: Summary of NUREG-0600