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

February 28, 1980

Ms. Connie Egenrieder 126 Hillside Road Middletown, PA 17057

Dear Ms. Egenrieder:

Thank you for your letter concerning the accident at Three Mile Island Nuclear Station, Unit 2. Your kind comments on the efforts of the Nuclear Regulatory Commission during the accident and on our attempts to keep the public apprised of the conditions at the site are indeed gratifying. 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.

As you are no doubt aware, measurements of radioactive releases during the accident made by the Pennsylvania Bureau of Radiation Protection and several federal agencies did not warrant that the NRC recommend a general evacuation of the population mear the Three Mile Island nuclear station. A precautionary health measure that was issued during this time was the advisory issued on March 30 by Pennsylvania Governor Richard Thornburgh recommending that pregnant women and preschool aged children leave the area within a five-mile radius of the reactor. That recommendation was in effect until April 9, 1979.

Subsequent studies of these releases indicated that they were very low. The very 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, it should be noted 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.

The TMI-2 reactor is now in a cold shutdown state and core temperatures are below the boiling point of water. No major, unanticipated problems were encountered during the shutdown sequence and my direct involvement was not called for.

In regard to your concern about emergency planning, the NRC is proposing rules that would require the definition of emergency planning zones (EPZs) around nuclear facilities. An EPZ would be defined for both the short-term "plume exposure pathway" and for the longer term "ingestion exposure pathway." The EPZs recommended are nominally 10 miles for the "plume exposure pathway" and 50 miles for the "ingestion exposure pathway."

Emergency planning will predetermine emergency responses within the EPZ as a function of population groups, environmental conditions, plant conditions, and time available to respond. For the plume exposure phase, shelter and/or evacuation are the principal immediate protective actions to be recommended for the public in the 10 mile EPZ.

The NRC/Federal Emergency Management Agency (FEMA) Steering Committee has developed criteria to upgrad: all emergency plans in accordance with the proposed rules. The State/local emergency plans will be reviewed initially by the FEMA staff for adequacy and their findings and determinations will be reviewed by the NRC staff for integration with the licensee's emergency plans and to determine overall emergency preparedness, including evacuation, effectiveness.

In the interim period, the NRC is requiring all operating reactor facilities to submit upgraded emergency plans that meet revised acceptance criteria. The revised acceptance criteria require establishment of a "plume exposure pathway" EPZ of about 10 miles. The staff is scheduled to complete the review of all upgraded plans by July 1980.

I have enclosed a summary of a report that may be of interest to you.

On behalf of the entire Nuclear Regulatory Commission staff, I want to express my appreciation for your interest and confidence.

Sincerely,

Original sloned by

Harold R. Denton, Director Office of Nuclear Reactor Regulation

Encl: Summary of NUREG-0558

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