

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

JAN 18 1980

Mr. John D. Gray  
17620 65th Place West  
Lynnwood, WA 98036

Dear Mr. Gray:

I am writing in response to your letter to the Commission regarding the accident at Three Mile Island. 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.

No radioactive steam was vented to the environment during the accident. Reactor coolant water was pumped from the reactor building sump to the auxiliary building sump tank. The auxiliary building sump tank overflowed to the auxiliary building sump, causing water containing a relatively low concentration of radioactivity to back up through floor drains onto the fuel handling building and auxiliary building floors. Following fuel damage, the concentration of radioactivity in the reactor coolant increased by several orders of magnitude. A flow of this highly contaminated reactor coolant was maintained through the makeup and purification system for several days following the accident. This flow was the principal pathway by which radioactivity was transferred from the damaged reactor core to the auxiliary and fuel handling buildings. The contaminated water had radioactive gases (such as iodine, xenon, and krypton) dissolved in it. Some of the radioactive gases came out of solution when the contaminated water was in the auxiliary building and leaked to the environment from the auxiliary building.

There was some delay in making public the situation that existed in the Three Mile Island Facility. This was primarily due to the fact that there was a lack of information flow out from the Three Mile Island control room where the information is gathered and recorded. Without the necessary information it was very difficult to assess the condition of the facility. Therefore, there was a delay until sufficient information was available to ascertain the seriousness of the situation. Through the institution of new requirements of licensees we expect that such delays will be avoided in the future.

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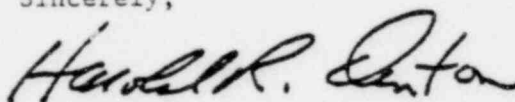
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NRC does not have the authority to order evacuations; that authority rests with the governor of a state. Please note that an evacuation was not ordered but an advisory recommendation was issued by Governor Thornburgh for pregnant women and preschool children within a 5-mile radius of the TMI plant to leave the region. At the time that Governor Thornburgh issued his advisory recommendation, there was no clear consensus that an evacuation was necessary. It was considered prudent to advise pregnant women and very young children to leave the area, but they were not required to do so.

I have enclosed summaries of two reports that describe the accident and its health impact.

Sincerely,



Harold R. Denton, Director  
Office of Nuclear Reactor Regulation

Encls: Summary of NUREG-0558  
Summary of NUREG-0600