NRC PDR

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

OCT 16 1980

Mrs. Kathleen A. Bevel
1155 Turnpike Road
Elizabethtown, Pennsylvania 17022

Dear Mrs. Bevel:

Your letter to President Carter about the accident at the Three Mile Island nuclear station was referred to me for response.

With regard to your concern about the purging of the radioactive krypton gas from the reactor building of TMI Unit 2, Metropolitan Edison Company submitted to NRC a "Safety Analysis and Environmental Report" (November 13, 1979) in which it evaluated alternative methods for the disposal of the krypton gases, such as purging and cryogenic processing, and selective absorption. NRC also evaluated alternative methods for disposal of the krypton gas to determine what effect decontamination would have on workers, on the public health and safety, and on the environment. Based on its evaluation, NRC issued an environmental assessment (NUREG-0662 and two addenda) for public comment on March 26, 1980, and received approximately 800 comments. These comments were considered in the staff's preparation of the "Final Environmental Assessment for Decontamination of the Three Mile Island Unit 2 Reactor Building Atmosphere" (NUREG-0662), vols. 1 and 2, copies of which are enclosed for your information.

From this process have emerged the following NRC staff conclusions:

- The potential physical health impact on the public of using any of the proposed strategies for removing the krypton-85 is negligible.
- The potential psychological impact is likely to grow the longer it takes to reach a decision, get started, and complete the process.
- The purging method is the quickest and the safest for the workers on Three Mile Island to accomplish.
- Overall, no significant environmental impact would result from use of any of the alternatives discussed in the assessment.

On June 12, 1980, the Commission issued an Order for Temporary Modification of License, authorizing controlled purging of the krypton-85 from the reactor building atmosphere. In a separate Memorandum and Order, also issued on June 12, 1980, the Commission discussed rationale for its decision. Actual purging operations began on June 28, 1980, and were completed on July 11, 1980. The doses resulting from the purge were well within those predicted in section 7.1 of volume 1 of NRC's final environmental assessment. Copies of both Commission issuances are also enclosed.

Regarding your desire for the federal government to finance and direct cleanup operations at TMI Unit 2, the licensee has the primary responsibility to physically carry out decontamination operations. The NRC was created by Congress to regulate the commercial use of nuclear energy. Under the Atomic Energy Act of 1954, as amended, NRC has the authority to revoke licenses, take possession of special nuclear material (uranium fuel), and license other organizations if necessary. NRC can, in an extreme case, operate a nuclear facility if it deems such operation necessary to protect the public health and safety. Should Metropolitan Edison be unable to carry out decontamination operations adequately, a number of options are possible, including NRC's licensing another organization to run the facility or NRC's operating the facility itself. Presently, 12 Commission professional representatives are at the TMI site. Their task is to review all proposed cleanup plans, including the review and approval of detailed operating procedures, and to maintain surveillance of those operations that NRC has authorized. No future actions can be taken at the site without the NRC's review and approval.

Under the Atomic Energy Act of 1954, as amended, NRC has the statutory authority to ensure that the public health and safety will be protected should Metropolitan Edison Company be unable to carry out its responsibilities as a licensee. At present, however, the resources necessary for NRC to implement its direct involvement in Metropolitan Edison's activities are not authorized. Nevertheless, existing statutes do give NRC the final authority to decide who assumes responsibility for a facility when a licensee cannot continue its operation.

With regard to your desire for the permanent shutdown of TMI, the Commission has ordered that a public hearing be conducted to determine whether TMI-1 should be operated and, if so, under what conditions the restart would take place. Prior to start of the hearings, the NRC staff is conducting a review of technical information concerning the restart of Unit 1. As part of this review, the NRC staff has been conducting meetings with the licensee in the presence of the public, and the public was given the opportunity to raise questions and to make statements. During the hearing, the technical issues that are appropriate to assure the public health and safety will also be addressed. In addition, the Atomic Safety and Licensing Board has indicated that NRC should consider the psychological impact of future operation on the nearby communities. A copy of the Commission Order that outlines the issues to be considered is also enclosed for your information. The hearing is scheduled to begin at 9:00 a.m., October 15, 1980, at the Nuclear Regulatory Commission Hearing Room, 25 North Court Street (ground floor), Harrisburg, Pennsylvania.

As for Unit 2, the licensee has not yet submitted to the NRC a proposal for overall plant recovery, although the licensee is conducting feasibility studies. It is not possible at this time to determine when such proposals for recovery may be submitted or how much time will be needed for the required reviews and approvals in connection with Unit 2's recovery. I would note, however, that the licensee's authority to operate Unit 2, except for those actions necessary to keep the reactor shut down, was suspended by Order of July 20, 1979.

With regard to your concern about the effects of low-level radiation, the effect of radiation on men and animals has been thoroughly studied for more than four decades. Numerous major biological research programs (including studies of genetic effects) have been completed and others are in progress, all of which have been well documented. While the relationship between ionizing radiation dose and adverse biological effects among humans is not precisely known for all levels of radiation, the principal uncertainty exists at very low dose levels where natural sources of radiation and the variations in these sources are comparable to other doses. The most important biological effects that radiation can cause are cancer, hereditary diseases, miscarriages, and abnormalities that may occur to a fetus. These effects are identical to those that occur among humans from other causes. It is this last point in combination with other complicating factors--such as magnitude and variations (1) in normal incidence of diseases, (2) in doses from natural radiation sources, (3) in radiation doses from man-made sources other than the nuclear industry, and (4) in exposures to nonnuclear cancer-producing agents--that is responsible for much of the uncertainty in the dose-risk relationship at low dose levels.

In lieu of precise knowledge of the relationship between low-level radiation and biological effects, radiation experts assume that ionizing radiation has an effect on the human body that remains directly proportional to the dose, even at very low levels, and that there is therefore no threshold below which radiation can be ignored. They therefore assume that any dose of radiation, no matter how low, may be harmful.

Several federal agencies, principally the Environmental Protection Agency, the Occupational Safety and Health Administration, and the Nuclear Regulatory Commission, are responsible for regulating exposures from radiation or radioactive material. In all cases, the staffs of these agencies set regulations to limit radiation exposures to those well below nationally and internationally accepted levels of radiation protection.

I appreciate your concerns and assure you that every effort is being made to ensure the continued protection of the health and safety of the public, not only at Three Mile Island, but also at all nuclear power plants.

Sincerely,

Bernard J. Snyder, Program Director
Three Mile Island Program Office
Office of Nuclear Reactor Regulation

Enclosures:
1. NUREG-0662, vols. 1 & 2
2. Order for Temporary Modification of License of 6/12/80
3. Memorandum and Order of 6/12/80
4. Order and Notice of Hearing of 8/9/79

April 30, 1980

President Jimmy Carter
The White House
Washington, D.C. 20500

Dear Mr. President,

I have never written the President of the United States before, Mr. Carter. I regret to say that in the past, I have been one of those typical Americans who, after voting, have been content to leave running the government solely in the hands of elected officials.

I live within the five-mile radius of Three Mile Island, Pennsylvania. I have a husband and four boys, ages 6 to 12. The reason for my letter is three-fold. I strongly protest efforts to vent Krypton-85 into the atmosphere, I request that you declare the accident at Three-Mile Island a national disaster and that the Federal government step in to finance and direct clean-up operations at Three-Mile Island,

and I implore you to revoke Met-Ed's license and permanently shut down Three-Mile Island as a nuclear facility.

Regarding the venting, it would seem that with the unpredictability of the weather, the likelihood of a safe dose of Krypton-85 would be doubtful. In my opinion with the availability of other options, Met-Ed chose the most inexpensive one irregardless of public safety. Scientists all agree that the less radioactivity one receives, the better. I realize the plant must be cleaned up, but I refuse to believe that venting is the only way to begin. I might add that besides the fear of having my children exposed to the gas, I am afraid of what else might happen should the venting occur. It is only my opinion but I am frightened that with the growing skepticism, anger

and fear in this area, sabotage is likely. Possibly and hopefully I am totally wrong about this.

Because of the distrust of Met-Ed evident in this area, Federal intervention is essential. Also, because of Met-Ed's precarious financial situation, I don't expect them to clean up Three-Mile Island with anything other than cost in mind. Any incident at a nuclear power plant is and should be a national issue and an accident such as occurred here in Pennsylvania should be declared a national disaster.

I found out the other evening, Mr. President, that plutonium is being stored on site at nuclear power plants. If that is correct, then hundreds of pounds of plutonium are being contained just four miles down the road from me and my family!

I think of that, the possibility of another accident, and the long-term effects of low-level radiation and wonder what price we all have to pay for progress. I think of how Met-Ed is only concerned with their financial success and realize that Three Mile Island must be converted to some other method of operation or be shut-down permanently. Our children's lives and the lives of our future generations to are at stake.

Please, Mr. Carter, listen to the concerned citizens of Pennsylvania. We feel that we live close enough to those towers at Three-Mile Island to have a right to speak out.

I thank you for your time and I pray that God may guide you in your efforts to perform your duties as President of this great country.

Respectfully,

Mrs. Kathleen A. Bew.