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OCT 20 1980

Ms. Beverly A. Bulhart
PO Box 19
Madisonburg, Pennsylvania 16852

Dear Ms. Bulhart:

Your letter to the Nuclear Regulatory Commission about the effects of the accident at the Three Mile Island nuclear station was referred to me for response.

Except for releases to the Susquehanna River of liquids containing only low or nondetectable levels of radioactivity, the release of contaminated water is not currently permitted. The Commission authorized use of the EPICOR-II water treatment system for processing the waste water stored in tanks in the auxiliary building. We do not currently permit the discharge of water processed by the EPICOR-II system. The disposal of the water processed by EPICOR-II is addressed in the Programmatic Environmental Impact Statement (PEIS) on the decontamination and disposal of radioactive waste at Three Mile Island. Enclosed for your information is a copy of the PEIS.

As a result of releases containing only low or nondetectable levels of radioactivity, the levels of radioactivity in the Susquehanna are indistinguishable from existing background levels at public water supply intakes from the river. These levels have been confirmed by independent measurements made by the NRC, the Environmental Protection Agency, and the Commonwealth of Pennsylvania.

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.

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- 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.

You said that "strontium-90 poisons our soils." Enclosed is a copy of the summary of NUREG-0668 entitled "Staff Review of 'Radioecological Assessment of the Wyhl Nuclear Power Plant.'" It includes a discussion of the release of strontium-90 from nuclear power plants and its transfer from soil to plants.

With regard to your concern about the management of nuclear waste, the goal of the U.S. Nuclear Waste Management Program is to provide assurance that existing and future nuclear waste from military and civilian activities, including spent fuel from the once-through nuclear power cycle, can be isolated from the biosphere so as to pose no significant threat to public health and safety and to the environment. The NRC is responsible for providing the framework of criteria and regulations that will ensure that the disposal methods developed for all types of radioactive waste are consistent with the achievement of this goal of safe, long-term waste disposal.

The NRC's authority to license and regulate the storage and disposal of radioactive wastes is derived from three statutes: the Atomic Energy Act of 1954, the Energy Reorganization Act of 1974, and the National Environmental Policy Act of 1969. To implement this authority and to provide guidance to the U.S. Department of Energy (DOE), the industry, and the public, the NRC is developing new or revised regulations for such storage and disposal. These regulations will require conformance with a fixed set of minimally acceptable performance standards for waste management activities while providing for flexibility in the technological approach.

The DOE's responsibilities concerning radioactive waste disposal are limited to high-level wastes and only those low-level wastes produced as part of DOE's programs. Their responsibility does not include commercially generated low-level wastes.

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With regard to monitoring the long-term health effects of the accident, it is generally agreed that epidemiologic studies of the resident population of Harrisburg, Pennsylvania, could not detect any excess morbidity or mortality due to radiation exposure from the accident at Three Mile Island. Even so, the Center for Disease Control and the Pennsylvania Department of Health (with assistance from the NRC) have conducted a census of the population residing within 5 miles of Three Mile Island for the purpose of providing an adequate registry for potential future studies of health effects. The Department of Health of the Commonwealth of Pennsylvania also is planning to update the population registry every 5 years over the next 3 decades. In addition, the Health Department and several Pennsylvania universities are planning or already are conducting studies of health effects, including pregnancy outcome, congenital and postnatal thyroid diseases, mental health, and cytogenetic abnormalities.

Although it is unlikely that these studies will be able to unravel the complex etiology of these health effects, the NRC is monitoring the studies and assisting where possible through its Radiological Health Standards Branch.

A team of investigators from the Nuclear Regulatory Commission, the Environmental Protection Agency, and the Department of Health, Education and Welfare calculated the doses to the people living within 50 miles of the Three Mile Island site and estimated the number of new cancers that would result from the exposure to the radioactivity that leaked out of the plant. The team reported their work in a report entitled, "Population Dose and Health Impact of the Accident at the Three Mile Island Nuclear Station" (NUREG-0558). They concluded that the offsite collective dose associated with radioactive material released from March 28, 1979, to April 7, 1979, represents minimal risks (that is, a very small number of additional health effects to the offsite population). Also enclosed for your information is the summary of NUREG-0558. You may also be interested in the enclosed press release from the Pennsylvania Department of Health, according to which the fetal death rate actually dropped after the accident at TMI.

Regarding the costs of the accident, the Pennsylvania Public Utility Commission (PUC), in a decision and order of June 15, 1979, ruled that costs of damages caused by the accident at Three Mile Island would not be included in the present rate base for customers of Metropolitan Edison and the Pennsylvania Electric Company. These customers will, however, be responsible for costs associated with purchasing power to replace power that the TMI facility would have provided. The Pennsylvania PUC reaffirmed this decision in an order of May 23, 1980.

In the same order, it also ruled that Three Mile Island Unit 1 be removed from the Metropolitan Edison and Pennsylvania Electric Company rate bases. As a result, their customers will be free of all maintenance, interest, and capital cost expenses associated with Unit 1. Should Unit 1 be returned to service, costs associated with its operation would, of course, become part of the rate structure.

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While we are, of course, concerned about financial impacts on consumers, the NRC's primary responsibility is the assurance of public health and safety. State public utility commissions and the Federal Energy Regulatory Commission have primary responsibility regarding the rates that consumers pay for electricity. They should be able to provide information for your use.

With respect to alternative methods of energy production, such as solar, wind, and geothermal, the Department of Energy is the federal agency responsible for their research and development. NRC considers these alternative methods of energy production in its assessment of the environmental impact of each nuclear power plant as part of the agency's overall review of each utility's application for a construction permit or an operating license. To date, we have determined that alternative methods of energy production are neither technically nor economically feasible to provide the required amount of power at the time it is needed.

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. PEIS
 2. NUREG-0662, vols. 1 & 2
 3. Order for Temporary Modification of License of June 12, 1980
 4. Memorandum and Order of June 12, 1980
 5. Summary of NUREG-0668
 6. Summary of NUREG-0558
 7. Press release

DISTRIBUTION

Docket 50-289	BSnyder
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