

REGULATORY DOCKET FILE COPY

AUG 25 1980

Mrs. Clarence P. Snyder  
1357 East Chocolate Avenue  
Hershey, Pennsylvania 17033

Dear Mrs. Snyder:

Your letter to President Carter expressing your concern about the Three Mile Island nuclear station and its effects on the environment and your family's lives was referred to me for response.

You commented that "we have been sitting on a time bomb." There was no possibility of a nuclear explosion such as that which happens in a bomb. Because of the physical conditions that exist in a light water nuclear reactor, such a (bomb-type) reaction will not occur to initiate an accident or following an accident (such as TMI-2) where core damage occurs.

For a few days after the accident, there was some concern that a hydrogen bubble in the reactor vessel might react explosively with the oxygen thought to be slowly accumulating in the bubble. There was concern that such a chemical explosion might break the reactor vessel or breach the containment building and possibly allow the escape of large amounts of radioactive materials. However, after extensive investigation and consultation with outside experts, NRC concluded that such an explosion could not occur because essentially no oxygen could have accumulated in the bubble under the existing conditions.

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 venting 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 comment that "we do not need nuclear power," NRC's primary responsibility consists in the licensing, inspection, and enforcement of regulations for nuclear power plants in the interest of public health and safety and for the protection of the environment. Changes in NRC's regulatory responsibilities can stem from the public's will and the resulting Congressional action.

In its Statement of Policy and Notice of Intent to Prepare a Programmatic Environmental Impact Statement of November 21, 1979, the Commission stated that the staff would prepare a programmatic environmental impact statement on the decontamination and disposal of radioactive wastes resulting from the accident at Three Mile Island Unit 2. The statement emphasizes the Commission's intention to coordinate its actions on this matter with the President's Council on Environmental Quality and to provide the opportunity for public comments. The programmatic environmental impact statement focuses on the environmental issues and alternative methods associated with the performance of these cleanup activities.

With regard to your concern about the effects of low-level radiation, for more than four decades, the effect of radiation on men and animals has been thoroughly studied. 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 doses 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

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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 June 12, 1980  
3. Memorandum and Order of June 12, 1980

DISTRIBUTION

Docket 50-289	BSnyder
PDR	JCollins
LPDR	DBrinkman
TERA	W01iu
NRR r/f	
TMI PO r/f	
TMI Site r/f	

OFFICE →	TMI/TF/W <sup>2</sup>	TMI/TF AAB	TMI PO S		
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24 APR 1980

1257 E. Chocolate Ave  
Hershey, Pa. 17033

March 12, 1980

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Dear Mr. President,

I don't know how much importance you will place on a letter from a 53 year old housewife. In fact, every person I told that I was contemplating writing this letter, told me that you won't even see this letter. IT will be duly recorded by a secretary and perhaps answered with a form letter. Time will tell!

For the last year we have been sitting on

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a time bomb. The TMI  
issue is one that has  
to soon be resolved and  
there is absolutely no one  
who has any confidence  
in Met Ed officials.

They have not done any  
thing to re-assure us that  
they are capable of dealing  
with the problem. Time  
and again they have lied  
or told half-truths to  
us.

This area has always  
been a tranquil place  
to live. Much of our  
area is farm land with

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cows producing good rich  
milk. Every thing we hold  
dear is threatened by  
this impending disaster.

There has never been  
a member of our family  
in welfare. We pay our  
taxes when due and have  
two fine sons living in  
this area.

With all the coal in  
Penna. we do not need  
nuclear power. Our governor  
is in Japan trying to  
sell our coal, which will  
be used in turn to  
make goods to sell here  
putting our businesses out  
of order. Isn't this insane?

Please, do what you  
can for us in the <sup>three</sup>  
Mile Island fiasco. The  
Met Ed guys say they  
will release this krypton gas,  
but we all know that isn't  
the only gas which will be  
emitted. Even so, most  
knowledgeable people say that  
no one, at this time, knows  
what damage even low-level  
radiation can do to our  
bodies and land. I would  
like my, as yet un-born,  
grand-children to be  
healthy. We owe our  
next generations a healthy  
environment.

I voted for you in

Clarence P. Snyder  
1357 E. Chocolate Ave.  
Hershey PA 17033



President James Carter,  
c/o White House  
Washington, D.C.



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in the last election, as  
did many here. Won't you  
please help us? Met Ed  
is crying poor, but last  
year made tremendous  
profits. There is no safe  
place to get rid of the  
wastes.

Counting on you,  
Mr. President. Use your  
influence to help us.

Sincerely,

Geraldine Snyder

Mrs Clarence Snyder  
1357 E. Chocolate Ave.  
Hershey, Pa. 17033