617 Briarcliff Road
Middletown, PA 17057
April 11, 1980

Chairman John Ahearne
U. S. N. R. C.
Washington, D. C. 20555

Commissioner Ahearne:

I have read NUREG-0662 and analyzed it as carefully as my capabilities permit. I am not technically oriented and, therefore, may fail to comprehend some of the material presented. However, I am sure most of the other residents of this area who respond to this assessment will find themselves in the same uncomfortable position. Therefore, the questions I pose may seem trivial to the scientist, but they represent my best effort to better understand the decontamination of the reactor building atmosphere at TMI Unit #2. I will begin with several comments and follow with my questions.

I have attended numerous meetings held by the NRC, Met Ed and the PA Department of Environmental Resources to discuss the cleanup. Continuous assurances that the proposed venting of the Kr-85 will have no adverse health impact on the people have been made. I asked Mr. Robert Arnold, senior vice-president of GPU, if 57,000 Ci of Kr-85 had ever been vented from a facility of any type that has in excess of 150,000 people residing in a ten-mile radius? His answer was"no."

Mr. John Collins of the NRC has stated that a nuclear plant routinely releases 1,000 Ci of radioactive gases per month. His point seems to be that "we've been doing it all along, so why be so upset now?" When questioned further about the routine releases under normal operating conditions, Collins stated that Kr-85 constitutes approximately 50 Ci of the 1,000 Ci/month. Therefore, normal operations release approximately 600 Ci of Kr-85/year, and the 57,000 Ci in the containment building would equate to 95 years of routine releases. Depending upon the time period chosen for the venting - if venting is chosen - the people of this area would be subjected to 95 years of Kr-85 exposure in anywhere from 5 to 60 days, or thereabouts. Is this acceptable? What assurances can you give me, based on collected health data over a period of years, that even the routine releases from nuclear power plants are safe? It seems to me that assumptions are made about health effects based on calculations and models that very well may have no proven bases as acceptable measurements of health impact. My preference in determining health impacts of operating nuclear power plants is to deal in objective, independent data collected and analyzed over a substantial period of time. Please direct me to this type of information so that I can see what you use in making evaluations.

My suspicions about the lack of hard data that should be the basis for making a decision of this magnitude are further heightened by the following statement excerpted from page 7-4 of NUREG-0662. It states, "Another objective of the program will be the development of information on the atmospheric transport of radionuclides under well documented meteorological conditions in order to test and/or validate transport models; and to determine the adequacy of models and assumptions used in current regulatory guides, including an assessment of their margin of conservatism." (Emphasis added) That statement means the nuclear industry has been operating on a lot of assumptions for a long time and now is an excellent opportunity to see if those assumptions have any relationship to reality.

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Throughout the long cleanup of Three Mile Island, there will undoubtedly be innumerable occasions to carry out unprecedented experimentation. The temptation to the scientist will be overwhelming. Some of those experiments can probably be performed with little or no risk to the health and safety of area residents. Is the Kr-85 venting experiment worth the risks? I think not!

As a resident of the TMI area, I continue to experience, as do my family, friends and neighbors, the psychological stress of the continuing accident. Although this is generally perceived as intangible, and by some unmeasurable, the presence cannot be denied. I enclose a copy of an article from the Catholic Witness, a weekly paper in this area. The article was written by Fr. Thomas R. Haney, Pastor of a Catholic Parish in Palmyra, PA, approximately 15 miles from TMI. He states, ".... the psychological and emotional state of many of us is at the breaking point. This state is aggravated by the distinct possibility that no one in charge really cares." He concludes by asking a question, that I will ask of you, "Who is morally responsible?"

My questions with page references to the NUREG-0662.

p. 1-4 In reference to fission products and particulates. How sure can you be that these other products will not be released? I realize filtering will be done, but no filter is 100% effective. Some of these particulates are apt to be very dangerous isotopes.

p. 4-2 Is reactor coolant sampling considerably less effective than neutron flux monitors in providing assurance that the core is not going critical? If this sampling provides adequate information, does the licensee have a real necessity to repair or replace any of the damaged nuclear instruments? If fans that maintain containment at negative pressure stop operating, what likelihood is there of Kr-85 leaking? Is it greatly increased since the pressure within containment will not increase that much?

p. 4-2 The Kr-85 contributes approximately 75% of the total body gamma field on the operating floor. The Governor's Commission Report done by the state of PA states that the level of radiation above the water was 200 R per hour in October. How much work can be done inside containment even if the Kr-85 is removed? Won't maintenance and any further cleanup be seriously hampered by the 7 feet of water?

p. 6-2 ".... good dispersion due to high winds." What are high winds? How predictable are winds?

p. 6-3 ".... the filters will be changed only once at the end of the purge operations." Only once for the entire operation?

p. 6-4 "the primary isotope .... released during a purge operation would be Kr-85." What would the secondary isotopes be?

p. 6-6 ".... we assumed that 30 minutes were required for the operator to detect the leak and isolate the system." In early February during sampling of the containment atmosphere, the system ran for 18 hours despite radiation readings three times higher than permitted. Why do you assume operators will be so much efficient during purging?

p. 6-7 "controlled releases can be maintained within applicable federal regulations." Is this for each purge seperately, or for the entire 57,000 Ci?

p. 6-14 "..... that does not ordinarily react chemically." (referring to Kr-85) When does it react chemically?

p. 6-18 Who is MPR Associates?

p. 6-18 ".... 20% of the piping and would contain 90% of the Kr-85." Does that imply that with purging during the first 20% of the Purge (the first 4,600,000 ft^3) that 90% of the Kr-85 (51,300 Ci) will be released?

Have you read the report on alternative methods for removing Kr-85 prepared by Gerald L. Pollack, Professor of Physics at Michigan State University, for Commissioner Gilinsky on March 24, 1980? Please comment on his conclusions.

Respectfully submitted,

James B. Hurst

March 28, 1980 Cath. Witness

Don't unleash TMI krypton on a terrified populace

FR. THOMAS R. HANEY

Viewpoint

Here it is exactly one year later and we who endured the agony of the TMI accident, the confusion of the reassurances and the heartbreak of ignorance are now being subjected to the dread of venting: the fear of its ramifications and the tension of knowing there are other ways to clean up the plant.

We're told that the doses of released krypton will not harm us because they'll be so small.

But a little plus a little plus a little equals a lot. The effects of the venting are cumulative. Just as cumulative is our doubt, disbelief and distrust of those in charge.

As a result, the psychological and emotional state of many of us is at the breaking point. This state is aggravated by the distinct possibility that no one in charge really cares.

The whole TMI ordeal has been like a dull knife cutting a rope — and we're looking at what might now be the last strand of that rope!

The cleanup is needed, but is the terror that's caused by venting?

Even if everything were secure and safe, that does not alleviate the disintegrating psychological state of the people. A little child in a dark room may go into convulsions out of fear.

We know there's no danger, but the child's fear is as real as if there were.

The point here, however, is that in the dark room of venting there is indeed a real danger. Who is morally responsible?

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April 21, 1980

Hon. John F. Ahearne
Chairman
Nuclear Regulatory Commission
1717 H Street, N.W.
Washington, D.C. 20555

Dear Chairman Ahearne:

Having had the opportunity to review the various cleanup options presented to the Nuclear Regulatory Commission and having studied the reports on the Selective Absorbtion System prepared by Dr. Gerald Pollack at the request of Commissioner Gilinsky, I felt the Selective Absorbtion System required more consideration.

On Saturday, April 19, NRC Commissioner Victor Gilinsky and I flew to the Oak Ridge Gaseous Diffusion Plant, in Oak Ridge, Tennessee, to examine the pilot plant designed to remove Krypton-85 (Kr-85) from a contained atmosphere through the Selective Absorbtion process. This process is described on pages 6-32 through 6-38 of the NRC Environmental Assessment for Decontamination of the Three Mile Island Unit 2 Reactor Building Atmosphere (NUREG-0662). Commissioner Gilinsky and I also had the opportunity to discuss this process with the engineers who have designed and operated this pilot plant, and officials from Union Carbide which has conducted the program under contract with the Department of Energy.

The Selective Absorbtion System has been worked on at the Oak Ridge Gaseous Diffusion Plant since 1967. The system today is a third-generation process which has been operating successfully for one and one-half years. Its flow rate is 15 cubic feet per minute. With the obvious exception of venting, the Selective Absorbtion process is the least expensive of the options presented in NUREG-0662 and could be placed in operation at TMI 2 in less time than the other options. According to the engineers at Oak Ridge, assuming the availability of materials and the necessary approvals, this system can be built and tested in about three months. This contrasts
EG-0662.

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to the Selective Absorbtion
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