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

OFFICE OF THE
COMMISSIONER

March 26, 1980

MEMORANUDM FOR CHAIRMAN AHEARNE
COMMISSIONER KENNEDY
COMMISSIONER HENDRIE
COMMISSIONER BRADFORD

I have attached a brief report I received from a consultant, Professor Gerald Poilack, of the Department of Physics, Michigan State University. I asked him to examine the alternatives for dealing with krypton in the TMI-2 containment as described in the NRC environmental assessment. He is an expert on noble gases and low temperature physics. You may recall that he prepared an earlier report for me evaluating the staff estimates on xenon releases during the accident.

Victor Gilinsky

Attachment: a/s

cc: W. Dircks
H. Denton
B. Snyder
J. Fouchard
PDR (Wash. & Middletown)

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MICHIGAN STATE UNIVERSITY

COLLEGE OF NATURAL SCIENCE • DEPARTMENT OF PHYSICS EAST LANSING • MICHIGAN • 48824

March 24, 1980

The Honorable Victor Gilinsky
Commissioner
US Nuclear Regulatory Commission
1717 H Street, N.W.
Washington, DC 20555

Dear Dr. Gilinsky:

Here is my report on the alternative methods for removing Krypton-85 from the atmosphere of the reactor building of Unit 2 at Three Mile Island. In preparing this report, I have studied the NRC Environmental Assessment as well as other relevant scientific and engineering literature. It's a hard problem and my conclusions are still tentative. I should like to get first-hand experience with the alternatives. Then I will be able to reconsider and firm up the conclusions.

The first part of this report is an introduction to the problem. The second part is a brief discussion of each of the five alternatives; they are discussed in order from most preferred, in my opinion, to least preferred.

I. Introduction

The problem we need to solve is how to decontaminate the atmosphere of the reactor building at TMI-2. The main contaminant is Kr-85, a radioactive inert gas. The resulting radioactivity concentration now is high, 1.0 $\mu C/cm^3$. The atmosphere must be cleared so t
the building to get on with the res
decontamination to be safe, with mi
workers, and to be as inexpensive a
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