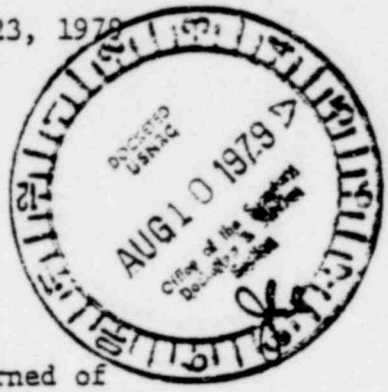
WASHINGTON UNIVERSITY

SCHOOL OF MEDICINE
660 SOUTH EUCLID AVENUE
ST. LOUIS, MISSOURI 63110

DEPARTMENT OF BIOLOGICAL CHEMISTRY
(314) 454-2422

July 23, 1979



Dr. Joseph M. Hendrie, Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Dr. Hendrie:

Through discussions with a friend, Mrs. Kay Drey, I have learned of the proposed "pipe cleaning" or decontamination of the primary coolant system at the Dresden Nuclear power plant. Like many others in the U.S., I have become interested in both the positive and negative factors of nuclear energy. I'm writing to you with the hope that you will provide me with environmental impact information about this cleanup operation.

First of all, ignoring the fact that I am uninformed about the pipe system, it would seem of questionable value to clean up a clogged plumbing system. Frequently the chemicals used in cleaning can themselves cause damage. Those in charge presumably have data indicating that the coolant piping system is itself in good shape and will not suffer any ill effects from a chemical cleaning with a chelating agent.

However, the more serious problem seems to be related to the disposal of the radioactive crud bound to the proprietary Dow chelating agent, the cleaning fluid. Is it true that 3000 curies are expected to be washed free from the pipes with the chelating agents? How was this estimate obtained? According to Mrs. Drey, this waste is to be disposed of by solidifying the aqueous chelated waste in 1200 x 55 gallon drums and then moving to a disposal site. My rough calculations indicate that the solidified waste will have a specific activity of 1.2×10^4 nanocuries/gram. Is this about the normal specific activity of buried radioactive waste?

Since the solidification process apparently involves entrapment in a vinyl ester matrix, what is the rate of leaking from such a matrix (assuming that the container is absent!)? Is the container constructed of metal? Is the temperature of the container and polymer measurably affected by the radioactivity? If the container is metal, is the corrosion rate notably affected by any heating effects due to radiation? or the chelating agents? or unpolymerized solidifying monomer?

I realize that data is available on many of these more obvious problems and I would like to help in disseminating this information to worried citizens. Is it possible to be put on some sort of mailing list

normally used to send out information about hearings and/or reports on potentially hazardous procedures associated with nuclear energy? I will be grateful for any data you have on these problems.

Sincerely yours,

Leonard J. Banaszak
Professor of
Biological Chemistry

LJB:ss

cc: Representative Clay
Senator Eagleton
Senator Danforth