2006 Southwood Drive
Champaign IL 61820
January 14, 1980

Robert Ahern
Acting Chairman
Nuclear Regulatory Commission
Washington D.C. 20555

Dear Robert Ahern:

The more I hear about a planned February decontamination of the Dresden Nuclear Plant the more alarmed I become about possible effects the experiment would have on people and our ecological system. The planned flushing of 85,000 gallons of a DOW highly corrosive chelating agent through the Dresden pipes to remove the radioactive metal oxide deposits will result in 1200 55-gallon drums containing 3000 curies of radioactive material, according to an NRC response to a letter from Dr. Dean Hansell of the Illinois Attorney Genaral's office. A study done at Oak Ridge National Laboratory reported in Science, June 30, 1979 found that chelating agents in radioactive waste hasten the migration of radionuclides away from original burial sites.

It seems quite urgent to me that there be a public hearing before the February decontamination date--or at the least, a proper environmental impact statement by then. Could I receive some sort of newsletter with information about hearings and the impact statement? Thank you.

Sincerely,

Jean Mayes

cc. President Carter
Sen. Adlai Stevenson
Sen. Charles Percy
Rep. Edward Madigan
Sen. Stanley Weaver
Rep. Helen Satterthwaite
Rep. Timothy Johnson

8004250 399

DRESDEN DECONTAMINATION FACTS

- Illinois Safe Energy Alliance
P.O. Box 469, Antioch, Il. 60002
(September 13, 1979)

The nuclear industry plans to "decontaminate" Dresden Nuclear Plant, a 19-year old 200 megawatt reactor located near Morris, Il. To "decontaminate" means to clean radioactive crud from pipes. During reactor operation, radioactive metal oxides called "crud" are deposited on the insides of metal pipes. These deposits create high radiation fields which are dangerous to the health of workers. "'Where a man could go indefinitely in 1960, and could stay for 45 minutes in 1969, he can now only go for a minute and a half,' says a Com. Ed. spokesperson." (Progressive, Aug. 1979, p. 41) In order for Dresden I to continue operations, the crud must be removed.

85,000 gallons of a Dow chemical solvent called NS-1 will be flushed through portions of the reactor's primary coolant system. The public does not have access to the exact contents of NS-1 because the information is designated "proprietary." However, we know the solvent will contain one or more chelating agents which are expected to chemically bond to the crud to permit removal from pipe walls, valves, joints, etc.

Awaiting "decontamination," Dresden I has been closed for nearly one year. With the fuel removed to an on-site storage pool, the coolant will be drained from the primary system. Temporary piping and support equipment being installed for this cleaning process will connect the reactor's primary system with a new chemical cleaning facility especially designed for processing the resulting radioactive liquid.

Solvent containing dissolved radioactive deposits will be drained to large tanks in shielded vaults. The primary coolant system will be rinsed with demineralized water to remove residual solvent. (The usefulness of demineralized water for this step has been questioned.) The solvent containing crud will be concentrated by evaporation and solidified into a vinyl ester plastic resin (which forms a matrix). This "solid" will then be transferred to a commercial low level waste site possibly at Beatty, Nev. or Hanford, Wash. Water from evaporation will be cleaned and reused at Dresden I.

According to an NRC response to a letter from Mr. Dean Hansell (I.S.E.A.), The Attorney General's Office states 1200 55-gallon drums containing 3000 curies of radioactive material will result. If the radioactive material is uniformly distributed throughout the solidification agent, one can conclude that each barrel will contain 2½ curies of radioactivity. One biological chemist has termed it, "Damned hot stuff!"

It is possible that twice the estimated amount of solvent may have to be used. NS-1 can absorb only a certain amount of iron. In other words, it is possible that iron, instead of radioactive crud, will take up the capacity of the solvent in which case a second flushing will have to be carried out.

Decontamination wastes are bonded to chelating agents. Expected radionuclides include primary cobalt, but also Cerium, Manganese, Zirconium, Cesium, etc. A study done at Oak Ridge National Laboratory found that chelating agents hasten the migration of radionuclides away from original burial sites. When radioactive waste(low level), is buried it is hoped that radionuclides will be adsorbed by the sediment and remain away from any groundwater. The presence of chelates, however, interferes with adsorption by the sediment allowing the radionuclides to migrate freely. According to environmentalist Kay Drey of St. Louis, Mo. (Phone 314/725-7676), "It's like putting radioactive waste on roller skates. . . it just goes zipping through the environment." Ms. Drey has thoroughly researched the issue

and is especially concerned the chelates will be added to both major kinds of reactor systems on a routine basis greatly aggravating the already severe radioactive waste disposal problem.

This "solution" is proposed by the NRC and utilities. However, no one can guarantee that any area will remain dry for the extremely long time periods this waste remains dangerous to life. Predictions of changing weather patterns and heights of water tables are impossible to make. Furthermore, radionuclides can leach out even in a "dry" area (in a manner similar to the operation of a flea collar) and thus be free to be carried by even scant amounts of rain or groundwater. One prominent scientist has termed the possible interaction of chelates and other wastes as "horrifying."[1]

If states of Nevada and Washington find out about these complex wastes, they might refuse to accept them, just as South Carolina refused to accept certain wastes from the Three Mile Island plant.

No one can be sure whether or not the wastes will really be "low-level". The NRC defines low-level radioactive waste as containing "less than 10 nanocuries of transuranic contaminants per gram of material." Mr. Steve Lang of Com. Ed. "does not expect any," but the possible presence of transuranics cannot be ruled out. The presence of transuranics (any element having an atomic number greater than that of uranium) is especially significant because they have extremely long half-lives and may remain dangerously toxic for a million years.

Questions that remain unanswered: 1) What exposure will workers receive during decontamination? 2) Will radioactive releases to the environment be limited to levels permitted by regulations? 3) What effect will the corrosive solvent have on the various joints, welds, and valves which are depended on to protect the public health but are not accessible for thorough inspection? 4) How many truckloads and at what risk will have to be shipped? 5) How can citizens be sure that tremendous industry pressure is not being successfully placed on the NRC to overlook potential problems? 6) Why hasn't the NRC required that a rigorous study called an "Environmental Impact Statement" be performed?

Decontamination is expected to cost nearly $36 million. Since the build-up of radioactive crud was not forseen by the industry, the cost for removal was not included in utility cost calculations. $8.2 million of the total cost will be provided by the Department of Energy. Half the remaining expense will be paid by electricity consumers in northern Illinois. The other half will be designated an operating expense. Dresden I has been closed down for nearly a year while awaiting decontamination. This idle generating capacity os another added expense for both rate-payers and stockholders.

[1] Science, June 30, 1978.