

Docket Nos. 50-237
50-249

Commonwealth Edison Company
ATTN: Mr. Cordell Reed
Assistant Vice President
Post Office Box 767
Chicago, Illinois 60690

NOV 08 1978

Gentlemen:

We are reviewing the Spent Fuel Pool Modification proposed for Dresden Unit Nos. 2 and 3 by your letter dated May 11, 1978. To continue our review, the additional information identified in Enclosure 1 is required.

Please provide the requested information by December 31, 1978.

Sincerely,

Original signed by
Dennis L. Ziemann
Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Operating Reactors

Enclosure:
Request for Additional
Information

cc w/enclosure:
See next page

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Handwritten initials and signatures: "PWR", "DLZ", "DOR"

OFFICE >	DOR:ORB #2	DOR:ORB #3	DOR:ORB #3	DOR:ORB #2	
SURNAME >	PWO' Connor:ah	RBevan	Tippolito	DLZiemann	
DATE >	11/6/78	11/6/78	11/6/78	11/8/78	

Handwritten mark: "A3" with a large "X" over it

Commonwealth Edison Company

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NOV 08 1978

cc w/enclosure:

Mr. John W. Rowe
Isham, Lincoln & Beale
Counselors at Law
One First National Plaza, 42nd Floor
Chicago, Illinois 60603

Mr. B. B. Stephenson
Plant Superintendent
Dresden Nuclear Power Station
Rural Route #1
Morris, Illinois 60450

Anthony Z. Roisman
Natural Resources Defense Council
917 15th Street, N. W.
Washington, D. C. 20005

Morris Public Library
604 Liberty Street
Morris, Illinois 60451

ENCLOSURE 1

QUESTIONS FOR THE DRESDEN 2/3

SPENT FUEL POOL MODIFICATION

1. Discuss the occupational exposure expected during the SFP modification. In the discussion, address the expected dose rates, the numbers of workers (including divers, if necessary) exposed, and the occupancy times of these workers for each phase of the operation. Include removal and disassembly (or crating) and disposal operations of the low density spent fuel racks and installation of the new high density racks. Provide the resultant man-rem exposure.
2. If the low density racks are to be cut-up for disposal, explain why the exposures estimated to be received by personnel performing this operation would be as low as is reasonably achievable as compared to the exposure they would receive by crating these racks intact.
3. With respect to your submittal of September 29, 1976 (Pliml to Ziemann), which was CE's response to staff questions relevant to the earlier plan for SFP modification, please refer to Question 8 (a through g) of Appendix B and provide any changes or additions to your response to that question.
4. Discuss the capability of the Spent Fuel Pool Cooling System to keep the actual spent fuel pool bulk water temperature at or below the FSAR design of 125°F during normal refuelings until the modified pool is

filled. If the bulk water temperature is expected to be above the FSAR design value, discuss when this will occur and for what period of time. Discuss also the impact of any expected higher than design value pool temperatures on the gaseous releases of radioiodines and tritium from the pool.

5. Provide the estimated volume of contaminated material (e.g., spent fuel racks, seismic restraints) expected to be removed from the spent fuel pools during the modification and shipped from the plant to a licensed burial site.
6. Provide a list of typical loads that might be carried near or over the spent fuel pool. Provide the weight and dimensions of each load. Discuss the load transfer path, including whether the load must be carried over the pool, the maximum height at which it could be carried and the expected height during transfer. Provide a description of any written procedures instructing crane operators about loads to be carried near the pool. Provide the number of spent fuel assemblies that could be damaged by dropping and/or tipping each typical load carried over the pool.
7. Discuss the instrumentation to indicate the spent fuel pool water level and water temperature. Include the capability of the instrumentation to alarm and location of the alarms.

8. Your May 11, 1978 submittal did not address the impact of the proposed SFP modification on the environment. Discuss in some detail the impact of the proposed SFP modification on the following:
 - a. radioactive gaseous effluents from the pool,
 - b. radioactive liquid effluents from the plant, including leakage of water from the pool and the SFP leak collection system, and
 - c. radioactive solid wastes from the plant, including the change in the frequency of replacing the filter-demineralizer resin and the volume of the resin bed.

9. Your May 11, 1978 submittal did not propose changes to the SFP purification system. Discuss in some detail why the present SFP purification is adequate for the proposed SFP modification. Include the experience of operating the SFP with the typical dose rates in the vicinity of the pool and the frequency of replacing the filter-demineralizer resin.

10. The proposed technical specification limit on k_{eff} (5.5 B.) is, by itself, not sufficient for high density spent fuel storage racks. Since the k_{eff} in spent fuel pools is a quantity which is not measured with good accuracy, the only available value is a calculated one. To preclude any unreviewed increase, or increased uncertainty, in the calculated value of the neutron multiplication factor, which could raise the actual k_{eff} in the fuel pool above 0.95 without being detected, a limit on the fuel loading is also required. This limit can be imposed in either of two ways. The first way is by specifying the numbers of grams of uranium-235 per axial centimeter of the fuel assemblies that were used for the calculations in the Licensing Report and then making both this Licensing Report and the NRC's Safety Evaluation of this report the basis for the k_{eff} in Technical Specification 5.5 B. The second way is by directly limiting future fuel loadings in assemblies that are placed in these high density racks to the maximum number of grams of uranium-235 per axial centimeter of assembly that was used in these calculations. Provide your proposed limit on fuel loading.
11. State the density of boron ten atoms in region 7 of Figure 3.3-1 and state the minimum areal density of boron ten atoms in the Boral plates as will be certified by quality control records.

12. Provide a description of the onsite test you intend to perform to verify, within 95 percent confidence limits, that a sufficient number of Boral plates in the installed racks will contain the required boron content to maintain the $k_{eff} \leq 0.95$.
13. Provide the dimensions and tolerances on the rounded corner containers that show that the pitch of this alternating lattice cannot be less than 6.3 inches anywhere in the pool.
14. Specify the design flow rate of the reactor building cooling water through the spent fuel pool heat exchangers and the maximum temperature of this water going into these heat exchangers.
15. Show where and how the Reactor Shutdown Cooling System is connected to the Spent Fuel Pool Cooling System.