

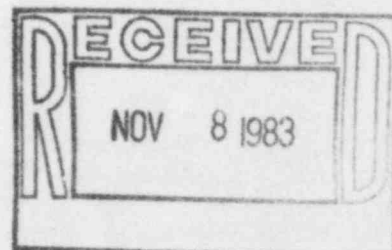


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## ARKANSAS POWER &amp; LIGHT COMPANY

POST OFFICE BOX 551 LITTLE ROCK, ARKANSAS 72203 (501) 371-4000

November 3, 1983



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Mr. J. E. Gagliardo, Director  
Division of Resident Reactor Projects  
and Engineering Programs  
U. S. Nuclear Regulatory Commission  
Region IV  
611 Ryan Plaza Drive, Suite 1000  
Arlington, TX 76011

SUBJECT: Arkansas Nuclear One - Unit 2  
Docket No. 50-368  
License No. NPF-6  
ANO-2 Ion Exchange Resins

Gentlemen:

In accordance with previous discussions with your office regarding the AP&L commitment to safely dispose of the ANO-2 ion exchange resins which experienced an exothermic reaction in January 1983, along with other resins generated prior to cleaning the ANO-2 Resin Storage Tank, the following information is furnished.

Subsequent to the exothermic reaction occurrence, AP&L contracted with Battelle Pacific Northwest Laboratory (BPNL) to chemically characterize the resins and provide a technical basis for the development of an acceptable waste disposal plan. The work performed by BPNL included exhaustive chemical testing and laboratory scale resin solidification tests and evaluations.

AP&L has received notification from BPNL of the successful completion of solidification tests on samples of new resins (typically used at ANO) and representative samples of the ANO Unit 2 spent radioactive resins obtained from each of the five high integrity containers which are presently stored at ANO. Results of the laboratory scale solidification tests, which utilized the Chem-Nuclear System, Inc. (CNSI) solidification procedures, revealed no unusual or unexpected temperature behavior. In fact, temperature increases noted during the solidification of the ANO Unit 2 spent radioactive resins were less than those noted on most of the new resin (control) samples. Based on these tests, BPNL predicts that no excessive

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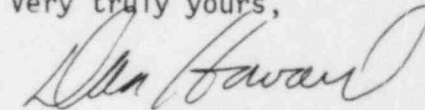
temperature increase will be experienced during the full-scale solidification of each resin container using the CNSI solidification procedure. However, it is noted that BPNL has recommended that temperature monitoring be performed during the solidification procedure. Reviewing these findings, AP&L has concluded that cement solidification of the resins is the preferred method to safely package the resins. As further noted by BPNL, solidification will provide an additional benefit to safety by excluding oxygen (thought to be a necessary ingredient for the January 1983 exothermic reaction) from the resin.


Therefore, AP&L is proceeding to transfer and solidify the resin in four CNSI, Steel L14-195 solidification liners, and ship the solidified resin to the CNSI facility at Barnwell, South Carolina for disposal. AP&L will monitor temperatures of the liners during the solidification process and the solidified resin will comply with all State of South Carolina burial site criteria. Transfer of the resin began on October 31, 1983 and solidification is expected to begin about November 4, 1983 and will be completed about November 10, 1983. Initial shipment of the solidified resin is anticipated on or about November 15, 1983. The necessary disposal space allocation and transportation arrangements have been completed.

AP&L has informed Chem-Nuclear Systems, Inc., of the BPNL findings and the intent to solidify and dispose of the resin at the Barnwell, South Carolina Facility. Based on the information provided by BPNL, Chem-Nuclear Systems, Inc., will accept the solidified resin for disposal.

If you have questions concerning the disposal plan, or if additional information is needed, please contact me.

Very truly yours,



 John R. Marshall  
Manager, Licensing

JRM:DH:ac

cc: Mr. Ken Jackson,  
U.S. Nuclear Regulatory Commission  
Division of Nuclear Reactor Regulation  
Low Level Waste Licensing Branch  
Washington, D.C. 20555