



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

June 7, 1989

Docket

Docket Nos. 50-313
and 50-368

Mr. T. Gene Campbell
Vice President, Nuclear
Operations
Arkansas Power & Light Company
P. O. Box 551
Little Rock Arkansas 72203

Dear Mr. Campbell:

SUBJECT: COMMENTS ON THE ARKANSAS POWER AND LIGHT COMPANY RESPONSE
TO GENERIC LETTER 88-17 WITH RESPECT TO EXPEDITIOUS ACTIONS
FOR LOSS OF DECAY HEAT REMOVAL FOR ARKANSAS NUCLEAR ONE,
UNITS 1 AND 2 (TAC NOS. 69721 AND 69722)

Generic Letter (GL) 88-17 was issued on October 17, 1988 to address the potential loss of decay heat removal (DHR) during nonpower operation. In the GL, we requested (1) a description of your efforts to implement the eight recommended expeditious actions of the GL and (2) a description of the enhancements, specific plans and a schedule for implementation of the six recommended program enhancements.

The NRC staff has reviewed your response to Generic Letter 88-17 on expeditious actions in the letter of January 5, 1989. We find that it appears to meet the intent of the GL but lacks some of the details requested in Enclosure 2 of GL 88-17. Your response to some items is brief and therefore does not allow us to fully understand your actions taken in response to GL 88-17. You may wish to consider several staff observations in order to assure yourselves that the actions are adequately addressed:

1. You have not provided specific information for procedures controlling reactor coolant system (RCS) draining but state that the procedures are being revised. These revisions are to satisfy the intent for containment closure within the guidelines provided in GL 88-17. In some plants the quick closure of the equipment hatch is achieved by the installation of a reduced number of bolts. If you plan to use less than the full compliment of bolts for sealing the equipment hatch then you first should verify that you can make a proper seal of the periphery mating surfaces to meet the closure criteria. You have not presented any times for containment closure. Generic Letter 88-17 states that "containment penetrations including the equipment hatch, may remain open provided closure is reasonably assured within 2.5 hours of initial loss of DHR." This time will be less if there are vent areas totaling greater than one square inch in the cold leg (see Section 2.2.2 of GL 88-17).

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2. Your addressing of containment closure is cursory and no information is provided regarding how you will keep track of and control the many potential openings (piping, electrical, hatches) which will have to be closed simultaneously. We assume your procedures and administrative controls will address this topic.
3. You state that procedures are being revised to require operation of two independent core exit thermocouples (CETs) when in mid loop condition. Your response is vague in some details. For Arkansas Nuclear One, Unit 1 (ANO-1) it is not clear if in addition to the periodic recording of the thermocouples that the readings may be automatically and continuously monitored and alarmed in the control room. This would appear to be possible as the thermocouple leads remain in their normal location at the bottom of the core with the head off. For ANO-2 you state that "when indications that are not automatically monitored and alarmed are used, provisions will be made for periodically checking and recording temperatures." We can not discern if you are planning to use automatic monitoring and alarms for ANO-2 or just periodic checking and recording. For a system which is monitored by an operator in the control room, the need for frequent logging only arises for the case of loss of residual heat removal (RHR).
4. You state that "ANO-1 and 2 logs are being revised as required to provide for periodic recording and checks of at least two independent continuous RCS water level indications during DHR operation." You state that ANO-1 has hot leg level indication for both RCS loops. However, no details are given about the type of level indicator, or if the level indications have alarms and where the reference legs are located. You state that ANO-2 has a refueling level indication consisting of delta-P instrumentation between the 'A' hot leg and the pressurizer. In addition, you state that both plants have temporary tygon tubing level instrumentation. When two instruments are in place, care should be taken to resolve any discrepancy between the two measurement systems. Also, the pressure of the reference leg should approximate the pressure of the void in the hot leg or be compensated to obtain the correct level value.
5. Walking the tygon tube following installation to verify lack of kinks or loop seals is necessary. Experience shows that periodic walkdowns are needed after installation. We recommend daily walkdowns when the tygon tube is in use, with an additional walkdown immediately prior to its being placed in use. You have not discussed how the tygon tube readings will be monitored. If the readings are only monitored in the containment, then observations should be recorded at an interval no longer than 15 minutes during normal conditions and provisions should be provided for immediate communication of water level values to an operator in the control room if significant changes occur.

6. You have not stated the use of any vent opening on the hot side of the RCS to relieve RCS pressurization. The removal of a pressurizer manway or steam generator manway can be used as a means to provide RCS venting. We note that relatively large hot side openings in the RCS, such as a pressurizer manway, can still lead to a pressure of several psi. The large steam flow in combination with flow restrictions in the surge line and lower pressurizer hardware may lead to pressurization. Calculations should be performed to verify the effectiveness of the opening.

As you are aware, the expeditious actions you have briefly described are an interim measure to achieve an immediate reduction in risk associated with reduced inventory operation, and these will be supplemented and in some cases replaced by programmed enhancements. We intend to audit both your response to the expeditious actions and your programmed enhancement program. The areas where we do not fully understand your responses as indicated above, may be covered in the audit of expeditious actions.

This closes out the staff review of your responses to the expeditious actions listed in the GL. There is no need to respond to the above observations. The area of programmed enhancements will be addressed in a separate letter.

Sincerely,

for *S F Dick*

C. Craig Harbuck, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

for *S F Dick*

Chester Poslusny, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
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Office of Nuclear Reactor Regulation

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- 6. You have not stated the use of any vent opening on the hot side of the RCS to relieve RCS pressurization. The removal of a pressurizer manway or steam generator manway can be used as a means to provide RCS venting. We note that relatively large hot side openings in the RCS, such as a pressurizer manway, can still lead to a pressure of several psi. The large steam flow in combination with flow restrictions in the surge line and lower pressurizer hardware may lead to pressurization. Calculations should be performed to verify the effectiveness of the opening.

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Original Signed By
George F. Dick, Jr.

C. Craig Harbuck, Project Manager
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Arkansas Power & Light Company

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