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SUBJECT: Forwards responses to Auxiliary Sys Branch draft SER Open Items 129 through 131 & 137 re spent fuel pool drainage & storage. Applicable FSAR sections will be revised. Responses to remaining open items forthcoming.

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Carolina Power & Light Company

JUL 05 1983

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Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT
UNITS NOS. 1 AND 2
DOCKET NOS. 50-400 AND 50-401
DRAFT SAFETY EVALUATION REPORT RESPONSES
AUXILIARY SYSTEMS

Dear Mr. Denton:

Carolina Power & Light Company (CP&L) hereby transmits one original and forty copies of responses to Shearon Harris Nuclear Power Plant Draft Safety Evaluation Report Open Items. These responses are for the Auxiliary Systems Branch, and are CP&L Open Item Numbers 129, 130, 131 and 137.

We will be providing responses to other Open Items in the Draft Safety Evaluation Report shortly.

Yours very truly,

M. A. McDuffie
Senior Vice President
Engineering & Construction

JDK/ta (7134JDK)

Attachments

- | | |
|---------------------------------|----------------------------|
| cc: Mr. N. Prasad Kadambi (NRC) | Mr. Wells Eddleman |
| Mr. N. Wagner (NRC) | Dr. Phyllis Lotchin |
| Mr. G. F. Maxwell (NRC-SHNPP) | Mr. John D. Runkle |
| Mr. J. P. O'Reilly (NRC-RII) | Dr. Richard D. Wilson |
| Mr. Travis Payne (KUDZU) | Mr. G. O. Bright (ASLB) |
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DRAFT SER OPEN ITEM #129 (ASB/NW-2)

Question:

Provide the design of the new fuel storage facility which will maintain k effective equal to or less than 0.95 when considering flooding with non-borated water fire extinguishing aerosols.

Response:

The Shearon Harris Nuclear Power Plant new fuel storage design meets the acceptance criteria of SRP 9.1.1. When the storage facility is flooded with non-borated water, k effective will be equal to or less than 0.95. (The SRP also requires that K effective for an optimum moderation situation be equal to or less than 0.98.) In a foam or water mist environment, optimum moderation could be postulated; in this situation, k effective would be equal to or less than 0.98.



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Draft SER Open Item No. 130 (ASB/NW-3)

Question:

Explain how draining of the new fuel pool is prevented when spent fuel is being stored.

FSAR page 9.1.3-5 refers to a siphon breaker. Does the siphon breaker meet single failure criterion? Also, does the spent fuel pool cooling piping connect to the fuel pool such that the spent fuel/new fuel pool (during storage of spent fuel) water could drain from the pools and uncover spent fuel? Provide an explanation and figures to indicate piping connections.

Response:

The fuel pool piping elevations do not allow drainage of the pool below the minimum required water level. The physical arrangement of the piping precludes siphoning of the pools as discussed in FSAR Section 9.1.3.3, Amendment No. 5. FSAR Figures 9.1.3-1, 9.1.3-2, 9.1.3-3 provide flow diagrams of this piping. The fuel pool wall elevations at which the lines terminate are as follows:

1. New Fuel Pool Piping

3SF12-179SA, elevation 279'-6", Nuclear Safety Related (NS)
3SF12-176SB, elevation 279'-6", NS
3SF12-174SA, elevation 277'-6", NS
3SF12-171SB, elevation 277'-6", NS
7SF3-190, elevation 279'-6", Non-Nuclear Safety Related (NNS)

2. Spent Fuel Pool Piping

3SF12-6SB, elevation 279'-6", NS
3SF12-5SA, elevation 279'-6", NS
3SF16-1SA, elevation 278'-6", NS
3SF16-2SB, elevation 278'-6", NS
7SF4-218, elevation 279'-6", NNS
7SF2-218, elevation 279'-6", NNS

3. Pool Water Levels

Normal water level, 284'-6"
Bottom of pool, 246'-0"
Top of spent fuel, 260.08'

4. Fuel Pool Skimmer System

Skimmer hose length, 5'-0", suction piping elevation 285'-3"
Skimmer System return piping, elevation 279'-6"



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The first part of the document
 discusses the general principles
 of the system and its
 objectives. It is intended to
 provide a clear understanding
 of the scope and purpose of
 the project. The following
 sections will describe the
 various components and
 procedures involved in the
 implementation of the system.

The second part of the document
 details the specific methods
 used for data collection and
 analysis. This section is
 essential for understanding
 the accuracy and reliability
 of the results presented in
 the report.

The third part of the document
 presents the results of the
 study and discusses their
 implications. It is important
 to note that the findings
 are based on a limited
 sample size and may not
 be representative of the
 entire population.

The final part of the document
 provides a summary of the
 key findings and offers
 recommendations for future
 research. It is hoped that
 this report will be useful
 to all those interested in
 the subject matter.

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The failure of this non-seismic Category I, non-nuclear safety class piping provides fuel pool water losses of 5 feet or less.

The water loss from this piping failure has no impact on the conclusions of the heat load calculations and does not affect the required shield water depth for limiting exposures from spent fuel. Skimmer hose length is required to be limited to 5 feet or less to preclude siphoning of the pool to an unacceptable level.

The SHNPP FSAR will be revised to reflect the above response in a future amendment.

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Draft SER Open Item No. 131 (ASB/NW-4)

Question:

Provide information to show how spent fuel will be kept cool in the event of a single failure when only Unit 1 is complete and only one pump and one heat exchanger is available to cool the fuel pools, as noted in Section 1.2.3 of the FSAR. (Section 9.1.3)

Response:

FSAR Section 1.2.3 will be modified in a future amendment to indicate that two Fuel Pool Cooling pumps and two Fuel Pool heat exchangers will be installed for Unit 1 operation.

In the event of a single failure in one of these Spent Fuel Cooling loops, the other loop will provide adequate cooling. The pool temperature with one Fuel Pool Cooling loop in operation will be equal to or less than 142°F. (Refer to FSAR Section 9.1.3 for further information.)



1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that this is essential for the proper management of the organization's finances and for ensuring compliance with applicable laws and regulations.

2. The second part of the document outlines the specific procedures that must be followed when recording transactions. This includes the requirement that all entries be supported by appropriate documentation, such as invoices, receipts, and contracts.

3. The third part of the document addresses the issue of internal controls. It states that the organization must implement a system of internal controls that is designed to prevent and detect errors and fraud. This system should be reviewed and updated regularly to ensure its effectiveness.

4. The fourth part of the document discusses the role of the accounting department in the organization. It notes that the accounting department is responsible for providing accurate and timely financial information to management and other stakeholders. This information is used to make informed decisions about the organization's operations and future plans.

5. The fifth part of the document concludes by reiterating the importance of maintaining accurate records and following the established procedures. It encourages all employees to take responsibility for their own actions and to report any suspected errors or fraud to the appropriate authorities.

Draft SER Open Item No. 137 (ASB/NW-10)

Question:

Identify which heat loads cooled by the CCW are safety related and which are not.

Response:

The heat loads from the following components are considered safety related:

- a) RHR Heat Exchangers
- b) RHR Pumps
- c) Spent Fuel Pool Heat Exchangers

Heat Loads from other components cooled by the CCW, as listed in FSAR Section 9.2.2.2.1, are non-safety related.

FSAR Section 9.2.2.2.1 and Table 9.2.2-3 will be revised to reflect this response in a future amendment.

