

April 28, 2000

MEMORANDUM TO: William D. Travers, Executive Director for Operations  
FROM: J. E. Dyer, Regional Administrator **/RA/**  
SUBJECT: COMMISSION STAFF REQUIREMENTS MEMORANDA (SRM)  
M000110B - D. C. COOK SIGNIFICANT EMERGENT SAFETY  
ISSUES

The attachment to this memorandum provides an update to the significant emergent safety issues at D. C. Cook. In the subject SRM, the Commission requested to be informed of these issues. One new issue has been identified involving the qualification of a containment wall. Changes to existing issues are provided in **bold italics**.

As the plant nears restart, the pace of issue resolution is increasing. Consequently, we plan on updating this information weekly through restart of Unit 2.

Attachment: As stated  
(Contains 2.790 information)

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OFFICE	RIII:DRP	RIII:DRS	NRR	RIII:RAO
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Attachment

**\*\*CONTAINS ALLEGATION INFORMATION\*\***

## Current or Emerging Safety Issues

<b>Issue</b>	On January 27, 2000, Region III received an allegation regarding the form of ice in the Unit 2 ice condenser. Specifically, the UFSAR Appendix M Section 1.1 described the form of ice used to fill the ice baskets as 2 inch by 2 inch by 1/8 inch flake ice. Contrary to this description, the ice being used to fill the Unit 2 ice condenser has a granular and/or fine powder type consistency. It is also noted that vibration equipment is routinely used to vibrate the ice basket, causing ice to fall out of the ice baskets through the one inch open mesh.
<b>Licensee Action</b>	The licensee submitted their evaluation of this issue on April 7, 2000. The NRC is evaluating the licensee's response.
<b>NRC Action</b>	Region III informed the licensee and requested a response addressing the impact on heat transfer, sublimation rate, and seismic qualification of the ice condenser as a result of this concern. Preliminary information indicates that the seismic qualification aspects of this issue may require NRR support to address the licensing basis. Regional staff is reviewing the licensee's response to these concerns.
<b>Safety Significance</b>	The ability of the ice condenser to perform its design function following a seismic event is in question.
<b>Impact on Schedule</b>	Unknown at this time.

**Not for Public Disclosure****\*\*CONTAINS ALLEGATION INFORMATION\*\***

**\*\*CONTAINS PRE-DECISIONAL ENFORCEMENT INFORMATION\*\***

## Current or Emerging Safety Issues

<b>Issue</b>	<p><u>Employment Discrimination Involving Cataract, Inc. (OI-3-1998-041)</u></p> <p>On November 16, 1998, the Office of Investigations opened a case file to determine whether discrimination occurred against a contract employee who was on site for approximately 1 week before being terminated. The individual claims discrimination because he was identified as a troublemaker at other plants by a licensee employee. The licensee contends that the individual was dismissed for legitimate business reasons. The Office of Investigations confirmed discrimination did occur (report issued November 23, 1999).</p>
<b>Licensee Action</b>	The licensee presented the results of their review of this issue during the predecisional enforcement conference.
<b>NRC Action</b>	The agency believes that the licensee violated the employee protection requirements and is currently preparing an escalated enforcement action against the licensee for violating 10 CFR 50.7 (predecisional information). A predecisional enforcement conference was held on February 24, 2000.
<b>Safety Significance</b>	The affected individual did not raise any safety issues regarding the D. C. Cook plant.
<b>Impact on Schedule</b>	None Anticipated

## Current or Emerging Safety Issues

<b>Issue</b>	Modifications to the auxiliary feed water (AFW) pump room ventilation systems in order to provide environmental protection to each of the AFW pumps from the effects of a postulated high energy line break event (HELB) do not meet 10 CFR 50.59(a)(2)(ii). Therefore, the modification is considered an unreviewed safety question (USQ).
<b>Licensee Action</b>	The licensee responded to the staff's Request for Additional Information (RAI) on March 31, 2000. The licensee is proceeding with the modifications.
<b>NRC Action</b>	During the NRR staff review of the USQ submittal, a RAI was issued. The staff is reviewing the licensee's response to the RAI and the modifications to the AFW room ventilation systems.
<b>Safety Significance</b>	<b><i>Prior to the modifications, given a HELB, redundant AFW components would be affected and the function of AFW would be in question. Implementation of the modification introduces dependence on the essential service water system for room cooling, but redundant AFW trains are no longer vulnerable to single failure from a HELB.</i></b>
<b>Impact on Schedule</b>	None anticipated. NRC and AEP management are closely coordinating to ensure that this issue does not become critical path.

## Current or Emerging Safety Issues

<b>Issue</b>	The current accident analysis for the essential service water (ESW) system requires each train of ESW to include a Unit 1 pump cross-connected with a Unit 2 pump. To facilitate concurrent operation of Unit 2 and work on Unit 1 that may impact the ESW system, the licensee is trying to demonstrate that the Unit 2 pumps alone can supply sufficient accident mitigation flow.
<b>Licensee Action</b>	The licensee has tested the Unit 2 ESW system with only one Unit 2 pump per loop. Although a single pump was capable of meeting the required accident flowrates during the test, the licensee has not fully evaluated potential non-conservatism associated with their test methodology and acceptance criteria. Additionally, the licensee has determined that the Unit 2 West ESW pump does not meet current minimum In-service Testing pump performance requirements. The licensee is continuing to evaluate ESW flow balance testing results and is developing an Engineering Action Plan to address ESW pump performance issues.
<b>NRC Action</b>	The Resident Inspectors will follow-up on licensee's testing and troubleshooting.
<b>Safety Significance</b>	If the licensee demonstrates that a single Unit 2 ESW pump can supply sufficient accident mitigation flow, there is no safety significance; however, safety margins would be reduced. If the Unit 2 ESW pumps are incapable of meeting the required accident flow rates, operation of Unit 2 would require the full operability of the Unit 1 ESW pumps. Requiring the operability of the Unit 1 ESW pumps would complicate restart preparations for Unit 1 during the concurrent operation of Unit 2.
<b>Impact on Schedule</b>	The ESW system is required to be operable prior to Mode 4. Schedule impact depends on the results of the licensee evaluation of pump performance.

## Current Emerging Safety Issues

<b>Issue</b>	The licensee identified multiple examples where large-bore piping supports were not installed according to the design and licensing basis. Systems affected include Unit 2 Residual Heat Removal, Containment Spray, and Safety Injection, along with multiple nonsafety-systems.
<b>Licensee Action</b>	The licensee has issued a design change package to repair, replace, or install approximately seventy piping supports in the affected safety related systems. Physical work on the piping supports has started. Also, the licensee has identified the need to repair, replace, or install several hundred additional supports in other systems. Supports needing work on systems necessary to support fuel load have been completed.
<b>NRC Action</b>	Resident Inspectors continue to perform follow up inspection of related piping support modifications. Pipe support modifications needed for fuel load were confirmed to be completed.
<b>Safety Significance</b>	The affected piping systems may not have been adequately designed to sustain a seismic event.
<b>Impact on Schedule</b>	None anticipated. The licensee must repair, replace, or install approximately ten additional supports prior to plant operation at power.

## Current Emerging Safety Issues

<b>Issue</b>	A postulated worst case offsite degraded grid voltage during a design basis accident may result in terminal voltages at some safety related electrical equipment being below that required for the equipment to function.
<b>Licensee Action</b>	The licensee plans to implement several modifications to improve terminal voltage prior to Unit 2 restart. These include installing a breaker to split electrical load between two 34.5 kV transformers, changing transformer tap settings, installing voltage regulating transformers, and replacing undersized motor cables on some equipment. The licensee also plans to establish administrative controls with the American Electric Power System Operations group to monitor grid voltages. The licensee is evaluating the installation of automatic load tap changing transformers for the long term and plans to re-review their responses to applicable Generic Letters within one year of restart of Unit 1 and initiate any required licensing actions. <b><i>The licensee will submit a letter by the end of April 2000 describing the short term actions and long term commitments for the electrical distribution system.</i></b>
<b>NRC Action</b>	<b><i>The NRC conducted a public meeting with the licensee to discuss this issue on April 17, 2000. NRC will review the licensee's modifications to their design basis and operability of safety related electrical equipment.</i></b>
<b>Safety Significance</b>	Safety related equipment needed to mitigate the effects of a design basis accident may not function.
<b>Impact on Schedule</b>	None anticipated. The licensee plans to implement the Unit 2 restart modifications prior to entry into Mode 4 (Hot Shutdown).

## Current Emerging Safety Issues

<b>Issue</b>	On November 22, 1999, the licensee identified a concrete wall in containment where segments of concrete and several reinforcing bars had been removed from the upper portion of the wall during initial construction. This wall forms part of the boundary between upper and lower containment which is designed to force the steam blowdown during a loss of coolant accident (LOCA) or a main steam line break (MSLB) through the ice condenser to reduce containment pressure buildup. The missing concrete and reinforcing bars may affect the ability of containment to perform its function.
<b>Licensee Action</b>	The licensee evaluated the condition of the wall and determined that the wall does not meet specified design margins. The licensee determined that replacement of the missing concrete with grout would restore the wall to an operable but degraded condition. The licensee initiated a design change package to add grout to the wall and completed calculations on April 14, 2000, concluding that the wall would not fail under the worst case postulated loading. The licensee is preparing an operability evaluation of this degraded condition.
<b>NRC Action</b>	Region III is in the process of reviewing the design change package and supporting calculations for this issue. The Region is evaluating the reduction in design margin for this degraded wall under the postulated accident conditions.
<b>Safety Significance</b>	Failure of this wall during a LOCA or MSLB would create a steam bypass of the ice condenser resulting in over-pressurization of the containment and potential containment breach.
<b>Impact on Schedule</b>	Unknown at this time.