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April 08, 1994

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Subject: River Bend Station - Unit 1
Docket No. 50-458
Special Report - Loose Part Detection System

File No.: G9.5

RBG-40484

Gentlemen:

Enclosed is a Special Report which addresses the operability of the Loose Part Detection System at River Bend Station - Unit 1. This Special Report is being provided pursuant to Technical Specification 3.3.7.9. Please direct any questions regarding this report to O. Bulich at (504) 336-6251.

Sincerely,

James J. Fisicaro
Director - Nuclear Safety

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Enclosure

cc: Regional Administrator
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SPECIAL REPORT

REPORTED CONDITION

This Special Report is being submitted pursuant to Technical Specification 3.3.7.9 regarding the Loose Part Detection System. On February 28 1994, Channel 7 of the Loose Part Detection System was declared INOPERABLE. Based on the investigation results and the identified corrective actions discussed below, the OPERABILITY of this channel could not be completely verified within the 30 day limit of ACTION a. of this specification. The actions required to verify the channel's OPERABILITY must be performed during an outage due to access limitations. Channel 7 will be verified OPERABLE before entry into OPERATIONAL CONDITION 2 after RF-5.

INVESTIGATION AND CORRECTIVE ACTION

Previously, periodic alarms have been actuated by Channel 7 of the Loose Part Detection System. Detailed review of extensive data obtained from the system has determined that the source is not a valid loose part. This investigation has concluded that the alarms were attributable to background signal (noise) variations. As a result of these background noise variations on Channel 7, the common annunciator for the Loose Part Detection System is periodically activated. In an effort to minimize these known false activations and to enhance the availability of the common annunciator for potential valid activations, RBS personnel have adjusted the signal filters associated with this channel.

The adjustment of Channel 7's filter was performed on February 28, 1994. The filter was adjusted to reduce the channel's sensitivity to background noise frequencies while maintaining its ability to detect loose parts. Post modification testing of Channel 7 was completed on this same date after the installation of the filter. Channel 7 satisfactorily passed the monthly channel functional surveillance test. While this surveillance demonstrated the capability of Channel 7 to detect loose part events, Channel 7 was declared INOPERABLE. This status determination was based on the guidance contained in Regulatory Guide 1.133, paragraph C.1.b., regarding individual channel sensitivity limits. Calibration of the channel to determine the post-modification sensitivity limits requires access to the Drywell which is not possible during power operation.

A plan has been developed to investigate the noise problem and to restore the OPERABILITY of Channel 7. The scope of the plan is two-fold. The first phase will be to investigate potential sources for the elevated background noises. Several potential sources have been identified based on plant-specific history, industry experience, and vendor input. A thorough investigation of these potential sources can only be performed during shutdown conditions. The second phase will be to verify calibration. This plan will be implemented during the next plant outage, RF-5, which is currently scheduled for April 1994. Channel 7 will be restored OPERABLE before entry into OPERATIONAL CONDITION 2 after RF-5.

OPERATIONAL IMPACT

The primary purpose of the Loose Part Detection System is the early detection of loose metallic parts in the primary system. Early detection can provide the time required to avoid or mitigate damage to or malfunctions of primary system components. As discussed in Section B. of Regulatory Guide 1.133, an alert resulting from the Loose Part Detection System is considered a warning and additional diagnostics are necessary to determine the significance of the alert signal. River Bend's investigation of the alert conditions originating from Channel 7 indicates that they are not valid loose part signals.

The ability of the system to detect loose parts has not been significantly impaired. Although not considered OPERABLE, Channel 7 remains functional. The other channels of the Loose Part Detection System are OPERABLE. Therefore the system continues to serve its intended function.