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United States Nuclear Regulatory Commission  
Document Control Desk  
Washington, D. C. 20555

Perry Nuclear Power Plant  
Docket No. 50-440  
Inoperable Loose-Part Detection  
System Instrumentation - Special Report

Gentlemen:

In accordance with the provisions of Perry Technical Specifications 3.3.7.8 and 6.9.2, the attached Special Report is being submitted to notify the NRC of inoperable Loose-Part Detection System Instrumentation.

If you have questions or require additional information, please contact Mr. James D. Kloosterman, Manager - Regulatory Affairs at (216) 280-5833.

Very truly yours,

DWC:sc

Attachment

cc: NRC Region III  
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## SPECIAL REPORT - INOPERABLE LOOSE PARTS

### DETECTION SYSTEM INSTRUMENTATION

On February 1, 1995, the Vibration and Loose Parts Monitoring (V&LPM) System Channels 1 and 4 were declared inoperable subsequent to troubleshooting activities. Pursuant to Technical Specifications 3.3.7.8 and 6.9.2, the following Special Report is being submitted to the Commission within 10 days of one or more V&LPM channels being inoperable for more than 30 days. The thirty day time limit to restore these channels to the operable status was exceeded on March 3, 1995.

The V&LPM is designed to continuously monitor the Nuclear Boiler for any indication of loose parts in the Nuclear Boiler System. Eight individual channels monitor the reactor vessel components with sensors physically mounted near natural collection areas. Each channel consists of a detector, pre-amplifier, and signal processing electronics which input to an audible speaker, a db meter, control room annunciator, Loose Parts Events Analysis Computer, and a laser printer.

V&LPM Channel 1 is located on an instrumentation line in the upper plenum of the Nuclear Boiler System. During troubleshooting activities, it was noted that the output signal from the charge amplifier was much lower than expected. The channel was therefore declared inoperable on February 1, 1995. Corrective Actions required to return this channel to the operable status include replacement of the charge amplifier and subsequent channel calibration. Calibration is accomplished by using a calibrated manual impact tool to "ping" within 3 feet of the accelerometer and verify the system alarms. Since the accelerometer is located inside the Drywell, this channel will remain out-of-service until a Drywell entry can be performed during the next plant outage of sufficient duration.

During this same time period, troubleshooting was also performed on V&LPM Channel 4 to identify the source of electrical spiking signals. This channel monitors the "B" feedwater line. Equipment outside of the Drywell capable of producing electrical spiking signals was verified to be working properly and, therefore, not the source of the electrical spiking signals being experienced on Channel 4. Based on this, it has been concluded that the source of the electrical spiking signals is associated with equipment inside of the Drywell. During the next plant outage of sufficient duration, further troubleshooting will be performed to identify and correct the source of this equipment problem. This channel is currently disabled to prevent spurious nuisance alarms. It should be further noted that site personnel have concluded that the signals did not result from a loose part.

With Channels 1 and 4 out-of-service, six (6) of eight (8) installed V&LPM channels remain operable, and the V&LPM system still meets the intent of Regulatory Guide 1.133 by maintaining at least two sensors operable at each natural collection region (reactor vessel upper and lower plenums). Therefore, continued plant operation with Channels 1 and 4 out-of-service is acceptable.