



231 W. Michigan, P.O. Box 2046, Milwaukee, WI 53201

(414) 224-2345

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U. S. NUCLEAR REGULATORY COMMISSION
Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Gentlemen:

BUCKETS 50-266 and 50-301
RESPONSE TO INSPECTION REPORTS
50-266/91027(DRSS); 50-301/91027(DRSS)
POST ACCIDENT SAMPLING SYSTEM
SAMPLE RESULT DISCREPANCIES
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

During a routine inspection conducted by Dr. J. E. House from November 18 to November 22, 1991, Dr. House observed that analytical sample results for samples taken with the Post-Accident Sampling System (PASS) occasionally failed to meet our defined acceptance criteria. Deviations were noted in the sample results for boron, hydrogen, chloride, radioactive iodine, and xenon. Established acceptance criteria are based on a percent or a fixed deviation from the analytical results of the most recent routine reactor coolant grab samples. This letter documents our investigations into the noted discrepancies and corrective action taken.

We have determined that the deviations from the acceptance criteria for both iodine and boron were due to the high vacuum used to strip radioactive gases from the sample. Excessive air being drawn through the sample caused a loss of volatile iodine to the gas phase. The excessive air being drawn through the sample also caused carbon dioxide to dissolve in the sample and interfere with boron analysis. A lower vacuum is now used which minimizes the iodine entering the gas phase and reduces the amount of carbon dioxide entering into solution but remains adequate to strip radioactive gases. We have revised our post-accident sampling procedure, EPIP 8.4.1, Post-Accident Sampling of Potentially High Activity Reactor Coolant, to require the lower vacuum.

The deviations from the acceptance criteria for the xenon analysis were due to the inclusion of Xe-135m in the sample

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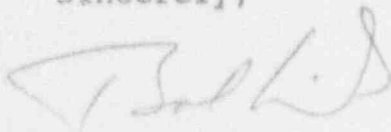
analysis. This xenon isotope has a very short half-life compared to the time necessary to take and analyze a PASS sample. This causes a large error to be introduced when correcting the observed activity of this isotope in the sample for decay. Since other xenon isotopes and radioactive noble gases provide better information as to the status of the core, we no longer analyze PASS samples for this xenon isotope. EPIP 8.4.3 has been revised to eliminate the analysis for Xe-135m.

The chloride analysis acceptance criteria deviations were due to contamination of the sample apparatus from the thread compound used on the fittings. Also, the area where sample preparation is performed was found to be contaminated with chlorides. Sample preparation area cleanup and removal of the chloride contaminated thread compound have resulted in conformance to the established acceptance criteria.

A problem with the gas chromatograph used for the hydrogen analyses was discovered which gave poor resolution of the hydrogen peaks. Adjustments have been made, and the hydrogen analysis comparisons are now in agreement.

We believe that these corrective actions will preclude future deviations from the acceptance criteria. However, any future deviations identified will be investigated and corrective action taken as appropriate. If you have any questions concerning our investigations, conclusions, or corrective actions, please contact us.

Sincerely,



Bob Link
Vice President
Nuclear Power

Copies to Dr. J. E. House, NRC Region III
NRC Regional Administrator, Region III
Resident Inspector