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DENTON,H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Forwards results of review of NUREG-0737,Item II.B.3 open items re post-accident sampling sys.Mods will be completed & sys operational by Sept 1984.

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August 2, 1984
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Donald C. Cook Nuclear Plant Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
NUREG-0737, Item II.B.3
Post Accident Sampling System (PASS)

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Denton:

Mr. S. A. Varga's letter of May 2, 1984 provided a preliminary evaluation of the post accident sampling system (PASS) required under NUREG-0737 Action Item II.B.3 for the Donald C. Cook Nuclear Plant Units 1 and 2. Mr. Varga's letter requested that we provide a schedule for resolution of the open items noted in the evaluation. As discussed in our May 18, 1984 letter to you, we agreed to review these open items and provide a schedule for their resolution by July 31, 1984.

Attached are the results of our review. Our review of Criterion 10 indicates there are no open concerns requiring schedular resolution. Criterion 2 and 3 will require the preparation and review of specific plant procedures. These procedures will be available in August and October, 1984, respectively. We are presently planning to transmit to you the procedures requested under Criterion 2 at the end of August, 1984. Criterion 11 requires heat tracing of the radiation monitoring system to prevent iodine plateout. It is anticipated that the heat tracing for this system will be installed by the end of the Unit 1 and Unit 2 refueling outage beginning in March and November, 1985, respectively.

Criterion 5 and 8 will require provisions for collecting an undiluted grab sample. We anticipate that the necessary plant modifications and procedures required to have this system operational will be available by September, 1984.

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This document has been prepared following Corporate procedures which incorporate a reasonable set of controls to insure its accuracy and completeness prior to signature by the undersigned.

Very truly yours,

M. P. Alexich PBK
Vice President 8/2/84

MPA/cm

Attachment

cc: John E. Dolan
W. G. Smith, Jr. - Bridgman
R. C. Callen
G. Charnoff
E. R. Swanson, NRC Resident Inspector - Bridgman

Criterion (2)

Criterion 2 requires that the licensee provide a plant specific core damage estimate procedure to include radionuclide concentrations and other physical parameters as indicators of core damage.

A plant specific procedure based on Revision 1 to the Westinghouse Owners Group "Accident Core Damage Assessment Methodology" March, 1984 has been prepared. This procedure is now undergoing an internal company review. In response to Mr. Varga's letter dated May 2, 1984 we anticipate providing the NRC with this procedure by the end of August, 1984. It is anticipated that this procedure will be implemented within 90 days of NRC approval.

Criterion (3)

"The licensee should verify that all valves used in the PASS will function in the post-accident environment in which they operate."

All PASS valves were reviewed to determine if they would function in the post-accident environment in which they operate. It was determined that all but three (3) valves would function. The O-rings of these three (3) valves were replaced with O-rings made of a material of higher radiation resistance to allow operation in post-accident conditions.

Because the instrument air is isolated after a LOCA, no air is available to open the reactor coolant sample valves inside the containment. We are currently evaluating plant procedures to determine the steps necessary to safely provide air to these valves if the instrument air supply to the containment is still isolated when the decision is made to take a sample. The results of that investigation will be completed by October, 1984. At that time we will inform you of our proposed actions and schedules.

Criterion (5)

"The licensee should provide a method for chloride analysis which is less susceptible to interference by anticipated contaminants in post-accident coolant. Also, the licensee should provide for collecting an undiluted grab sample of reactor coolant."

The current PASS procedures provide for analyzing the diluted chloride sample in an ion chromatograph which provides a lower limit of detectability of 5 ppb (5 ppm in the coolant since the sample is diluted by a factor of 1000). However, provisions will be available September 1, 1984 for collecting an undiluted back up grab sample of reactor coolant using the PASS "interim" sampling facility, if required. This sample can be taken within 96 hours of the LOCA and analyzed within 30 days. It is possible to obtain and analyze this sample without radiation exposures to any individual exceeding the criteria of GDC 19 (Appendix A, 10 CFR Part 50).

Criterion (8)

"The licensee should provide for collection of undiluted grab samples of coolant."

Provisions will be available September 1, 1984 for collection of undiluted back up grab samples of coolant.

Criterion (10)

"The licensee should develop procedures which will yield more accurate results for chloride and boron analysis. The licensee should provide additional information consistent with the guidelines in our letter dated June 30, 1982, on the following: All equipment and procedures which are used for post-accident sampling and analysis should be calibrated or tested at a frequency which will ensure, to a high degree of reliability, that it will be available if required. Operators should receive initial and refresher training in post-accident sampling, analysis and transport. A minimum frequency for the above efforts is considered to be every six months."

Chloride analysis is discussed in response to Criterion (5).

The plant has developed a procedure for boron analysis using the fluoroborate selective ion electrode. The fluoroborate electrode analysis method was qualified by NUS by analyzing post-accident matrix samples containing known concentrations of boron for 1:1000 diluted samples containing 0.5 to 6.0 ppm boron (500 to 6000 ppm in the coolant). The mean absolute bias determined during testing was ± 3.0% at boron levels of 2.0 ppm (2000 ppm in the coolant) and ± 10% at boron levels of 0.5 ppm (500 ppm in the coolant).

A request to add the training of plant personnel and maintenance of PASS equipment to the D. C. Cook Technical Specification, Administrative Controls Sections 6.8.4 was submitted by our letter AEP:NRC:0856A dated July 19, 1984. Plant personnel are re-trained in the use of these procedures on a semi-annual basis.

Criterion (11)

"The licensee should install heat tracing or incorporate other provisions on the containment air line to limit iodine plateout."

The containment air sample line in the PASS system is used primarily for hydrogen and noble gas sampling. Therefore, it is not necessary to heat trace this line to prevent iodine plateout.

The post-accident containment atmosphere iodine sample is obtained from the Radiation Monitoring System. Heat tracing system for this sampling system is presently being designed and it is anticipated that it will be installed on both units by the end of the 1985 refueling outages currently scheduled to begin in March and November, 1985, for Units 1 and 2, respectively.