

December 9, 1985  
NRC/THI-85-098

MEMORANDUM FOR: Harold R. Denton, Director  
Office of Nuclear Reactor Regulation

Frank J. Miraglia, Director  
Division of PWR Licensing-B

FROM: William D. Travers, Director  
THI-2 Cleanup Project Directorate

SUBJECT: NRC THI-2 CLEANUP PROJECT DIRECTORATE WEEKLY STATUS  
REPORT FOR DECEMBER 2, 1985 - DECEMBER 8, 1985

1. DEFUELING

On December 4, 1985, the licensee completed cutting the tangled and damaged fuel rods and rod-bundles on top of the debris bed. The licensee plans to load this material into special debris buckets and then place the loaded buckets into the fuel canisters. This effort should improve fuel loading efficiency and increase the amount of fuel loaded into a canister. On December 5, 1985, the licensee surveyed the debris bed and made debris height measurements. These actions were performed to locate and count damaged endfittings for future planning and identify appropriate locations to place debris loading buckets.

On December 5, 1985, a small fire occurred when an unsecured light bulb at the railing of the defueling platform tool slot ignited paper towel material wrapped around the bulb. The light bulb was deenergized and the fire was extinguished in less than one minute. There were no personnel contaminations or increases in airborne activity in the building. NRC personnel at the defueling coordination center observed that the licensee's actions were appropriate. Precautions to prevent a recurrence have been taken by the licensee.

Beginning December 9, 1985, defueling activity will be increased to three team entries from two team entries per day. During the past week, in-reactor building defueling time was increased to almost 4 hours per entry team from the previous average of about 3 - 3½ hours. In part, this increase was due to the elimination of respirator requirements (see Weekly Status Report of November 25 - November 30, 1985). Since the occupational dose due to transits remains the same per entry, the increase in defueling time per team should result in an overall man-rem savings.

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2. PLANT STATUS

- The facility remains in long term cold shutdown with the Reactor Coolant System (RCS) vented to the reactor building atmosphere and the reactor vessel head and plenum assembly removed from the reactor vessel.
- The plenum is on its storage stand in the deep end of the fuel transfer canal. A dam has been installed between the deep and shallow ends of the fuel transfer canal. The deep end is filled with water to a depth of about 20 feet (about 5 feet above the top of the plenum).
- The modified internals indexing fixture is installed on the reactor vessel flange and is flooded to elevation 327 feet 6 inches (15 feet above the top of the core region). The defueling platform is installed over the internals indexing fixture for defueling.
- Calculated reactor decay heat is less than 12 kilowatts.
- RCS cooling is by natural heat loss to the reactor building ambient atmosphere. Incore thermocouple readings range from 69°F to 94°F with an average of 83°F.
- The average reactor building temperature is 56°F. The reactor building airborne activity at the Westinghouse platform is 1.1 E-7 uCi/cc Tritium and 6.4 E-10 uCi/cc particulate, predominantly Cesium 137.
- Spent Fuel Pool "A" is flooded to a depth of 20 feet. About 6 feet of water is over the fuel canister storage racks.

3. WASTE MANAGEMENT

- Backwashing of the Defueling Water Cleanup System (DWCS) filters was unsuccessful in producing any useful extension of the filter life. The cause of the filter plugging is believed to be very finely divided particulate contamination consisting mainly of iron compounds that blind the sintered metal filter media. The licensee is evaluating the use of a filter precoat material to alleviate the problem.
- The kill of algae by addition of hydrogen peroxide in the spent fuel pool was successful in reducing turbidity. Hydrogen peroxide was added to the fuel transfer canal this week. Additional hydrogen peroxide additions to both the spent fuel pool and the fuel transfer canal are being evaluated.
- Submerged Demineralizer System (SDS) is temporarily shutdown.
- EPICOR II is temporarily shutdown while changing out liners.
- Total volume processed through SDS to date is 3,598,397 gallons, and the total volume processed through EPICOR II is 2,700,737 gallons.
- The licensee has begun construction of a Unit 2 Solid Waste Handling Facility within the Unit 2 owner controlled area. The facility technical evaluation report is being reviewed by the TMICPD. Completion is expected in summer 1986.

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The facility will prepare waste for movement to the shipping/storage facility (Interim Solid Waste Storage Facility) and will store no waste. The facility will house disassembly and cutting equipment for shipment preparation of large equipment pieces. A barrel compactor will be located in the facility. Non-compactible waste will be loaded into barrels or boxes. The facility will also house an equipment decontamination facility to complement the temporary decontamination facility in the Unit 2 Auxiliary Building. Liquid radwaste solidification will be performed in the Unit 2 Fuel Handling Building using the newly installed cement and barrel tumbling unit.

4. RADIOACTIVE MATERIAL/WASTE SHIPMENTS

- November 1 - Unit 2, EPICOR II dewatered resin liner shipment to Hanford, WA.
- November 1 - Unit 2 radioactive samples sent to Rockville, MD.
- November 5 - Unit 2 laundry shipment of 69 drums and 3 boxes of protective clothing to Royersford, PA.
- November 6 - Unit 2 reactor coolant system samples sent to Oak Ridge, TN.
- November 7 - Unit 2 radioactive samples sent to Rockville, MD.
- November 12 - Unit 2 EPICOR II dewatered resin liner shipment to Hanford, WA.
- November 13 - Unit 2 laundry shipment of 44 drums and 3 boxes of protective clothing to Royersford, PA.
- November 13 - Unit 2 EPICOR II dewatered resin liner shipment to Hanford, PA.
- November 14 - Unit 2 liquid radioactive sample sent to Rockville, MD.
- November 15 - Unit 1 liquid radioactive sample sent to Rockville, MD.
- November 18 - Unit 2 EPICOR II dewatered resin liner shipment to Hanford, WA.
- November 19 - Unit 2 laundry shipment of 61 drums and 1 box of protective clothing to Royersford, PA.
- November 22 - Unit 2 EPICOR II dewatered resin liner shipment to Hanford, WA.
- November 22 - Unit 1 liquid radioactive sample sent to Rockville, MD.
- November 25 - Unit 1 one solidified evaporator bottoms liners and two dewatered resin liners to Barnwell, SC.
- November 27 - Unit 2 check source sent to Forked River, NJ.
- November 27 - Unit 2 EPICOR II dewatered resin liner shipment to Hanford, WA.

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5. DOSE REDUCTION/DECONTAMINATION ACTIVITIES

- Decontamination activities are continuing on the 281' level of the auxiliary building. Scabbling of reactor coolant bleed tank cubicles is in progress.
- Average general area radiation dose rate is 40 mrem per hour on the 347' level of the reactor building and is 67 mrem per hour on the 305' level of the reactor building.
- Decontamination of the pressurizer and "A" D-ring is in progress.

6. ENVIRONMENTAL MONITORING

- US Environmental Protection Agency (EPA) sample analysis results show TM1 site liquid effluents to be in accordance with regulatory limits, NRC requirements, and the City of Lancaster Agreement.
- TM1 water samples taken by EPA at the plant discharge to the river consisted of seven daily composite samples taken from November 16 through November 23, 1985. A gamma scan detected no reactor related activity.
- The Lancaster water sample taken at the water works intake and analyzed by EPA consisted of a seven day composited sample taken from November 17 through November 23, 1985. A gamma scan detected no reactor related radioactivity.
- The NRC outdoor airborne particulate sampler at the TM1 Site collected a sample between November 27 and December 5, 1985. No reactor related radioactivity was detected. Analysis showed Iodine-131 and Cesium-137 concentrations to be less than the lower limits of detectability.

7. REACTOR BUILDING ACTIVITIES

- The initial phase of defueling the reactor core is in progress.
- Installation of the vacuum defueling system is in progress.

8. AUXILIARY AND FUEL HANDLING BUILDING ACTIVITIES

- Installation of the balance of DWCS continued.
- Spent Fuel Pool "A" has been flooded to a depth of about 20 feet (about 6 feet above the top of the fuel canister storage racks).

9. NRC EVALUATIONS IN PROGRESS

- Technical Specification Change Request number 49.
- Recovery Operations Plan Change number 31.
- SDS Technical Evaluation and System Description Update.
- Core Stratification Sample Safety Evaluation.
- Defueling Water Cleanup System Technical Evaluation Report, Revision 7.
- Containment Air Control Envelope Technical Evaluation Report, Revision 5.
- Solid Waste Facility Technical Evaluation Report.

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10. PUBLIC MEETING

The next meeting of the Advisory Panel is scheduled for December 12, 1985, at the Holiday Inn, 23 South Second Street, Harrisburg, PA, from 7:00 PM to 10:00 PM.

At that meeting CPOR will provide a status of defueling activities and Mr. and Mrs. Aamodt will provide information regarding their health effects evaluations.

Persons desiring the opportunity to speak before the Panel are asked to contact Mr. Thomas Smithgall at 717-291-1047 or write to him at 2122 Marietta Avenue, Lancaster, Pennsylvania 17603.

*original signed by  
& changed for:*

William D. Travers  
Director  
TII-2 Cleanup Project Directorate

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Harold R. Denton  
Frank J. Miraglia

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DATE	12/9/85	12/9/85	12/9/85	12/9/85		