

March 3, 1986
NRC/THI-86-021

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 FEBRUARY 24 - MARCH 3, 1986

1. DEFUELING

- As of March 3, 1986, 18 defueling canisters have been transferred from the reactor vessel to the spent fuel pool storage racks. Total weight of fuel debris and structural material transferred out of the reactor vessel is about 16,000 lbs. The estimated total weight of fuel debris and structural materials originally in the reactor vessel after the accident was 308,000 lbs.
- Defueling by pick-and-place with a spade-bucket tool continued.
- On February 28, 1986, an operational test of the modified vacuum defueling system was done. The modified nozzle has a larger opening to reduce plugging and uses a water jet to "fluff" the debris bed as in underwater mining operations. During the test, the vacuum system filter canister was bypassed, as previous experience with the system showed rapid plugging of the filter. The testing showed no improvement.
- Visibility in the reactor vessel continues to be poor because of biologic growths. To counter the problem, the licensee operated a Temporary Reactor Vessel Water Filtration System. The filtration system has been removed from service because of a need to reevaluate the system design. In addition, beginning on March 2, 1986, the licensee is exchanging 55,000 gallons of reactor coolant by a feed-and-bleed operation. The RCS level was drawn down to the vessel flange level, then refilled to the 327' level. Reactor coolant is now being withdrawn to the "B" Reactor Coolant Bleed Tank (RCBT) and replenished by borated processed water from the "A" RCBT.
- The organic growth in the RCS has progressed to the point where a self-sustaining community exists. The growths vary from algae in

OFFICE		B603100647	B60303		
SURNAME		PDR	ADDOCK	05000320	
DATE		R		PDR	

suspension through fungi and bacteria to aerobic and anaerobic organisms in the lower vessel. The proposed biocide that was to be used to treat the RCS was shown by laboratory testing to be ineffective at concentrations that would be acceptable. The licensee continues to study the problem with the assistance of outside experts in the field. A long term treatment plan is not expected for several weeks.

2. PLANT STATUS

- The reactor remains in long term cold shutdown, vented to atmosphere.
- The reactor vessel head is in storage on the 347' elevation. The plenum is on its storage stand in the deep end of the fuel transfer canal. A dam is installed between the deep and shallow ends of the transfer canal, permitting a 20 foot depth (about 5 feet over the top of the plenum).
- Reactor Coolant System (RCS) cooling is by natural heat loss to the reactor building atmosphere. Calculated reactor decay heat is 10.7 kilowatts. Incore thermocouple readings range from 72°F to 94°F, averaging 81°F.
- The average reactor building temperature is 55°F. The reactor building airborne activity at the defueling platform is 2.0 E-8 uCi/cc Tritium and 5.4 E-11 uCi/cc particulates, predominately Cesium-137.
- The reactor vessel and modified internals indexing fixture are flooded to the 377'6" elevation which is 15 1/2 feet above the core region top. The defueling platform is mounted above the internals indexing fixture.

3. WASTE MANAGEMENT

- The Submerged Demineralizer System (SDS) continued processing batch 127, Fuel Transfer Canal Recycle through both trains.
- EPICOR II remained shutdown.
- Total volume processed through SDS to date is 3,800,906 gallons, and the total volume processed through EPICOR II is 2,822,963 gallons.

4. RADIOACTIVE MATERIAL/WASTE SHIPMENT

- On February 5, 1986, 85 barrels and 4 boxes of contaminated laundry were sent to Royersford, PA.
- On February 5, 1986, Unit 1 samples were sent to Westwood, NJ, and Rockville, MD, for analysis.
- On February 12, 1986, 73 barrels and 4 boxes of contaminated laundry were sent to Royersford, PA.
- On February 13, 1986, a depleted, dewatered EPICOR II resin liner was sent to Richland, WA.

OFFICE									
SURNAME									
DATE									

- On February 19, 1986, 82 barrels and 2 boxes of contaminated laundry were sent to Royersford, PA.
- On February 21, 1986, a combined unit waste shipment was sent to Richland WA. The shipment consisted of 60 barrels and 2 boxes.
- On February 25, 1986, Unit 1 samples were sent to Westwood, NJ and Rockville, MD for analysis.
- On February 26, 1986, 83 barrels and 4 boxes of contaminated laundry were sent to Royersford, PA.

5. DOSE REDUCTION/DECONTAMINATION

- 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. The average dose rate to workers on the defueling work platform is 8 mrem per hour.

6. ENVIRONMENTAL MONITORING

- US Environmental Protection Agency (EPA) sample analysis results show TMI site liquid effluents to be in accordance with regulatory limits, NRC requirements, and the City of Lancaster Agreement.
- TMI water samples taken by EPA at the plant discharge to the river consisted of seven daily composite samples taken from February 8 through February 15, 1986. 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 February 9 through February 15, 1986. A gamma scan detected no reactor related radioactivity.
- The NRC outdoor airborne particulate sampler at the TMI site collected a sample between February 19, and February 26, 1986. 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

- Initial defueling of the reactor core is in progress.

8. AUXILIARY AND FUEL HANDLING BUILDING ACTIVITIES

- Installation of the balance of Defueling Water Cleanup System (DWCS) continued.
- Preparations are being made for decontamination in the Seal Injection Room, 281' auxiliary building.
- Kelly vacuuming of the 281' elevation fuel handling building continued.
- Startup testing of the canister dewatering system is in progress.

OFFICE ▶							
SURNAME ▶							
DATE ▶							

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.
- Reactor Building Sump Criticality Safety Evaluation Report.

Original signed by John Thomas
for:

William D. Travers
Director
TMI-2 Cleanup Project Directorate

OFFICE ▶						
SURNAME ▶						
DATE ▶						

INTERNAL DISTRIBUTION

- EDO
- OGC
- Office Directors
- Commissioner's Technical Assistants
- HRR Division Directors
- HRR A/D's
- Regional Administrators
- IE Division Directors
- TAS
- EIS
- TMI Cleanup Project Directorate (10)
- PHS
- EPA
- DOE
- RI Division Directors
- Public Affairs, RI
- State Liaison, RI
- TMIHQ HQ r/f
- TMI SITE r/f
- CENTRAL FILE
- NRC PDR
- LOCAL PDR
- TMI-2 Project Section File

OFFICE ▶	TMICPD <i>[Signature]</i>	TMICPD <i>[Signature]</i>	TMICPD <i>[Signature]</i>	TMICPD <i>[Signature]</i>	TMICPD <i>[Signature]</i>		
SURNAME ▶	DCollins:jes	CCongill	Acting Chief	XXXXXXXXXX	WTravers		
DATE ▶	3/3/86	3/3/86	3/3/86		3/3/86		
			Technical Support				