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October 26, 1981
NRC/TMI-81-060

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

Bernard J. Snyder, Program Director
TMI Program Office

FROM: Lake H. Barrett, Deputy Program Director
TMI Program Office

SUBJECT: NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

Enclosed is the status report for the period of October 18-24, 1981. Major items included in this report are:

-- Liquid Effluent Releases

-- NRC and EPA Environmental Data

-- Radioactive Material and Radwaste Shipments

-- TMI Occupational Exposures

-- Submerged Demineralizer System Status

-- EPICOR II

-- Reactor Building Integrity Assessment Program

-- Reactor Building Entries/Decontamination Experiment

-- Public Meetings

Original signed by
Lake H. Barrett

Lake H. Barrett
Deputy Program Director
TMI Program Office

Enclosure: As stated

cc w/encl:
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NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

Week of October 18-24, 1981

Plant Status

Core Cooling Mode: Heat transfer from the reactor coolant system (RCS) loops to reactor building ambient.

Available Core Cooling Modes: Decay heat removal systems. Long term cooling "B" (once through steam generator-B).

RCS Pressure Control Mode: Standby pressure control (SPC) system.

Backup Pressure Control Modes: Mini decay heat removal (MDHR) system. Decay heat removal (DHR) system.

Major Parameters (as of 0500, October 23, 1981) (approximate values)
Average Incore Thermocouples: 113°F
Maximum Incore Thermocouple: 143°F

RCS Loop Temperatures:

		A	B
Hot Leg		107°F	110°F
Cold Leg	(1)	68°F	71°F
	(2)	68°F	68°F

RCS Pressure: 99 psig

Reactor Building: Temperature: 68°F
Water level: Elevation 299.1 ft. (6.5 ft. from floor) via penetration 401 manometer
Pressure: -0.39 psig
Concentration: 4.48×10^{-5} uCi/cc Kr-85 (Sample taken 10/19/81)

Effluent and Environmental (Radiological) Information

1. Liquid effluents from the TMI site released to the Susquehanna River after processing, were made within the regulatory limits and in accordance with NRC requirements and City of Lancaster Agreement dated February 27, 1980.

   During the period October 16, 1981 through October 22, 1981, the effluents contained no detectable radioactivity at the discharge point although individual effluent sources which originated within Unit 2 contained minute amounts of radioactivity. Calculations indicate that less than one ten thousandth (0.0001) of a curie of tritium was discharged.

2. Environmental Protection Agency (EPA) Environmental Data. Results from EPA monitoring of the environment around the TMI site were as follows:

-- The EPA measured KR-85 concentrations (pCi/m^3) at several environmental monitoring stations and reported the following results:

Location	September 25 - October 9, 1981 (pCi/m^3)
Goldsboro	29
Observation Center	23
Middletown	28
Yorkhaven	22

All of the above levels of Kr-85 are considered to be background levels.

-- No radiation above normally occurring background levels was detected in any of the samples collected from the EPA's air and gamma rate networks during the period from October 14, 1981, through October 22, 1981.

3. NRC Environmental Data. Results from NRC monitoring of the environment around the TMI site were as follows:

-- The following are the NRC air sample analytical results for the onsite continuous air sampler:

Sample	Period	I-131 (uCi/cc)	Cs-137 (uCi/cc)
HP-200	October 14, 1981 - October 21, 1981	<7.8 E-14	<7.8 E-14

4. Licensee Radioactive Material and Radwaste Shipments.

-- On Monday, October 19, 1981, a 40 ml Unit 2 reactor coolant sample was sent to Babcock and Wilcox (B&W), Lynchburg, Virginia.

-- On Tuesday, October 20, 1981, two Nittman liners containing solidified evaporator bottoms (numbers 17 and 23) from Unit 1 were shipped to U.S. Ecology, Richland, Washington.

-- On Thursday, October 22, 1981, one EPICOR II dewatered resin liner (liner E-1) was shipped to U.S. Ecology, Richland, Washington.

5. TMI Occupational Exposure. Licensee TLD (Thermoluminescent Dosimeter) records indicate the following Unit 2 total occupational radiation exposure for 1981:

August 1981:	8 man-rem
September 1981:	8 man-rem
Total 1981 (Jan. to Sept.)	99 man-rem

Major Activities

1. Submerged Demineralizer System (SDS). Processing of batch number 7 (50,000 gallons) was completed on October 18, 1981 and on the same day transfer of another 50,000 gallons of water (batch number 8) from the reactor building sump was commenced. The transfer was completed on October 20, 1981, and brings the total amount of water transferred from the reactor building sump to approximately 165,000 gallons. The total amount of reactor building sump water processed through the SDS system as of October 22, 1981, is approximately 115,000 gallons. Processing of batch number 8 commenced on October 23, 1981.

   On October 21, 1981, a dewatered SDS zeolite vessel loaded to approximately 25,000 Ci of Cs-137 and approximately 1,000 Ci of Sr-90 was placed in a shipping cask and removed from the spent fuel pool in which the SDS is located. A radiation level survey was taken of the cask to verify predicted radiation levels to assure compliance with transport regulations. Preliminary evaluations indicate that the empirical (test) data confirmed analytical predictions. After the radiation level survey the vessel and cask were returned to the spent fuel pool.

2. EPICOR II. Processing of the SDS effluent through the EPICOR II system continued this week. As of October 22, 1981, approximately 110,000 gallons of reactor building sump water had been polished. Liners F-6, F-7, K-2, and 2 K-1 were replaced by fresh liners. Liner K-1 was shipped to Richland, Washington for disposal at a commercial burial facility.

3. Reactor Building Integrity Assessment Program. Analyses results have been received from ground water samples which were taken at the various site ground water monitoring locations during the month of June 1981 and on July 1, 1981. The sample analyses indicate that the activity in the latest samples is within the range of values identified during the course of the sampling program which began in early 1980.

The latest analyses indicate that tritium concentrations in the East Dike Catch Basin and in the test borings have remained slightly above background. Test Boring 2 has historically shown periodic positive indications of minute quantities of cesium. The highest cesium concentration detected in a sample taken in February 1981, was approximately 370 pCi/L of cesium 137. The most recent gamma scan of water from Test Boring 2 (sample taken September 2, 1981) indicates a 8.12 ± 4.41 pCi/L concentration of cesium 137.

4. Reactor Building Entries/Decontamination Experiment. The licensee has planned 17 reactor building (RB) entries which are scheduled to commence during the last week in October and continue through November and December. The objective of the 17 entries is to acquire generic research and development information on accident related contamination problems. The initial entries are planned to thoroughly characterize the RB contamination and the contamination induced radiation levels on the polar crane and on the two accessible floors of the RB. Following the characterization, the areas will be decontaminated to remove loose surface contamination using water with various combinations of temperature and pressure. Following the decontamination experiments, the RB will be resurveyed to determine the effectiveness of the decontamination techniques. The contamination characterization surveys will include sample removal for laboratory analysis, multichannel analyzer surveys inside the RB, and air, water and area radiation surveys.

The predecontamination surveys will be performed in October and November. In parallel with the characterization surveys, decontamination hardware will be installed in the RB. The installation will include RB penetration modifications to insert high pressure water hoses into the RB. A power lift will be attached to the polar crane for use in transporting personnel and equipment from the 305' elevation to the 347' elevation and to the polar crane. A 10,000 PSI, 25 GPM water pump and water heaters will be installed outside the RB.

The actual decontamination inside the RB is scheduled to commence on the 305' elevation in early December. The decontamination techniques will be limited to high pressure water sprays and low pressure water washes. Water temperatures up to approximately 140 degrees F. will be used. It is estimated that the decontamination experiment will add approximately 55,000 gallons of previously processed water to the RB sump. The SDS system will reprocess this water from the RB sump.

Public Meetings.

1. On Wednesday, October 21, the NRC's Advisory Panel for the Decontamination of Three Mile Island, Unit 2, held a public meeting at the Hotel Yorktowne in York, PA. Chairman Minnich and Mr. Roth briefed the panel on the testimony presented on October 21, 1981, joint hearings of the Senate Energy and Natural Resources and Environmental and Public Works Committees concerning the Unit 2 cleanup financial situation. At the hearing Governor Thornburg, DOE Secretary Edwards, NRC Chairman Palladino, Mr. Peach of General Accounting Office, Mr. Minnich and utility representatives presented testimony and responded to questions from the Senators. The Reagan administration announced at the hearing via DOE Secretary Edwards, and in a letter to Governor Thornburgh, (text attached), that the Administration would request funds from Congress to participate in Unit 2 cleanup activities which are "useful research and development activities of broad national benefit". These include the following activities:

   *Clean up the water in the building basement.

   *Remove and dispose of abnormal wastes not disposable at commercial sites.

   *Remove and evaluate the damaged reactor core.

   *Develop special tooling needed for early core access.

   *And other appropriate activities consistent with these guidelines.

   Mr. Minnich and Mr. Roth's personal observations were that the Senators appeared favorable to Federal participation provided that GPU ratepayers also contributed funds toward the cleanup. The Panel also heard comments from members of the public and questioned GPU and NRC representatives on various issues regarding funding, safety significance of cleanup delays and the progress on cleanup of the contaminated water in the reactor building basement and core temperature variations. The Panel discussed what action it should take concerning the funding issue. It was decided that the funding issue would be discussed further at the next meeting.

Future Meetings

1. The NRC's Advisory Panel for the Decontamination of Three Mile Island Unit 2 will meet November 16, 1981 from 7:00 p.m. to 10:00 p.m. in the Municipal Building, 400 South 8th Street, Lebanon. At the meeting, the panel plans to discuss the current status of cleanup activities at Three Mile Island. The meeting is open to the public.

HARRISBURG (Oct. 20) -- Following is the complete text of the letter telecopied last night from Presidential Counsellor Edwin Meese 3d to Gov. Thornburgh:

October 19, 1981

Dear Governor Thornburgh:

In response to our meeting of October 1, 1981, as well as discussions with Senator Heinz and other members of the Pennsylvania congressional delegation, the Administration has undertaken a review of its participation in the clean-up of the damaged unit at the Three Mile Island generating station.

We agree that the clean-up entails a number of useful research and development activities of broad national benefit. In addition, the Federal Government has unique capabilities for ensuring the safe isolation and disposal of certain radioactive waste materials at TMI.

The Federal Government should limit its participation, however, to those activities that are of general benefit or that relate to its unique responsibilities under the Atomic Energy Act of 1954 to ensure safe disposal of nuclear waste. It would not be appropriate for the Federal Government to enter into an open-ended commitment to finance a fixed percentage of cleanup costs or to commit funds without regard to whether those funds were to be used for one of the two legitimate Federal responsibilities identified above.

The President is particularly aware of the need to resolve the apparent impasse that has prevented significant progress in the cleanup of TMI. For this reason, in February of this year he approved a request to the Congress for $37 million for use in a Department of Energy research and development program at TMI in fiscal year 1982. The work that will commence in 1982 is the start of an effort that will continue for the next three to four years. DOE intends to provide technical assistance to clean up the water in the building basement; remove and dispose of abnormal wastes not disposable at commercial sites; remove and evaluate the damaged reactor core; develop special tooling needed for early core access; and other appropriate activities consistent with these guidelines. The DOE program is described in greater detail in the agreements between the department and the other parties to the cleanup.

We agree that it would be very helpful to have greater certainty concerning the availability of funding for this DOE program in years subsequent to FY 1982. Accordingly, I wish to assure you that the President intends to request from Congress sufficient funds in future years to complete the identified DOE program of research and development at TMI. This will include a total of approximately $75 million (including FY 1982) to carry out the program approved by the President last spring, as well as a total of $48 million (including previously appropriated funds) to complete the activities initiated under the agreement with EPRI.

As you noted in developing your outline of a plan for the TMI clean-up, the utility industry, the states of New Jersey and Pennsylvania, the owners of TMI, and the Federal Government all share an interest in a resolution of the problem. The responsibility for the financial burdens created by the TMI accident must rest primarily with those who produced and used the electric power from the facility, not the Federal Government. But to the extent that the Federal Government can bring certain unique experience to bear and to the extent that it can support research of benefit to the nation as a whole, it can appropriately participate in the clean-up. At this point, we should all focus our efforts on getting the clean-up completed as expeditiously and safely as possible.

As the President indicated to you during your recent meetings and telephone conversation, he appreciates your leadership in developing a cost-sharing plan which would break the impasse over the clean-up of Three Mile Island. The conditional commitment by the national utilities industry to contribute $190 million to the clean-up process is also a result of the active role you have taken in attempting to solve this problem. The President appreciates the opportunity to work with you, the Congress, the industry, and other parties in achieving a resolution to this situation.

Sincerely,

Edwin Meese, III
Counsellor to the President

Honorable Richard L. Thornburgh
Governor
Commonwealth of Pennsylvania
Harrisburg, Pennsylvania 17120