October 1, 1984
NRC/TMI-84-071

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

Bernard J. Snyder, Program Director
TMI Program Office

FROM: William D. Travers, Deputy Program Director
TMI Program Office

SUBJECT: NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT FOR
SEPTEMBER 23, 1984 - SEPTEMBER 29, 1984

The US Environmental Protection Agency's Middletown Field Office analyzed one of GPU Nuclear's elevated environmental noble gas samples for July 25 through August 2, 1984, and detected no Krypton-85 above background concentrations. Data from effluent and environmental monitoring systems indicated no plant release in excess of regulatory limits. Plant parameters have shown no significant changes. Site activities this period included: scabbling and sealing of reactor building floor surfaces, auxiliary and fuel handling building decontamination, continued fuel pool "A" refurbishment and routine waste processing.

Significant items covered in the enclosure are:

-- Krypton-85 Environmental Results
-- Reactor Building Activities
-- Auxiliary and Fuel Handling Building Activities
-- Public Meetings

Summary sheets included in this report are:

-- Liquid Effluent and Environmental Data
-- Radioactive Material and Waste Shipments
-- Plant Status Data

ORIGINAL SIGNED BY:
William D. Travers

William D. Travers
Deputy Program Director
TMI Program Office

Enclosure: As stated

IDR-5
TMI

OFFICE ➤						
SURNAME ➤						
DATE ➤						

INTERNAL DISTRIBUTION
EDO
OGC
Office Directors
Commissioner's Technical Assistants
NRR Division Directors
NRR A/D's
Regional Administrators
IE Division Directors
IAS
EIS
TMI Program Office Staff (10)
PHS
EPA
DOE
RI Division Directors
Public Affairs, RI
State Liaison, RI
TMIPO HQ r/f
TMI SITE r/f
CENTRAL FILE
NRC PDR
LOCAL PDR
TMI-2 Project
Section File

OFFICE ▶	TMIPO	TMIPO	TMIPO	TMIPO			
SURNAME ▶	DCollins/lmp	RCook	RGrant	WTravers			
DATE ▶	10/1/84	10/ /84	10/ /84	10/ /84			

NRC FORM 318 (10-80) NRCM 0240

OFFICIAL RECORD COPY

ENCLOSURE

KRYPTON-85 ENVIRONMENTAL RESULTS:

As a part of their investigation into the elevated environmental noble gas concentrations as reported in the September 24 Weekly Status Report, the licensee requested the US Environmental Protection Agency's (EPA) Middletown Field Office to analyze the remainder of one of the three previously analyzed samples. The EPA analysis results indicate a Krypton-85 (Kr-85) concentration of about 26 picocuries per cubic meter. EPA samples in the TMI area between April 1979 and June 28, 1980 indicate background levels to be less than 40 picocuries per cubic meter of air. The licensee is continuing to investigate the cause of the elevated results from their environmental atmospheric monitors. An audit of the laboratory who performed the initial Kr-85 analyses has been scheduled. The TMIPO is independently reviewing developments of this matter.

REACTOR BUILDING ACTIVITIES:

The plenum inspection schedule is being impacted by polar crane availability in the reactor building. The polar crane has not been released for use after apparent refurbishment inspection discrepancies were identified during an inspection. Housekeeping and dose reduction activities are performed during daily entries while the polar crane inspection activities are being resolved.

AUXILIARY AND FUEL HANDLING BUILDING ACTIVITIES:

The last of the the four upper tanks was removed from fuel pool "A" this week. Also removed were the remaining sections of the standpipe connecting the upper tanks to the submerged demineralizer system. The two lower tanks (approximately 25,000 gallons each) are scheduled to be internally decontaminated and removed from the fuel handling building by October 31, 1984. The tanks will be stored onsite pending final disposition.

Approximately 200 gallons of dilution water was pumped into makeup and purification demineralizer "B" on September 28, 1984. This step represents the beginning of operation of the cesium elution process. The first chemical addition is expected to be made October 1, 1984. The entire process is expected to take about six weeks.

TMI OCCUPATIONAL DOSE ACTIVITIES:

Licensee TLD (Thermoluminescent Dosimeter) records indicate the following station occupational radiation doses for the period August 1, 1984 through August 31, 1984:

Unit 1 and Unit 2 Combined Dose Ranges

Category in Rem	Number of Station Personnel
No Measurable Dose	1,325
Dose Less Than 0.1	260
0.1 to 0.25	100
0.25 to 0.5	51
0.5 to 0.75	15
0.75 to 1	13
1 to 2	6
2 to 3	0

Total Doses	Man-Rem
Unit 2 (August)	40.8
Unit 2 (Year-to-Date)	353.0
Units 1 & 2 TLD (August)	70.690
Units 1 & 2 TLD (Year-to-Date)	436.318

PUBLIC MEETINGS:

Past Meeting

On September 28, 1984, Philip Grant participated in a panel discussion on the broad spectrum of nuclear issues with members of the private and public sector (e.g., Environmental Coalition on Nuclear Power, Public Information Resource Center, Pennsylvania Power and Light, etc.). The seminar was held at the Lancaster Country Day School Faculty retreat at Timberline Lodge, Strasburg, Pennsylvania.

Future Meetings

1. The Advisory Panel for the Decontamination of Three Mile Island Unit 2 will meet on October 11, 1984, from 7:00 PM to 10:00 PM in the Holiday Inn, 23 South Second Street, Harrisburg, Pennsylvania. The meeting will be open to the public.

   At this meeting the Panel will report on any issues relative to the TMI-2 cleanup effort contained in specific TMI-1 restart NRC Commission Meeting transcripts. The Panel will receive a briefing by the licensee on removal of the reactor pressure vessel plenum and other activities to by accomplished prior to commencement of fuel removal. The Panel will also discuss the appropriateness of receiving the results of specific field radiation measurements taken by State and Federal officials at the request of the public.

2. On October 30, 1984, Dr. William Travers will speak to the Metropolitan-Edison Company Consumer Advisory Council in Lebanon, Pennsylvania. He will speak on the NRC's role at the Three Mile Island nuclear station.

APPENDIX 1

LIQUID EFFLUENT AND ENVIRONMENTAL DATA

GPU Nuclear

Based on sampling and monitoring, liquid effluents from the TMI site released to the Susquehanna River were determined to be within regulatory limits and in accordance with NRC requirements and the City of Lancaster Agreement.

During the period September 21, 1984 through September 27, 1984, liquid effluents contained no detectable radioactivity at the discharge point. Individual effluent sources originating within Unit 2 contained minute amounts of radioactivity. Calculations indicate that less than 1.7 E-6 (0.0000017) of a curie of Cs-137 and less than 1.4 E-6 (0.0000014) of a curie of gross beta activity were discharged.

Environmental Protection Agency

Lancaster Water Samples: 7 samples

Period Covered: September 9 - 15, 1984

Results: Gamma Scan Negative for reactor related radioactivity

TMI Water Samples: 7 samples

Period Covered: September 8 - 15, 1984

Results: Gamma Scan Negative for reactor related radioactivity

NRC Environmental Data

The NRC operated continuous outdoor air sampler at the TMI site did not detect any reactor related radioactivity. The air sampler parameters are listed below. The analysis results were less than the lower limit of detectability of the analytical instruments: 6.5 E-14 uCi/cc for I-131 and 6.5 E-14 uCi/cc for Cs-137.

Sample	Period	Volume
HP-438	September 20-27, 1984	535.1 m^3

EPA Environmental Data

-- The EPA measures Kr-85 concentrations at several environmental monitoring stations and reported the following results:

Location	July 27 - August 3, 1984 (pCi/m^3)	August 3 - 17, 1984 (pCi/m^3)
Goldsboro	28	26
Middletown	26	28
Yorkhaven	29	23
TMI Observation Center	26	28

-- The EPA gamma radiation detection system continuously monitors for increases above naturally occurring radioactivity and residual fallout radioactivity at 13 stations in the TMI area. During this period the EPA has attributed the measurements to naturally occurring radioactivity and/or residual fallout radioactivity.

Period Covered: August 1 - 31, 1984

	Location	Direction (degrees)	Distance (miles)	Average (millirem)	Integrated Dose (millirem)
03	Harrisburg International Airport, Middletown	325	3.5	.008	6.3
05	Londonderry Township Bldg	040	2.6	.007	5.2
09	Newville	100	3.0	.009	7.0
11	Falmouth	130	2.9	.010	7.7
13	Falmouth	150	3.0	.008	5.7
17	York Haven	180	3.0	.008	6.2
20	Woodside	205	2.5	.007	5.0
31	Goldsboro	270	1.5	.011	7.7
34	Plainfield	305	2.7	.006	4.6
35	Royalton	068	3.5	.009	6.8
36	TMI Observation Center	095	0.5	.008	5.7
39	EPA TMI Field Station, Middletown	356	2.8	.006	4.2
40	Newberrytown	136	3.0	.008	5.6
41	Yocumtown	275	4.0	.008	5.6

-- EPA results of airborne particulate samples collected at the same locations as the gamma radioactivity monitors (above) during the period August 1 - 31, 1984 were all less than 0.2 picocuries per cubic meter of air, the minimum detectable concentrations for EPA's analytical instruments.

APPENDIX 2

SEPTEMBER 1984 SHIPMENTS: RADIOACTIVE MATERIAL/RADIOACTIVE WASTE

-- On September 6, 1984, a combined Unit 1 and Unit 2 contaminated laundry shipment of 78 drums and 2 boxes was sent to Interstate Nuclear Services at Royersford, Pennsylvania.

-- On September 6, 1984, a Unit 2 shipment consisting of a container (D-20032) of dewatered submerged demineralizer system zeolite resins was sent to the Hanford Burial Facility, Hanford, Washington.

-- On September 7, 1984, a Unit 1 shipment consisting of steam generator service equipment was sent to the Rancho Seco Nuclear Power Plant at Herald, California.

-- On September 12, 1984, a combined Unit 1 and Unit 2 contaminated laundry shipment of 62 barrels and 1 box was sent to Interstate Nuclear Services at Royersford, Pennsylvania.

-- On September 14, 1984, three Unit 2 shipments, each consisting of two solidified liquid waste in steel containers, were sent to the U.S. Ecology burial facility in Hanford, Washington.

-- On September 19, 1984, a combined Unit 1 and Unit 2 contaminated laundry shipment of 80 drums and 3 boxes was sent to Interstate Nuclear Services at Royersford, Pennsylvania.

-- On September 21, 1984, a combined Unit 1 and Unit 2 shipment of 120 steel drums of compacted and non-compacted radioactive waste was sent to the U.S. Ecology burial facility in Hanford, Washington.

-- On September 21, 1984, a Unit 1 sample shipment consisting of a decay heat removal system liquid sample was sent to NWT Corporation, San Jose, California.

-- On September 24, 1984, a Unit 1 shipment consisting of non-compacted radioactive trash in one steel liner was sent to the Barnwell Waste Management Facility at Barnwell, South Carolina.

-- On September 25, 1984, a Unit 2 shipment consisting of electroplated sources was sent to Battelle Pacific Northwest Laboratories at Richland, Washington.

-- On September 25, 1984, a Unit 2 shipment consisting of two instrumentation/electrical terminal blocks was sent to the Idaho National Engineering Laboratory at Scoville, Idaho.

-- On September 26, 1984, a combined Unit 1 and Unit 2 contaminated laundry shipment of 80 drums and 3 boxes was sent to Interstate Nuclear Services at Royersford, Pennsylvania.

-- On September 27, 1984, a Unit 2 shipment, consisting of a steel liner containing solidified liquid radioactive waste, was sent to the U.S. Ecology waste management facility at Richland, Washington.

APPENDIX 3

PLANT STATUS

Reactor Vessel Configuration: Reactor vessel open with modified internals indexing fixture installed

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

Available Core Cooling/Makeup Sources:
Standby pressure control (SPC) system
Reactor coolant bleed tank (RCBT) water transfer system
Mini decay heat removal (MDHR) system

Major Parameters as of 5:00 AM, September 28, 1984 (approximate values):

Reactor Coolant System:

Loop Temperatures:

	A	B
Cold Leg (1)	60°F	65°F
(2)	60°F	66°F

Reactor Core:

Average Incore Thermocouples:* 94°F
Maximum Incore Thermocouple:* 106°F
Decay Heat: 15 kilowatts

Reactor Building: Temperature: 63°F
Pressure: -0.091 psig

Airborne Radionuclide Concentrations:

Tritium: 1.3 E-8 uCi/cc (sample 9/24/84)
Particulates: 2.5 E-9 uCi/cc (sample 9/27/84)
predominately Cs-137

*Uncertainties exist as to the exact location and accuracy of these readings.