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June 15, 1981  
NRC/TMI-81-033



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

Bernard J. Snyder, Program Director,  
TMI Program Office

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

SUBJECT: NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

Enclosed is the status report for the period of June 7 - 13, 1981.

Lake H. Barrett  
Acting Deputy Program Director  
TMI Program Office

Enclosure: As stated

cc: EDO  
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6/ /81	6/ /81	6/15/81	6/15/81	6/ /81	6/15/81

# NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

Week of June 7 -13, 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 0400, June 12, 1981) (approximate values)

Average Incore Thermocouples: 117°F

Maximum Incore Thermocouple: 143°F

### RCS Loop Temperatures:

	A	B
Hot Leg	116°F	119°F
Cold Leg (1)	68°F	71°F
(2)	69°F	69°F

RCS Pressure: 97 psig

Reactor Building: Temperature: 71°F  
Water level: Elevation 290.8 ft. (8.3 ft. from floor)  
via penetration 401 manometer  
Pressure: -0.4 psig  
Concentration:  $1.8 \times 10^{-6}$  uCi/ml Kr-85 (Sample taken 6/8/81)

## 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 June 7, 1981, through June 13, 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 1 millionth (0.000001) of a curie of Cs-137 was discharged. This represents less than 0.000001% of the permissible total liquid activity as specified in Technical Specifications for operational commercial reactors.

2. Airborne effluents from the TMI site released to the environment, after processing, were made within the regulatory limits and in accordance with NRC requirements.

During the reporting period April 1-30, 1981, the licensee reported the following gaseous releases:

	<u>Curies</u>
Noble Gases	17.31
Particulates	0.000000785
Tritium	2.3

The above releases represent a small fraction of the allowable regulatory limits. The instantaneous airborne effluents are measured on a continuous basis, however, for accurate calculation of total curies released, effluent samples are analyzed in the laboratory and the data evaluated. On the basis of the data from these samples, a draft effluent report is issued monthly by the licensee. Airborne effluent information will be provided in the weekly status report on a monthly basis.

3. 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 ( $\text{pCi/m}^3$ ) at several environmental monitoring stations and reported the following results:

<u>Location</u>	<u>May 29 - June 5, 1981</u> ( $\text{pCi/m}^3$ )
Goldsboro	22.5
Observation Center	31.4
Middletown	26.0
Yorkhaven	24.1

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 June 4, 1981, through June 11, 1981.

4. 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:

<u>Sample</u>	<u>Period</u>	<u>I-131</u> <u>(uCi/cc)</u>	<u>Cs-137</u> <u>(uCi/cc)</u>
HP-271	June 3, 1981 - June 10, 1981	<8.5 E-14	<8.5 E-14

- Environmental TLD measurements for the period March 12 - April 9, 1981, around TMI indicated gamma radiation to be at the natural background levels. Fifty-nine TLD's registered doses ranging from 0.1 mR/day to 0.3 mR/day. Average dose was 0.2 mR/day. These dose rates are consistent with natural background radiation in the TMI area.

5. Licensee Radioactive Material and Radwaste Shipments

- On Monday, June 8, 1981, a 40 ml Unit 2 reactor coolant sample was sent to Babcock and Wilcox (B&W), Lynchburg, Virginia.
- On Monday, June 8, 1981, one 6' x 6' EPICOR-II dewatered resin liner (liner DS-5) from Unit 2 was shipped to U. S. Ecology, Richland, Washington.
- On Monday, June 8, 1981, one 6' x 6' EPICOR-II dewatered resin liner (liner DS-7) from Unit 2 was shipped to U. S. Ecology, Richland, Washington.
- On Tuesday, June 9, 1981, one 6' x 6' EPICOR-II dewatered resin liner (liner DS-6) from Unit 2 was shipped to U. S. Ecology, Richland, Washington.
- On Tuesday, June 9, 1981, a 1,000 ml. Unit 1 WECST (waste evaporator condensate storage tank) sample was mailed to Teledyne Isotopes, Westwood, New Jersey.
- On Tuesday, June 9, 1981, two Hittman 6' x 6' steel liners containing Unit 1 solidified evaporator bottoms were shipped to U. S. Ecology, Richland, Washington.
- On Thursday, June 11, 1981, one 6' x 6' EPICOR-II dewatered resin liner (liner DS-2) from Unit 2 was shipped to U. S. Ecology, Richland, Washington.
- On Thursday, June 11, 1981, 78 drums containing Unit 2 contaminated laundry were shipped to Tri-State Industrial Laundries, Utica, New York.
- On Friday, June 12, 1981, two Hittman steel liners containing Unit 1 solidified evaporator bottoms were shipped to U. S. Ecology, Richland, Washington.

## Major Activities

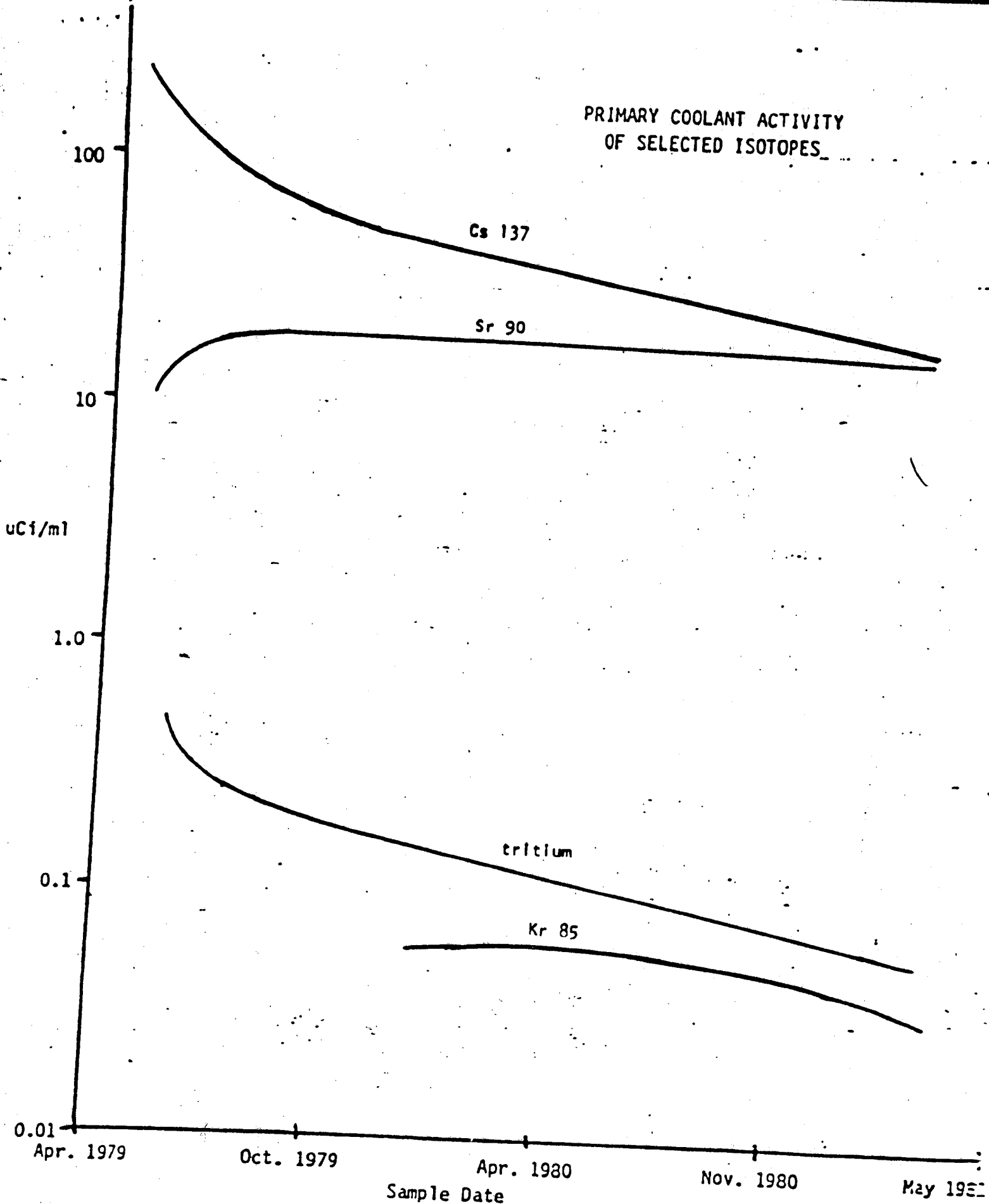
1. Reactor Coolant Water Activity. Included in this weekly status report is a summary of the radioactivity in the reactor coolant system (RCS). RCS samples are drawn and analyzed weekly. Based on these samples, the present gross beta-gamma activity in the primary system water is approximately 60 uCi/ml. Cesium-137 and strontium 90 are the predominant contributors to the activity in the primary system. The graph attached to this report depicts the change in Cs-137 and Sr-90 activity with time after the accident. The graph also includes plots of the tritium and Kr-85 concentrations in the RCS.

Natural radioactive decay has reduced the activity contributions of most other measurable radioisotopes in the RCS to insignificant levels. In addition to natural decay, activity in the primary system is being reduced by dilution caused by the approximate 0.1 GPM RCS leak and make-up rate. Sr-90 activity has remained relatively constant due to the apparent continuous low leach rate of strontium from the fuel. The submerged demineralizer system (SDS) will be used in a feed and bleed mode to remove most of the remaining activity from the primary system. Feed and bleed entails draining approximately 70,000 gallons of primary coolant to a reactor coolant bleed tank (RCBT) while making up from the stand-by pressure control system. Once drained, the primary water will be processed through the SDS and returned to the RCS. As processed water is returned to the RCS, RCS water will be drained to the RCBT for additional processing.

2. Submerged Demineralizer System (SDS). Functional tests are complete with the exception of a few items which are undergoing engineering evaluation and further testing. Operator training on components not involved with the outstanding functional testing is in progress. The operator training does not involve processing of contaminated water. The licensee is preparing procedures for NRC approval. The procedures are based on functional testing procedures and operator comments as a result of the operator training.

The staff's evaluation of the licensee's request to operate the SDS is near completion. Final NRC approval is expected to occur the week of June 15, 1981, contingent upon internal NRC review. Upon completion of the NRC evaluation, a press conference is expected to be held by the NRC at its Middletown Office to discuss the SDS.

PRIMARY COOLANT ACTIVITY  
OF SELECTED ISOTOPES



POOR ORIGINAL