

U.S. ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION I

RO Inspection Report No: 50-289/74-36 Docket No: 50-289
Licensee: Metropolitan Edison Company License No: DPR-50
P.O. Box 541 Priority: _____
Reading, Pennsylvania 19603 Category: C
Location: Three Mile Island, Unit 1 Safeguards
Middletown, Pennsylvania Group: _____

Type of License: PWR, 871 MWe (B&W)

Type of Inspection: Independent Measurements (Special-Announced)

Dates of Inspection: 11/27/74

Dates of Previous Inspection: 11/26, 27 and 29/74

Reporting Inspector: Ds. Charles O. Gallini

12-9-74
Date

for J. P. Stohr, Sr. Environmental Scientist

Accompanying Inspectors: None

Date

Date

Date

Date

Other Accompanying Personnel: None

Date

Reviewed By: Ds. Charles O. Gallini

12-9-74
Date

for J. P. Stohr, Sr. Environmental Scientist

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SUMMARY OF FINDINGS

Enforcement Action

None

Licensee Action on Previously Identified Enforcement Items
(Independent Measurements)

None Identified

Unusual Occurrences

None

Other Significant Findings

None

Management Interview

On November 27, 1974 a meeting was held in the conference room at Three Mile Island Nuclear Power Station. The following individuals were in attendance:

- G. P. Miller, Unit Superintendent, Met Ed
- J. E. Romanski, Chemistry and Health Physics Supervisor, Met Ed
- J. Jenckes, Staff Health Physicist, Met Ed
- K. H. Frederick, Staff Chemist, Met Ed
- D. B. Beaver, Department of Environmental Resources, State of Pennsylvania
- C. W. High, Department of Environmental Resources, State of Pennsylvania

During this meeting the following areas were discussed:

- A. AEC/State of Pennsylvania Contract for joint effluent and environmental monitoring (Paragraph 3).
- B. Effluent Sampling Program (Paragraph 4).
- C. Reporting Results (Paragraph 5).

DETAILS

1. Persons Contacted

- G. P. Miller, Unit Superintendent, Met Ed
- J. E. Romanski, Chemistry and Health Physics Supervisor, Met Ed
- T. A. Jenckes, Staff Health Physicist, Met Ed
- K. H. Frederick, Staff Chemist, Met Ed
- G. Reed, Chemistry Supervisor, Met Ed
- D. B. Beaver, Department of Environmental Resources, State of Pennsylvania
- C. W. High, Department of Environmental Resources, State of Pennsylvania

2. General

The inspection consisted of a meeting to initiate the joint effluent monitoring called for by the AEC/State of Pennsylvania contract. In addition, the facilities were toured with emphasis upon effluent sampling and analytical counting equipment.

The cooperative environmental monitoring called for by the contract had previously been initiated in early 1971 after a meeting at Three Mile Island on December 21, 1970.

3. AEC/State of Pennsylvania Contract

RO:I administers at the local level the AEC/State of Pennsylvania contract for joint effluent and environmental monitoring.

The purpose of the contract is to: (1) establish a collaborative program between the State and the AEC so as to provide independent measurements of radioactivity in effluents from, and in the environment, of selected AEC licensed activities; (2) achieve and maintain comparable methods of analyses among licensees, the State and the AEC; and (3) traceability through the Idaho Health Services Laboratory (IHSL) to the National Bureau of Standards.

The inspector explained that this contract is considered to be part of RO's Independent Measurements Program, which in turn is a portion of RO's routine inspection program.

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The roles of the various parties were discussed.

4. Effluent Sampling Program

Copies of the sampling program called for in the contract were distributed and discussed. (A copy is included as Attachment 1). Only the onsite program was discussed in detail. The first onsite samples are to be obtained January 9, 1975.

a. Liquid

The contract calls for the sampling of one Waste Evaporator Condensate Storage Tank three times per year. Analyses to be performed are: gamma isotopic; tritium; gross beta; and Sr-89 and 90.

It was agreed that samples would be split between the licensee, the State and RO:I and the aforementioned analyses performed. Requirements for obtaining good, split samples were discussed in detail. The reference gross beta count is to be taken two weeks from the date of sampling.

b. Gaseous Decay Tank

The contract calls for a radioactive gas sample three times a year with a gamma isotopic analysis to be performed.

It was agreed that sequential samples would be obtained from whatever gas was being held for decay at the time samples were needed for the contract. Samples will preferably be taken from the gas volume that has decayed the most and is nearest being released. The licensee stated that obtaining samples in the desired geometry might pose some problem but that the details of the sampling arrangement would be worked out.

c. Charcoal Absorber

The contract calls for obtaining a charcoal absorber three times a year with an analysis to be done for iodines.

The licensee stated that the charcoal absorber was changed each tuesday night and analyzed wednesday. Therefore, it would be available on thursdays. It was agreed that the charcoal absorber would be analyzed by the State and then sent by the State to IHSL for the AEC's analysis. The charcoal absorber obtained will be the one from the plant vent.

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d. Particulate Filter

The contract calls for obtaining a particulate filter three times a year with gamma isotopic and Sr-89 and 90 analyses to be done.

The licensee stated that the particulate filter is changed and counted on the same frequency as the charcoal absorber, however in addition, the filters are saved for compositing and subsequent Sr-89 and 90 analysis. This latter analysis destroys the filter. Therefore, it was agreed that the State would obtain the particulate filter on the first thursday in the month, do the gamma isotopic analysis, and then return the filter to the licensee. This filter will not be sent to IHSL.

To provide an AEC verification test for particulate filters, RO:I annually will supply the licensee with a spiked particulate filter for the licensee to analyze.

5. Reporting Results

It was agreed that both the licensee and the State would report their analytical results to RO:I. Statistical error estimates will also be reported for each measurement. The licensee stated that results will be reported in a timely manner after completion of analyses.

The inspector described how results will be tabulated, compared and then reported. Discrepancies will be resolved.

6. Tour of Facility

The facility was toured. Areas observed were associated with effluent sampling and analyses.

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TYPE	MEDIUM	NUMBER AND LOCATION OF SAMPLES	SAMPLING FREQUENCY	TYPE OF ANALYSIS
Onsite	Liquids	1 Waste Tank	3/year	Gamma Isotopic; Tritium; Gross Beta; Sr 89 and 90
		1 Decay Tank or Off-Gas	3/year	Gamma Isotopic
	Gas	1 Charcoal Absorber - Stack	3/year	Iodines
		1 Particulate Filter - Stack	3/year	Gamma Isotopic; Sr 89 and 90
	External Radiation	4 sites plus 1 background	Change 4 times per year	Total exposure
	Air Particulate	1 site plus 1 background	Continuous	Weekly - Gross Beta Composite - Gamma Isotopic
Offsite	Milk	2 Local Dairy Farms	4/year	Gamma Isotopic; Iodines; Sr 89 and 90
	Edible Vegetation Fish, Shellfish or Mollusks	1 Local	2-4/year	Gamma Isotopic; Sr 89 and 90
	Water	1 Plant Effluent	4/year	Gamma Isotopic; Gross Beta; Tritium

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ATTACHMENT 1