

NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 2248
FILE: Alpha 2

FROM: Metropolitan Edison Co Reading, Pa 19603 R C Arnold			DATE OF DOC 2-24-75	DATE REC'D 2-27-75	LTR XXX	TWX	RPT	OTHER
TO: Mr Lear			ORIG one signed	CC	OTHER	SENT AEC PDR <u>XX</u> SENT LOCAL PDR <u>XX</u>		
CLASS	UNCLASS XXXXXXXX	PROP INFO	INPUT	NO CYS REC'D 1		DOCKET NO: 50-289		

DESCRIPTION:

Ltr re their 1-30-75 submittal....& our
1-8-75 ltr.....trans the following:

ENCLOSURES:

Items requested in support of an Amdt to
their Tech Specs with regard to Air Treat-
ment Systems & the Control Room Filtering
System.....

PLANT NAME: Three Mile Island #1

FOR ACTION/INFORMATION 2-28-75 ehf

BUTLER (L) W/ Copies	SCHWENCER (L) W/ Copies	ZIEMANN (L) W/ Copies	REGAN (E) W/ Copies
CLARK (L) W/ Copies	STOLZ (L) W/ Copies	DICKER (E) W/ Copies	LEAR (L) W/ Copies
PARR (L) W/ Copies	VASSALLO (L) W/ Copies	KNIGHTON (E) W/ Copies	SPELS W/ Copies
KNIEL (L) W/ Copies	PURPLE (L) W/ Copies	YOUNGBLOOD (E) W/ Copies	

INTERNAL DISTRIBUTION

REG FILE NRC PDR OGC, ROOM P-506A GOSSICK/STAFF CASE GIAMBUSSO BOYD MOORE (L) DEYOU'G (L) SKOVHOLT (L) GOLLER (L) (Ltr) P. COLLINS DENISE REG OPR FILE & REGION (2) T.R. WILSON STEELE	TECH REVIEW SCHROEDER MACCARY KNIGHT PAWLICKI SHAO STELLO HOUSTON NOVAK ROSS IPPOLITO TEDESCO LONG LAINAS BENAROYA VOLLMER	DENTON GRIMES GAMMILL KASTNER BALLARD SPANGLER ENVIRO MULLER DICKER KNIGHTON YOUNGBLOOD REGAN PROJECT LDR Norris HARLESS	LIC ASST R. DIGGS (L) H. GEARIN (L) E. GOULBOURNE (L) P. KREUTZER (E) J. LEE (L) M. MAIGRET (L) S. REED (E) M. SERVICE (L) S. SHEPPARD (L) M. SLATER (E) H. SMITH (L) S. TEETS (L) G. WILLIAMS (E) V. WILSON (L) R. INGRAM (L)	A/T IND BRAITMAN SALTZMAN MELTZ PLANS MCDONALD CHAPMAN DUBE (Ltr) E. COUPE PETERSON HARTFIELD (2) KLECKER EISENHUT WIGGINTON
---	---	---	---	---

EXTERNAL DISTRIBUTION

1 - LOCAL PDR <u>Harrisbers, Pa</u>	1 - NATIONAL LABS	1 - PDR-SAN/LA/NY
1 - TIC (ABERNATHY) (1)(2)(10)	1 - W. PENNINGTON, Rm E-201 GT	1 - BROOKHAVEN NAT LAB
1 - NSIC (BUCHANAN)	1 - CONSULTANTS	1 - G. ULRIKSON, ORNL
1 - ASLB	NEWMARK/BLUME/AGBABIAN	1 - AGMED (RUTH GUSSMAN) Rm B-127 GT
1 - Newton Anderson		1 - J. D. RUNKLES, Rm E-201 GT
14 - ACRS HOLDING SENT To L.A. Teets		

1586 273 7911040070 K



METROPOLITAN EDISON COMPANY

FOOT OFFICE BOX 542 READING, PENNSYLVANIA 19603

TELEPHONE 215 - 929-3601

FEB 24 1975

GQL 0792

Mr. George Lear, Chief
Operating Reactors Branch #3
Division of Reactor Licensing
Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Lear:

Three Mile Island Nuclear Station Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289

In response to your letter of January 8, 1975, regarding the licensing of special nuclear, by product, and source materials, and as a follow-up to our Mr. Creitz's letter of January 30, 1975, enclosed please find a portion of Amendment 50 to the TMI-1 Final Safety Analysis Report (FSAR). Amendment 50 was filed under separate cover with the Nuclear Regulatory Commission on February 21, 1975, and the enclosed portion serves to incorporate into the TMI-1 FSAR information described in Regulatory Guide 1.70.3 (dated February, 1974).

With regard to the other two items of information that you requested in your January 8, 1975, letter, please be informed that draft changes to existing license conditions and sections of the TMI-1 Technical Specifications are still under review, and that we presently anticipate being able to complete our reviews and to submit the requested proposed amendments by March 10, 1975.

Sincerely,

R. C. Arnold
Vice President

RCA:DNG:cas

File: 20.1.1/7.7.4.3.3

cc: w/enclosures

GPU Service Corporation
Richard W. Heward, Project Mgr.
Thomas M. Crimmins, Jr., Safety
and Licensing Manager
260 Cherry Hill Road
Parsippany, NJ 07054

G. F. Trowbridge, Esquire
Shaw, Pittman, Potts, Trowbridge & Madden
Barr Building
910 17th St., N.W.
Washington, D.C. 20006

Government Publications Section
State Library of Pennsylvania
Box 1601 (Education Bldg.)
Harrisburg, PA 17126

22 8

1586 274

provided in an appropriately shielded counting room for detecting and measuring all types of radiation as well as equipment (such as a multi-channel analyzer) for the identification of specific radionuclides.

11.5.6 HEALTH PHYSICS INSTRUMENTATION

Portable radiation survey instruments are provided for use by the Health Physics section as well as for operating and maintenance personnel. A variety of instruments has been selected to cover the entire spectrum of radiation measurement problems anticipated at the Three Mile Island Nuclear Station. Sufficient quantities will be obtained to allow for use, calibration, maintenance, and repair. This includes instruments for detecting and measuring alpha, beta, gamma, and neutron radiation. In addition to the portable radiation monitoring instruments, fixed monitoring instruments, i.e., count rate meters, are located at exits from radiation control areas. These instruments are intended to prevent any contamination on personnel, material, or equipment from being spread into unrestricted areas. Appropriate monitoring instruments are available at various locations within the radiation control areas for contamination control purposes. The station has permanently installed area and process radiation monitoring systems. These systems monitor airborne particulate and gaseous radioactivity including iodine, as well as external radiation levels. The systems present audible alarm and radiation level indication in the areas of concern in addition to reading out in the control room.

11.5.7 MEDICAL PROGRAM

A comprehensive medical examination program will be conducted to establish and maintain records of the physical status of each employee at the Three Mile Island nuclear facility. Subsequent medical examinations will be held as necessary. The Radiation Protection Supervisor is responsible for the program and will assist the physicians in maintaining medical control of personnel.

11.6 RADIOACTIVE MATERIALS SAFETY

11.6.1 MATERIALS SAFETY PROGRAM

The following program will be implemented to assure the safe storage, handling, and use of sealed and unsealed special nuclear, source, and byproduct materials.

11.6.1.1 Receipt of Source Material

The method of receipt, date, and description of the contents will be recorded. Each radioactive source will be surveyed for removable contamination at time of receipt. Records of the survey will be maintained. Each source and/or source container will be smeared using cotton swabs or small filter papers. These smears will be counted in the counting laboratory for alpha and/or beta-gamma activity as appropriate. If leakage is confirmed from any source, the source will be repaired or replaced.

Each source will be numbered and recorded in the Health Physics Source Inventory Log.

1586 275

11.6.1.2 Storage of Source Material

All sources, when not being used, will be stored under lock and key. The key will be under the administrative control of the Radiation Protection Supervisor.

11.6.1.3 Source Preparation and Handling

Only personnel trained in Health Physics practices are permitted to handle radioactive sources. These personnel will wear dosimeters/TLD's while handling radioactive sources. When radioactive material containers are opened, a radiation and contamination survey will be taken.

Protective clothing, consisting of rubber gloves, lab coats, and shoe covers will be worn as required during the preparation of the radioactive calibration sources.

All liquid or gaseous radioactive materials will be opened under a ventilation hood. The area where the opened radioactive material is handled will be appropriately marked and posted. Health Physics practices appropriate to the material being handled will be followed.

Standards prepared at the station will be carefully made so as to limit the spread of radioactivity. For liquid sources a cover will be provided for the source container to prevent spillage during transport from the source storage area to the source preparation area and vice versa.

A smear sample will be taken of each prepared source for detection of removable contamination. The detection limit of instrumentation used should be able to detect the presence of .005 microcuries of removable contamination.

11.6.1.4 Disposal of Radioactive Waste Resulting from Source Preparation

Liquid waste which is expected to result from source preparation will be stored in a radioactive waste storage area prior to disposal.

Solid waste consisting of absorbant paper and kimwipes, etc. will be handled in accordance with solid waste handling procedures.

11.6.1.5 Radiological Surveys

A radiation survey and a survey for contamination will be conducted in the laboratory source preparation area after the sources are prepared. In addition, a radiation and contamination survey will be conducted once per week in laboratory areas. Leak testing for radioactive surface contamination will be conducted in accordance with Technical Specifications 4.13 and 3.10.1. Sealed sources are exempt from such leak tests when the source contains 100 μCi or less of alpha-emitting material. The survey detection limit of contamination must be equal to or less than .005 microcuries.

A radiation survey and contamination survey will be conducted once per week in and around the source storage area.

A source inventory will be conducted in accordance with Technical Specification 3.10.2. Records of the inventory will be kept in the Health Physics Laboratory.

11.6.2 FACILITIES AND EQUIPMENT

Three Mile Island Nuclear Station includes a Health Physics Laboratory with facilities and equipment for detecting, analyzing, and measuring all types of radiation and for evaluating radiological problems which may occur. Counting equipment (such as G-M, scintillation, and proportional counters) are provided in an appropriately shielded counting room for detecting and measuring all types of radiation. An example of equipment which will be available to evaluate radiological problems are contained in Table 11-13.

The unit radiochemistry lab and adjacent area is equipped with the following equipment:

- a. Hoods with HEPA and charcoal filters
- b. Laboratory sinks which drain to the liquid radioactive waste disposal system
- c. A continuous air particulate monitor
- d. A hand and foot monitor.

11.6.3 PERSONNEL AND PROCEDURES

The Supervisor, Chemistry and Health Physics, Radiation Protection Supervisor, Chemical Supervisor are responsible for the handling and monitoring of the sealed and unsealed special nuclear, source, and byproduct materials. Resumes for these key personnel are available at the TMI-1 site.

Station Health Physics procedures are written to provide instructions and guidance on radiation protection, sampling, laboratory analyses used to determine concentration and species of radioactive liquids and gases, and calibration of laboratory equipment.

Surveillance procedures are written to ensure compliance with Technical Specification requirements.

11.6.4 REQUIRED SOURCE MATERIAL

The following list indicates the isotope, quantity, form and use for required radioactive material.

<u>Material</u>	<u>Form and Use</u>
1. Americium	Americium-Beryllium - Neutron Source 241 - One (1) Sealed Source - AmO_2 with Be target - Monsanto Research Corp. - No. MCR-N-SS-W -AmBe- One (1) 5 curie - Model 2720
2. Plutonium 239	Plutonium 239 - 2 microcuries - Four (4) Sealed Sources - Eberline Instrument Corp., Santa Fe, New Mexico - Model No. S94-1

- | | |
|------------------------|---|
| 3. Cesium 137 | Sealed Source (ORNL) one (1) 50 curies |
| 4. Cesium 137 | Sealed Source (Atomchem Corp. Model CS-2-10)
one (1) 100 millicuries |
| 5. Cesium 137 | Sealed Source (Amersham/Searle Model X-7) one
(1) 100 millicuries |
| 6. Cobalt 60 | Sealed Source (Amersham/Searle Model CKC) or
(1) 500 millicuries |
| 7. Americium Beryllium | Sealed Sources to be used for reactor start up
two (2) 1100 curies total (2 sources) |
| 8. Uranium 235 | Sealed source as reactor fuel assemblies 10,300
kilograms |

1586 278

POOR ORIGINAL

TABLE 11-13

RADIATION DETECTION INSTRUMENTS

<u>Type of Instruments</u>	<u>Radiation Detected</u>	<u>Sensitivity Range</u>	<u>Window Thickness mg/cm²</u>	<u>Use</u>
Eberline E-520	Beta Gamma	0-2000 R/hr.	30	Survey
Eberline PAC-4S	Alpha	0-2x10 ⁶ cpm.	1.5	Survey
Eberline Teletector #6112	Beta Gamma	0-1000 R/hr.	30	Survey
Eberline PNC-4	Neutrons fast/slow	0-500K cpm.	Neutron Detector BF ₃ tube	Survey
Eberline PNR-4	Neutrons	0-5000 mrem/hr.	Neutron Detector BF ₃ tube	Survey
Victoreen Radector III	Beta Gamma	0-1000 R/hr.	_____	Survey
Nuclear Measurements Corp. Internal Proportional Counter Model PCC-11T	Alpha Beta	4.5x10 ⁻⁹ uc/cc	_____	Laboratory Equipment
Hewlett-Packard #5202L Scaler-Timer	Beta Gamma	1.2x10 ⁻⁹ uc/cc	1.5	Laboratory Equipment

1586 279