

APPENDIX A
TO
FACILITY OPERATING LICENSE NO. DPR-59
TECHNICAL SPECIFICATIONS AND BASES
FOR
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
ENTERGY NUCLEAR FITZPATRICK, LLC (ENF) AND
ENTERGY NUCLEAR OPERATIONS, INC. (ENO)
DOCKET NO. 50-333

Date of Issuance: October 17, 1974

Amendment No. ~~22~~

JAFNPP

3.8 LIMITING CONDITIONS FOR OPERATION

3.8 MISCELLANEOUS RADIOACTIVE MATERIALS SOURCES

Applicability:

Applies to the handling and use of sealed special nuclear, source and by-product material at all times.

Objective:

To assure that leakage from byproduct, source and special nuclear radioactive material sources does not exceed allowable limits.

Specification:

Each sealed source containing radioactive material either in excess of 100 microcuries of beta and/or gamma emitting material or 5 microcuries of alpha emitting material, shall have removable contamination of less than or equal to 0.005 microcuries.

- A. With a sealed source having removable contamination in excess of the above limit, immediately withdraw the sealed source from use, and either:
 - 1. Decontaminate and repair the sealed source, or
 - 2. Dispose of the sealed source in accordance with applicable regulations.

4.8 SURVEILLANCE REQUIREMENTS

4.8 MISCELLANEOUS RADIOACTIVE MATERIALS SOURCES

Applicability:

Applies to the surveillance requirements of sealed special nuclear, source and by-product materials.

Objective:

To specify the surveillances to be applied to sealed special nuclear, source and by-product materials.

Specification:

Tests for leakage and/or contamination shall be conducted as follows:

- A. Each sealed source, except startup sources subject to core flux, containing radioactive material, other than Hydrogen-3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months.
- B. The periodic leak test required does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another user unless they have been leak tested within six months prior to the date of use or transfer. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, sealed source shall not be put into use until tested.
- C. Startup sources shall be leak tested within 31 days prior to being subjected to core flux or installed in the core and following repair or maintenance to the source.
- D. The test method shall have a detection sensitivity of at least 0.005 microcuries per test sample. Testing shall be performed by Entergy Nuclear Operations Inc. or by other persons specifically authorized by the NRC or an agreement state.

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5.0 DESIGN FEATURES

5.1 SITE

- 5.1.1 The James A. FitzPatrick Nuclear Power Plant is located on the Entergy Nuclear FitzPatrick, LLC portion the Nine Mile Point site, approximately 3,000 ft. east of the Nine Mile Point Nuclear Station, Unit 1. The NPP-JAF site is on Lake Ontario in Oswego County, New York, approximately 7 miles northeast of Oswego. The plant is located at coordinates north 4,819,545.012m, east 386,968,945 m, on the Universal Transverse Mercator System.
- 5.1.2 The nearest point on the property line from the reactor building and any points of potential gaseous effluents, with the exception of the lake shoreline, is located at the northeast corner of the property. This distance is approximately 3,200 ft. and is the radius of the exclusion areas as defined in 10 CFR 100.3.

5.2 REACTOR

- 5.2.1 The reactor core consists of not more than 560 fuel assemblies. Each assembly shall consist of a matrix of Zircaloy clad fuel rods with an initial composition of slightly enriched uranium dioxide (UO₂) as fuel material. Fuel assemblies shall be limited to those fuel designs approved by the NRC staff for use in BWRs.
- 5.2.2 The reactor core contains 137 cruciform-shaped control rods as described in Section 3.4 of the FSAR.

5.3 REACTOR PRESSURE VESSEL

The reactor pressure vessel is as described in Table 4.2-1 and 4.2.2 of the FSAR. The applicable design codes are described in Section 4.2 of the FSAR.

5.4 CONTAINMENT

- 5.4.1 The principal design parameters and characteristics for the primary containment are given in Table 5.2-1 of the FSAR.
- 5.4.2 The secondary containment as described in Section 5.3 and the applicable codes are as described in Section 12.4 of the FSAR.
- 5.4.3 Penetrations of the primary containment and piping passing through such penetrations are designed in accordance with standards set forth in Section 5.2 of the FSAR.

Amendment No. ~~30, 42, 49, 64, 66, 74, 109, 117, 162, 256~~

C. Revisions of the ODCM:

1. shall be submitted to the Commission in the Semiannual Radioactive Effluent Release Report for the period in which the revisions were made effective. This submittal shall contain:
 - a. sufficiently detailed information to support the rationale for the revisions without benefit of additional information (information submitted shall consist of revised pages of the ODCM, with each page numbered and provided with an approval and date box, together with appropriate evaluations justifying the revisions);
 - b. a determination that the revisions will not reduce the accuracy or reliability of dose calculation or setpoint determinations; and
 - c. documentation that the revisions have been reviewed and accepted by the PORC.
2. shall become effective upon issue following review and acceptance by the PORC.

6.18 MAJOR MODIFICATIONS TO RADIOACTIVE LIQUID, GASEOUS AND SOLID WASTE TREATMENT SYSTEMS*

- A. Major modifications to radioactive waste systems (liquid, gaseous and solid):
 1. shall be reported to the Commission in the Semiannual Radioactive Effluent Release Report for the period in which the modification is completed and made operational. The discussion of each modification shall contain:
 - a. a summary of the evaluation that led to the determination that the modification could be made in accordance with 10 CFR 50.59;
 - b. sufficient information to support the reason for the modification without benefit of additional or supplemental information; and
 - c. a description of the equipment, components and processes involved and the interfaces with other plant systems.

* Entergy Nuclear Operations, Inc. may elect to submit the information called for in this Specification as part of the annual 10 CFR 50.59 Safety Evaluation Report.

Table 6.2-1

ENTERGY NUCLEAR OPERATIONS, INC.
 JAMES A. FITZPATRICK NUCLEAR POWER PLANT

MINIMUM SHIFT MANNING REQUIREMENTS

	Refuel & Cold Shutdown (fuel in reactor)	Start-up, Shutdown or Run
SRO	1 on site	2 (1 in C. R.)
STA	None	1 on site*
RO	1 in C. R.	2 (1 in C. R.) **
Non-Licensed Operator	1 on site	2 on site
Individual Qualified in Radiation Protection Procedures	1 on site	1 on site

Note: * The STA position may be combined with one of the SRO positions and fulfilled by any individual meeting the dual-role SRO/STA qualification in accordance with Section 6.3.2.

** During startup or planned shutdown; both in Control Room.

- (SRO) - Licensed Senior Operator
- (STA) - Shift Technical Advisor
- (RO) - Licensed Reactor Operator
- (C.R.) - Control Room

RADIOLOGICAL EFFLUENT TECHNICAL SPECIFICATIONS

APPENDIX B

TO

FACILITY OPERATING LICENSE NO. DPR-59

FOR

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
ENERGY NUCLEAR FITZPATRICK, LLC. (ENF) AND
ENERGY NUCLEAR OPERATIONS, INC. (ENO)

DOCKET NO. 50-333

RADIOLOGICAL EFFLUENT TECHNICAL SPECIFICATION

1.0 DEFINITIONS

A. Dose Equivalent I-131

The Dose Equivalent I-131 is the concentration of I-131 (microcuries/gram) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134 and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in International Commission on Radiological Protection Publication 30 (ICRP-30), "Limits for Intake by Workers" or in NRC Regulatory Guide 1.109, Revision 1, October 1977.

B. Instrument Channel Calibration

See Appendix A Technical Specifications.

C. Instrument Channel Functional Test

See Appendix A Technical Specifications.

D. Instrument Check

See Appendix A Technical Specifications.

E. Logic System Function Test

See Appendix A Technical Specifications.

F. Members(s) of the Public

Member(s) of the Public includes all persons who are not occupationally associated with the facilities on the Entergy Nuclear FitzPatrick, LLC (ENF)/(NMPC) Niagara Mohawk Power Corporation site. This category does not include employees of the companies, its contractors or vendors. Also excluded from this category are persons who enter the site to service equipment or to make deliveries. This category does include persons who use portions of the site for recreational, occupational, or other purposes not associated with the plants.

G. Offgas Treatment System

The Offgas Treatment System is the system designed and installed to: reduce radioactive gaseous effluents by collecting primary coolant system offgases from the main condenser; and, providing for delay of the offgas for the purpose of reducing the total radioactivity prior to release to the environment.

H. Offsite Dose Calculation Manual (ODCM)

The ODCM describes the methodology and parameters to be used in the calculation of offsite doses due to radioactive gaseous and liquid effluents and in the calculation of gaseous and liquid effluents monitoring instrumentation alarm/trip set points and in the conduct of the environmental monitoring program.

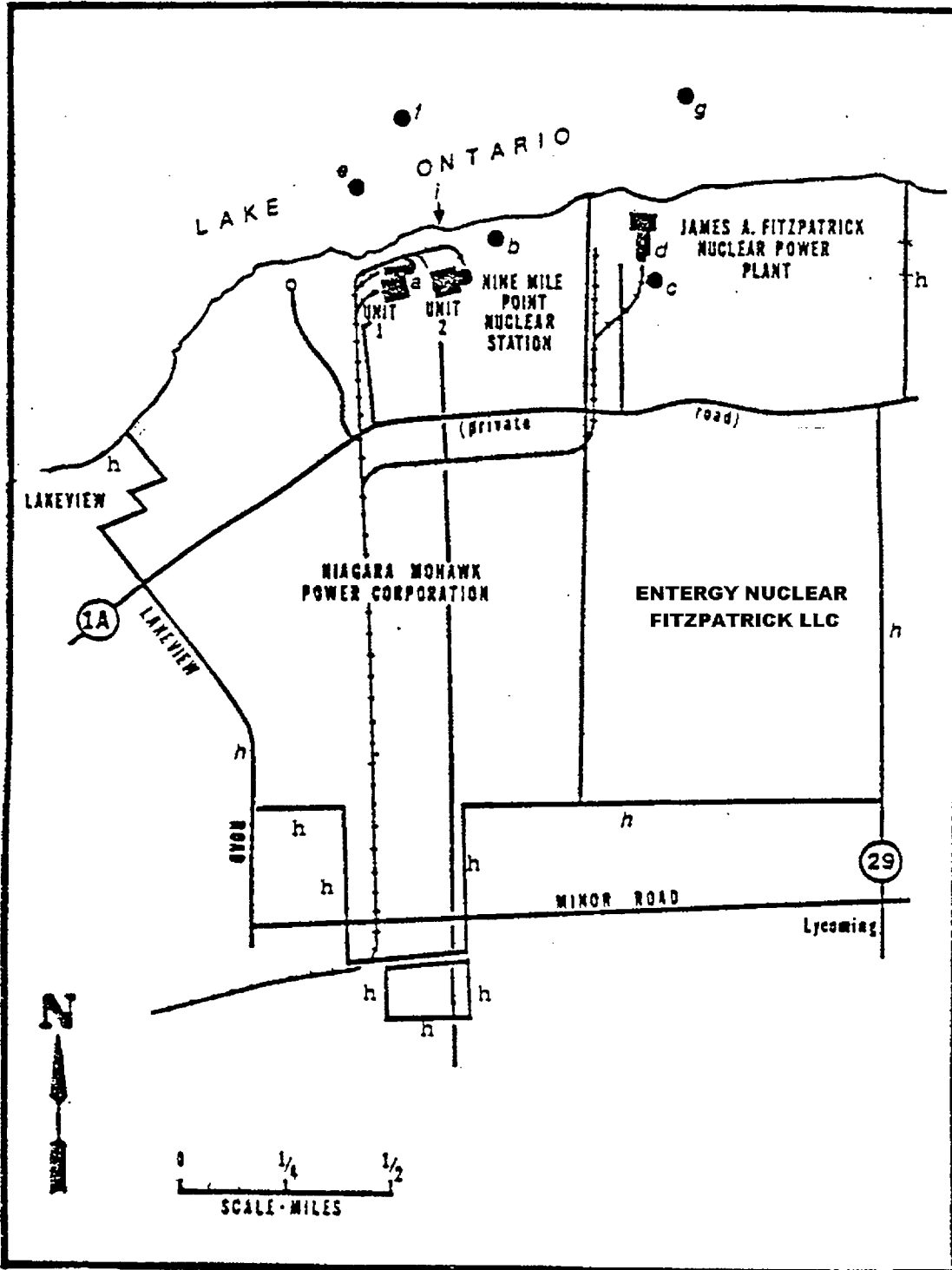
I. Operable

See Appendix A Technical Specifications.

- J. Process Control Program (PCP)
The PCP is a document which identifies the current formulas, sampling methods, analyses, tests, and determinations used to control the processing and packaging of solid radioactive wastes. The PCP controls these activities in such a way as to assure compliance with 10 CFR 20, 10 CFR 61, 10 CFR 71 and other applicable regulatory requirements governing the disposal of the radioactive waste.
- K. Rated Thermal Power
See Rated Power, Appendix A Technical Specifications.
- L. Site Boundary
The Site Boundary is that line beyond which the land is not owned, leased, or otherwise controlled by ENF, ENO or NMPC. Refer to Figure 5.1-1 for the map of the site boundary with regard to liquid and gaseous releases.
- M. Solidification
Solidification is the conversion of wet wastes into a form that meets shipping and burial ground requirements.
- N. Source Check
A Source Check is the qualification assessment of channel response when the channel sensor is exposed to a source of increased radioactivity.
- O. Treatment
Any process which effectively reduces the concentration of radioactive material per unit measure released to the environment. This includes such processes as filtration, evaporation/condensation, settling/decanting, and solidification.
- P. Unrestricted Area
An unrestricted area shall be any area at or beyond the site boundary access to which is not controlled by ENF or ENO for purposes of protection of individuals from exposure to radiation and radioactive material, or any area within the site boundary used for residential quarters or for industrial, commercial, institutional, and/or recreational purposes.

The definition of unrestricted area used in implementing the Radiological Effluent Technical Specifications has been expanded over that in 10 CFR 20.3(a)(17). The unrestricted area boundary may coincide with the exclusion (fenced) area boundary, as defined in 10 CFR 100.3(a), but the unrestricted area does not include areas over water bodies. The concept of unrestricted areas, established at or beyond the site boundary, is utilized in the Limiting Conditions for Operation to keep levels of radioactive materials in liquid and gaseous effluents as low as is reasonably achievable, pursuant to 10 CFR 50.36a.

FIGURE 5.1-1
SITE BOUNDARY MAP



2. The Radioactive Effluent Release Report to be submitted within 60 days after January 1 of each year may include an annual summary of meteorological data collected over the previous year. If the meteorological data is not included, ENO shall retain it on file and provide it to the U.S. Nuclear Regulatory Commission upon request. This same report shall include an assessment of the radiation doses* due to the radioactive liquid and gaseous effluents released from the unit or station during the previous calendar year to the public. All assumptions used in making these assessments (i.e., specific activity, exposure time and location) shall be included in these reports. The assessment of radiation doses shall be performed in accordance with the ODCM.
3. The Radioactive Effluent Release Reports shall include any change to the PCP or the ODCM made during the reporting period, as well as a listing of new locations for dose calculations and/or environmental monitoring indentified by the land use census pursuant to Specification 6.2.
4. The Radioactive Effluent Release Report to be submitted 60 days after January 1 of each year shall also include an assessment of radiation doses* to the likely most exposed member of the public from reactor releases and other nearby uranium fuel cycle sources (including doses from primary effluent pathways and direct radiation) during the previous calendar year, to show conformance with 40 CFR 190, Environmental Radiation Protection Standards for Nuclear Power Operation. This assessment of radiation doses is performed in accordance with the ODCM.
5. The Radioactive Effluent Release Reports shall include the following information for each class of solid waste (defined by 10 CFR 61) shipped offsite during the report period:
 - (a) Container volume;
 - (b) Total curie quantity (specify whether determined by measurement or estimate),
 - (c) Principal radionuclides (specify whether determined by measurement or estimate),
 - (d) Source of waste and processing employed (e.g., dewatered spent resin, compacted dry waste, evaporator bottoms),
 - (e) Type of container (e.g., LSA, Type A, Large Quantity), and
 - (f) Solidification agent or absorbent (e.g., cement, Dow media, etc.)
6. The Radioactive Effluent Release Reports shall include a list and description of unplanned releases, to unrestricted areas of radioactive materials in gaseous and liquid effluents made during the reporting period.

* The dose assessment sections of the Semiannual Radiological Effluent Release Report shall be submitted within 90 days after January 1 of each year as an addendum to the Semiannual Radiological Effluent Release Report.