RADIOLOGICAL TECHNICAL SPECIFICATIONS

APPENDIX A

TO

FACILITY OPERATING LICENSE NO. DPR-63

FOR THE

NINE MILE POINT NUCLEAR STATION UNIT 1

DOCKET NO. 50-220

DECEMBER 26, 1974

AMENDMENT NO.

FOREWORD

These revised specifications supersede in their entirety the previous technical specifications and are issued as Appendix A to Full-Term Operating License DPR-63 issued by the Atomic Energy Commission. The Environmental Technical Specifications are issued as Appendix B to License DPR-63.

1.16 (Deleted)

1.17 (Deleted)

1.18 Gaseous Radwaste Treatment System

A gaseous radwaste treatment system is any system designed and installed to reduce radioactive gaseous effluents by collecting main condenser offgas and providing for delay or holdup for the purpose of reducing the total radioactivity prior to release to the environment.

1.19 Member(s) of the Public

Member(s) of the public shall include persons who are not occupationally associated with the Nine Mile Point Nuclear Station. This category does not include employees of Nine Mile Point Nuclear Station, LLC, the New York State Power Authority, its contractors or vendors who are occupationally associated with Nine Mile Point Unit 1. 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 Nine Mile Point Unit 1.

1.20 Milk Sampling Location

A milk sampling location is that location where 10 or more head of milk animals are available for the collection of milk samples.

1.21 Offsite Dose Calculation Manual (ODCM)

The Offsite Dose Calculational Manual shall contain the current methodology and parameters used in the calculation of offsite doses due to radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm/trip setpoints, and in the conduct of the environmental radiological monitoring program.

1.22 Process Control Program (PCP)

The process control program shall contain the current formula, sampling, analyses, tests, and determinations to be made to ensure that the processing and packaging of radioactive waste, based on demonstrated processing of actual or simulated wet or liquid wastes, will be accomplished in such a way as to assure compliance with 10 CFR Part 20, 10 CFR Part 61, 10 CFR Part 71, and Federal and State regulations and other requirements governing the transport and disposal of radioactive waste.

1.23 Purge - Purging

Purge or purging is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration, or other operating condition, in such a manner that replacement air or gas is required to purify the confinement. The purge is completed when the oxygen concentration exceeds 19.5 percent.

1.24 Site Boundary

The site boundary shall be that line around the Nine Mile Point Nuclear Station beyond which the land is neither owned, leased, nor otherwise controlled by Nine Mile Point Nuclear Station, LLC or the New York Power Authority.

1.25 Solidification

Solidification shall be the conversion of wet or liquid waste into a form that meets shipping and burial ground requirements.

1.26 Source Check

A source check shall be the qualitative assessment of channel response when the channel sensor is exposed to a source of increased radioactivity.

1.27 Unrestricted Area

The unrestricted area shall be any area at or beyond the site boundary access that is not controlled by Nine Mile Point Nuclear Station, LLC or the New York Power Authority for purposes of protection of individuals from exposure to radiation and radioactive materials, or any area within the site boundary used for residential quarters or for industrial, commercial, institutional, and/or recreational purposes. That area outside the restricted area (10 CFR 20.3(a)(14)) but within the site boundary will be controlled by the owner as required.

BASES FOR 3.2.3 AND 4.2.3 COOLANT CHEMISTRY

In its May 8, 1997 letter, the NRC required that the licensee submit an application for amendment to address the differences between the current TS conductivity limits for reactor coolant chemistry and the analysis assumptions for the core shroud crack growth evaluations. The purpose of this specification is to limit intergranular stress corrosion cracking (IGSCC) crack growth rates through the cor trol of reactor coolant chemistry. The LCO values ensure that transient conditions are acted on to restore reactor coolant chemistry values to normal in a reasonable time frame. Under transient conditions, potential crack growth rates could exceed analytical assumptions, however, the duration will be limited so that any effect on potential crack growth is minimized and the design basis assumptions are maintained. The plant is normally operated such that the average coolant chemistry for the operating cycle is maintained at the conservative values of < 0.19 μmho/cm for conductivity and < 5 ppb for chloride ions and < 5 ppb for sulfate ions. This will ensure that the crack growth rate is bounded by the core shroud analysis assumptions. Since these are average values, there are no specific LCO actions to be taken if these values are exceeded at a specific point in time. The EPRI "BWR Water Chemistry Guidelines-1996 Revision" (EPRI TR-103515-R1, BWRVIP-29) action level 1 guidelines suggest that if conductivity is above 0.3 μS/cm, or chloride or sulfate ions exceed 5 ppb, that corrective action be initiated as soon as possible and to restore levels below level 1 within 96 hours. If the parameters are not reduced to below these levels within 96 hours, complete a review and implement a program and schedule for implementing corrective measures.

Specifications 3.2.3a, b, and c are consistent with the licensee's commitment to Table 4.4 of the BWR water chemistry guidelines. The 24 hour action time period for exceeding the coolant chemistry limits described in 3.2.3a and b ensures that prompt action is taken to restore coolant chemistry to normal operating levels. The requirement to commence a shutdown within 1 hour, and to be shutdown and reactor coolant temperature be reduced to < 200 degrees F within 10 hours minimizes the potential for IGSCC crack growth. Reactor water samples are analyzed daily to ensure that reactor water quality remains within the BWR water chemistry guidelines. These samples are analyzed and compared to action level 1 values.

The conductivity of the reactor coolant is continuously monitored. The continuous conductivity monitor is visually checked shiftly in accordance with procedures. The monitor alarms at the local panel. The recorder, which is located in the Control Room, alarms in the Control Room. The samples of the coolant which are analyzed for conductivity daily will serve as a comparison with the continuous conductivity monitor. The primary sample point for the reactor water conductivity samples is the non-regenerative heat exchanger in the reactor water cleanup system. An alternate sample point is the #11 recirculation loop. The reactor coolant samples will also be used to determine the chloride and sulfate concentrations. Therefore, the sampling frequency is considered adequate to detect long-term changes in the chloride and sulfate ion content. However, if the conductivity becomes abnormal (>0.19 μmho/cm), other than short term spikes, chloride and sulfate measurements will be made within 8 hours to assure that the normal limits (< 5 ppb of chloride or sulfate ions) are maintained. A short term spike is defined as a rise in conductivity (> 0.19 μmho/cm) such as that which could arise from injection of additional feedwater flow for a duration of approximately 30 minutes in time. These actions will minimize the potential for IGSCC crack growth.

NMP1 will use Noble Metal Chemical Addition (NMCA) as a method to enhance the effectiveness of Hydrogen Water Chemistry (HWC) in mitigating IGSCC. NMCA will result in temporary increases in reactor coolant conductivity values during and following application. During application, the conductivity limit specified in 3.2.3a and 3.2.3c.1 is increased to 20 μmho/cm. The application period includes post-NMCA injection cleanup activities conducted prior to returning the plant to power operation. An increase in conductivity is expected principally due to residual ionic species from the NMCA. However, these species have minor effects on IGSCC and are, therefore, acceptable. During NMCA, samples will be obtained from the temporary skid which is placed in service during the NMCA injection process.

BASES FOR 3.2.6 AND 4.2.6 INSERVICE INSPECTION AND TESTING

The inservice inspection and testing programs[1][2] for the Nine Mile Point Unit 1 plant conform to the requirements of 10CFR50, Section 50.55a(f) and (g). Where practical, the inspection of components, pumps and valves classified into NRC Quality Groups A, B and C conforms to the requirements of ASME Code Class 1, 2 and 3 components, pumps, and valves, respectively, contained in Section XI of the ASME Boiler and Pressure Vessel Code. If a Code required inspection is impractical for the Nine Mile Point Unit 1 facility, a request for relief from that requirement is submitted to the Commission in accordance with 10CFR50, Section 50.55a(f)(6)(i) and Section 50.55a(g)(6)(i).

Request for relief from the requirements of Section XI of the ASME Code and applicable Addenda will be submitted to the Commission prior to the beginning of each 10-year inspection interval if they are known to be required at the time. Requests for relief which are identified during the course of inspection will be submitted quarterly throughout the inspection interval.

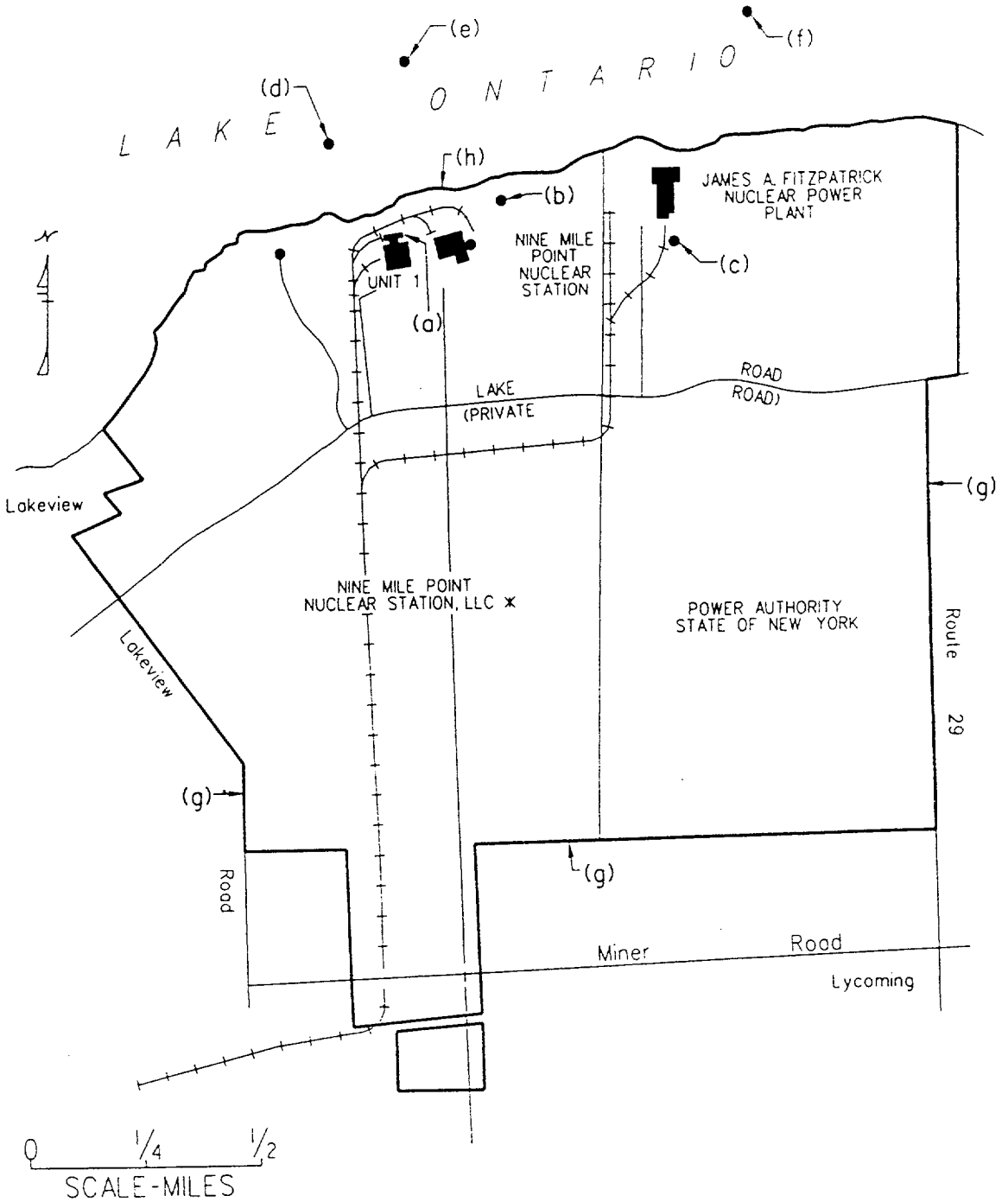
The inservice inspection program for piping conforms to the staff positions on schedules, methods, personnel and sample expansion contained in Generic Letter 88-01.[3] It is performed in order to detect and survey intergranular stress corrosion cracking of BWR austenitic stainless steel piping that is four inches or larger in nominal diameter and contains reactor coolant at a temperature above 200°F during power operation. Inspections shall be performed by individuals qualified to: (A) the ASME Boiler and Pressure Vessel Code, Section XI, and (B) Ultrasonic Testing Operator Training for the Detection of Intergranular Stress Corrosion Cracking developed by the EPRI Non-Destructive Examination Center. As an alternate, the licensee may use other qualification programs approved by the NRC.

References

(1) Letter from the Nuclear Regulatory Commission (D. B. Vassallo) to Niagara Mohawk Power Corporation (G. K. Rhode), dated September 19, 1983.

(2) Letter from Niagara Mohawk Power Corporation (D. P. Dise) to the Nuclear Regulatory Commission (T. A. Ippolito), dated August 7, 1981.

(3) Generic Letter 88-01 endorses NUREG 0313 Revision 2, "Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping," dated January 1988.



* Niagara Mohawk Power Corporation retains ownership in certain transmission line and switchyard facilities within the exclusion area boundary. Access and usage are controlled by Nine Mile Point Nuclear Station, LLC by Agreement.

FIGURE 5.1-1
SITE BOUNDARIES
NINE MILE POINT - UNIT 1

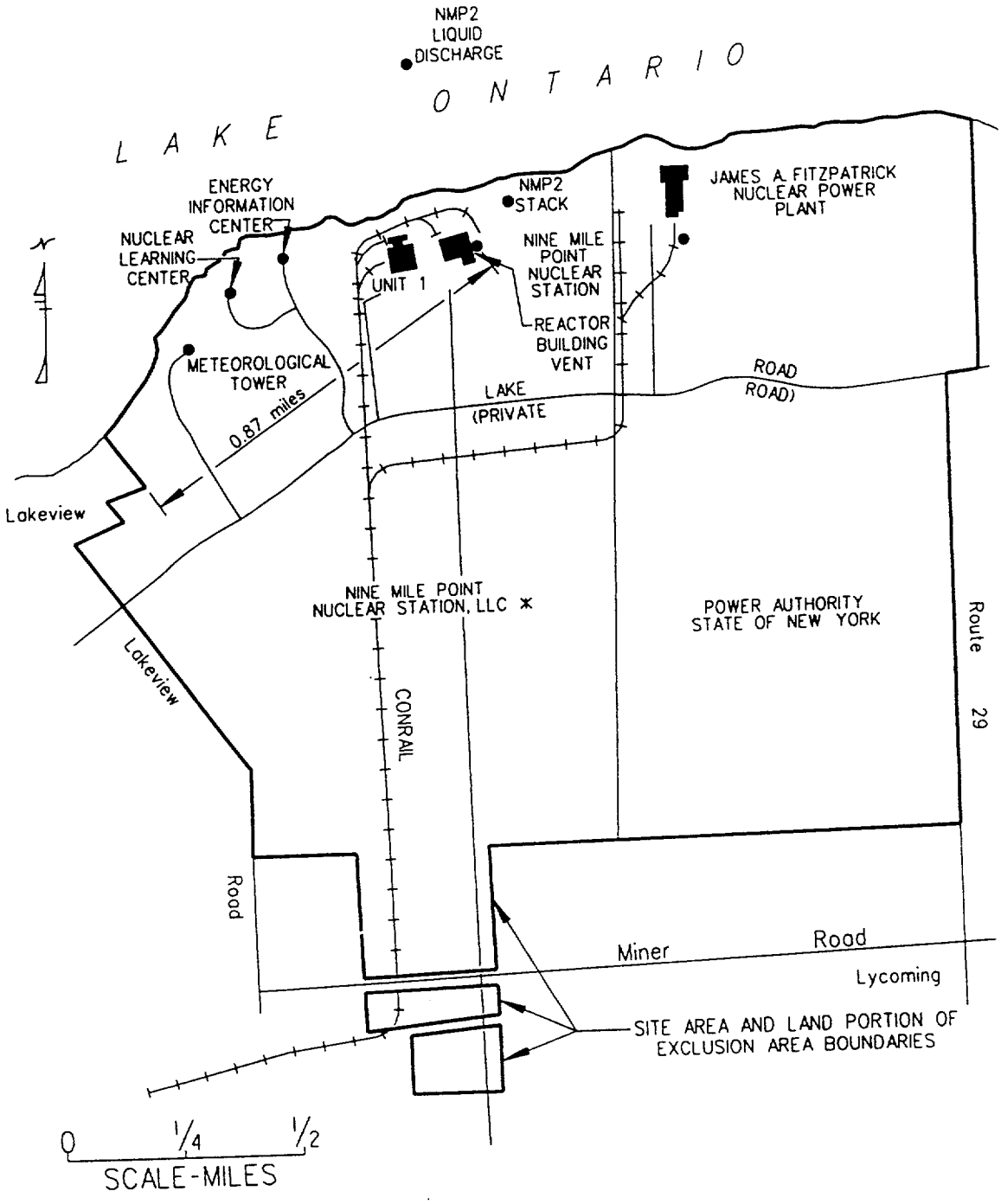


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Figure 4.1-1 (Page 1 of 1)
Site Area and Land Portion of Exclusion Area Boundaries

APPENDIX B

TO FACILITY OPERATING LICENSE NO. NPF-69
NINE MILE POINT NUCLEAR STATION UNIT 2

DOCKET NO. 50-410

ENVIRONMENTAL PROTECTION PLAN
(NONRADIOLOGICAL)