



John H. Mueller
Senior Vice President and
Chief Nuclear Officer

Phone: 315.349.7907
Fax: 315.349.1321
e-mail: muellerj@nimo.com

October 19, 2001
NMP1L 1617

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

RE: Nine Mile Point Unit 1
 Docket No. 50-220
 DPR-63
 TAC No. MB2442

Subject: *Application for Amendment to the Technical Specifications Incorporating the
 Recommendations of Generic Letter 89-01*

Gentlemen:

Niagara Mohawk Power Corporation (NMPC) hereby transmits an Application for Amendment to the Nine Mile Point Unit 1 (NMP1) Technical Specifications (TSs) as set forth in Appendix A of Operating License DPR-63. The proposed changes to the TSs contained herein: (1) implement programmatic controls for radiological effluent technical specifications (RETS) in the Administrative Controls section of the TSs, (2) relocate existing procedural details to licensee-controlled documents or new programs to accommodate the incorporation of Generic Letter (GL) 89-01 and the relevant portions of the Improved Standard Technical Specifications (NUREG-1433), and (3) update the references to 10 CFR 20.1 - 20.602 with the corresponding references to 10 CFR 20.1001 - 20.2402 in conformance to NUREG-1433.

Enclosed as Attachment A are the proposed changes to the NMP1 TSs. The supporting information and analysis pursuant to 10 CFR 50.92 which demonstrate that the proposed changes do not involve a significant hazards consideration are included as Attachment B. To assist the NRC Staff with their review, Attachment C includes hand mark-up copies of the affected current TS and Bases pages with each change annotated to correspond to the evaluation provided in Table 1 of Attachment B. The Bases pages are provided for information only and do not require issuance by the NRC. Attachment D includes the basis for concluding that this application meets the criteria of 10 CFR 51.22 for categorical exclusion from performing an environmental assessment.

A proposed revision of the Offsite Dose Calculation Manual (ODCM) is included as Attachment E, which incorporates the relocated regulatory requirements and procedural details from the RETS consistent with NUREG-1302, "Offsite Dose Calculation Manual Guidance: Standard

A001

Radiological Effluent Controls for Boiling Water Reactors (GL 89-01, Supplement 1)." As specified in GL 89-01, a complete copy of the revised ODCM is forwarded for NRC use as a reference.

Upon NRC approval of this application, NMPC requests that the license amendment be issued with at least 60 days allowed for implementation.

Pursuant to 10 CFR 50.91(b)(1), NMPC has provided a copy of this license amendment application and the associated analysis regarding no significant hazards consideration to the appropriate state representative.

Very truly yours,

A handwritten signature in black ink, appearing to read "John H. Mueller", is written over a horizontal line.

John H. Mueller
Senior Vice President and
Chief Nuclear Officer

JHM/CDM/cld
Attachments

cc: Mr. H. J. Miller, NRC Regional Administrator, Region I
Mr. G. K. Hunegs, NRC Senior Resident Inspector
Mr. P. S. Tam, Senior Project Manager, NRR (2 copies)
Mr. John P. Spath
 NYSERDA
 286 Washington Avenue Ext.
 Albany, NY 12203-6399
Records Management

UNITED STATES NUCLEAR REGULATORY COMMISSION

In the Matter of

Niagara Mohawk Power Corporation

Nine Mile Point Unit 1

)
)
)
)
)

Docket No. 50-220

APPLICATION FOR AMENDMENT TO OPERATING LICENSE

Pursuant to Section 50.90 of the Regulations of the Nuclear Regulatory Commission, Niagara Mohawk Power Corporation, holder of Facility Operating License No. DPR-63 for Nine Mile Point Unit 1 (NMP1), hereby requests an amendment to the Technical Specifications (TSs) set forth in Appendix A to the License. The proposed changes to the TSs contained herein: (1) implement programmatic controls for radiological effluent technical specifications (RETS) in the Administrative Controls section of the TSs, (2) relocate existing procedural details to licensee-controlled documents or new programs to accommodate the incorporation of Generic Letter (GL) 89-01 and the relevant portions of the Improved Standard Technical Specifications (NUREG-1433), and (3) update the references to 10 CFR 20.1 - 20.602 with the corresponding references to 10 CFR 20.1001 - 20.2402 in conformance to NUREG-1433.

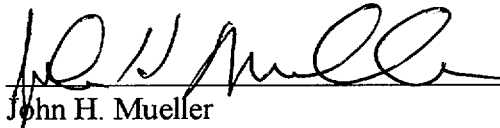
Enclosed as Attachment A are the proposed changes to the NMP1 TSs. The supporting information and analysis pursuant to 10 CFR 50.92 which demonstrate that the proposed changes do not involve a significant hazards consideration are included as Attachment B. To assist the NRC Staff with their review, Attachment C includes hand mark-up copies of the affected current TS and Bases pages with each change annotated to correspond to the evaluation provided in Table 1 of Attachment B. The Bases pages are provided for information only and do not require issuance by the NRC. Attachment D includes the basis for concluding that this application meets the criteria of 10 CFR 51.22 for categorical exclusion from performing an environmental assessment. The proposed changes have been reviewed in accordance with Section 6.5 of the TSs.

The Offsite Dose Calculation Manual (ODCM) has been revised to incorporate the relocated regulatory requirements and procedural details from the RETS consistent with NUREG-1302, "Offsite Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Boiling Water Reactors (GL 89-01, Supplement 1)." As specified in GL 89-01, a complete copy of the revised ODCM is forwarded as Attachment E to this license amendment application for NRC use as a reference.

WHEREFORE, Applicant respectfully requests that Appendix A to Facility Operating License No. DPR-63 be amended in the form attached hereto as Attachment A.

NIAGARA MOHAWK POWER CORPORATION

By



John H. Mueller
Senior Vice President and
Chief Nuclear Officer

Subscribed and sworn to before me
on this 19 day of October, 2001.


NOTARY PUBLIC

LISA M. CLARK
Notary Public in the State of New York
Oswego County Reg. No. 01CL6029220
My Commission Expires 8/9/2005

ATTACHMENT A

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. DPR-63

DOCKET NO. 50-220

Proposed Changes to the Current Technical Specifications

Replace the existing Technical Specification (TS) pages listed below with the attached revised pages. The revised pages have been retyped in their entirety, incorporating the changes, and include marginal markings (revision bars) to indicate the changes.

<u>Remove</u>	<u>Insert</u>
iii	iii
iv	iv
vi	vi
6	6
7	7
8	8
191	191
192	192
196	196
252	252
282	282
283 through 294	----
295	295
296	296
297	297
298 through 338	----
362	362
363	363
364	364
365	365
366	366
368	368
369	369
371	371
----	371a
----	371b
372	372
----	372a
374	374
----	375
----	376

SECTION	DESCRIPTION	PAGE
3.3.4	Isolation Valves	143
3.3.5	Access Control	151
3.3.6	Vacuum Relief	153
3.3.7	Containment Spray	159
3.4.0	Secondary Containment	164
	<u>Limiting Condition for Operation</u>	
3.4.1	Leakage Rate	165
3.4.2	Isolation Valves	168
3.4.3	Access Control	170
3.4.4	Emergency Ventilation	173
3.4.5	Control Room Ventilation	178
3.5.0	Shutdown and Refueling	182
	<u>Limiting Condition for Operation</u>	
3.5.1	Source Range Monitoring	183
3.5.2	Refueling Platform Interlock	186
3.6.0	General Reactor Plant	191
	<u>Limiting Condition for Operation</u>	
3.6.1	Mechanical Vacuum Pump Isolation	192
3.6.2	Protective Instrumentation	194
3.6.3	Emergency Power Sources	255
3.6.4	Shock Suppressors (Snubbers)	259
4.3.4	Isolation Valves	143
4.3.5	Access Control	151
4.3.6	Vacuum Relief	153
4.3.7	Containment Spray	159
	<u>Surveillance Requirements</u>	
4.4.1	Leakage Rate	165
4.4.2	Isolation Valves	168
4.4.3	Access Control	170
4.4.4	Emergency Ventilation	173
4.4.5	Control Room Ventilation	178
	<u>Surveillance Requirements</u>	
4.5.1	Source Range Monitoring	183
4.5.2	Refueling Platform Interlock	186
	<u>Surveillance Requirements</u>	
4.6.1	Mechanical Vacuum Pump Isolation	192
4.6.2	Protective Instrumentation	194
4.6.3	Emergency Power Sources	255
4.6.4	Shock Suppressors (Snubbers)	259

SECTION	DESCRIPTION	PAGE
3.6.5	Radioactive Material Sources	265
3.6.6	Through 3.6.10 (Deleted)	
3.6.11	Accident Monitoring Instrumentation	268
3.6.12	Reactor Protection System and Reactor Trip System Power Supply Monitoring	274
3.6.13	Remote Shutdown Panels	277
3.6.14	(Deleted)	
3.6.15	Main Condenser Offgas	295
3.6.16	Through 3.6.22 (Deleted)	
3.7.1	Special Test Exceptions - Shutdown Margin Demonstration	339

SECTION	DESCRIPTION	PAGE
6.10	Record Retention	370
6.11	Offsite Dose Calculation Manual (ODCM)	371
6.12	High Radiation Area	371a
6.13	Fire Protection Inspection	373
6.14	Systems Integrity	373
6.15	Iodine Monitoring	373
6.16	10 CFR 50 Appendix J Testing Program Plan	373
6.17	Radioactive Effluent Controls Program	374
6.18	Explosive Gas and Storage Tank Radioactivity Monitoring Program	375

1.16 (Deleted)

1.17 (Deleted)

1.18 (Deleted)

1.19 (Deleted)

1.20 (Deleted)

1.21 (Deleted)

1.22 (Deleted)

1.23 (Deleted)

1.24 (Deleted)

1.25 (Deleted)

1.26 (Deleted)

1.27 (Deleted)

1.28 (Deleted)

1.29 (Deleted)

1.30 Reactor Coolant Leakage

a. Identified Leakage

- (1) Leakage into closed systems, such as pump seal or valve packing leaks that are captured, flow metered and conducted to a sump or collecting tank, or
- (2) Leakage into the primary containment atmosphere from sources that are both specifically located and known not to be from a through-wall crack in the piping within the reactor coolant pressure boundary.

b. Unidentified Leakage

All other leakage of reactor coolant into the primary containment area.

1.31 Core Operating Limits Report

The CORE OPERATING LIMITS REPORT is the unit-specific document that provides core operating limits for the current operating reload cycle. These cycle-specific core operating limits shall be determined for each reload cycle in accordance with Specification 6.9.1f. Plant operation within these operating limits is addressed in individual specifications.

3.6.0 GENERAL REACTOR PLANT

A) GENERAL APPLICABILITY

Applies to mechanical vacuum pump isolation, reactor protection system and emergency power sources.

B) GENERAL OBJECTIVE

LIMITING CONDITIONS FOR OPERATION - To define the lowest functional capability or performance level of the equipment to assure overall Station safety.

SURVEILLANCE REQUIREMENTS - To define the test or inspection required to assure the functional capability or performance level of this equipment.

LIMITING CONDITION FOR OPERATION**3.6.1 MECHANICAL VACUUM PUMP ISOLATION**

- a. (Deleted)
- b. The mechanical vacuum pump line shall be capable of automatic isolation by closure of the air-operated valve upstream of the pumps. The signal to initiate isolation shall be from high radioactivity (five times normal) in the main steam line.

SURVEILLANCE REQUIREMENT**4.6.1 MECHANICAL VACUUM PUMP ISOLATION**

- a. (Deleted)
- b. At least once during each operating cycle (prior to startup), verify automatic securing and isolation of the mechanical vacuum pump.

LIMITING CONDITION FOR OPERATION**SURVEILLANCE REQUIREMENT**

- (8) Mechanical Vacuum Pump Isolation - The mechanical vacuum pump shall be isolated or the instrument channel shall be considered inoperable and Specification 3.6.1 shall be applied.
- (9) Diesel Generator Initiation - The diesel generator shall be considered inoperable and Specification 3.6.3 shall be applied.
- (10) Emergency Ventilation Initiation - The emergency ventilation system shall be considered inoperable and Specification 3.4.4 shall be applied.
- (11) High Pressure Coolant Injection Initiation - The high pressure coolant injection system shall be considered inoperable and Specification 3.1.8.c shall be applied.
- (12) Control Room Ventilation - The control room ventilation system shall be considered inoperable and Specification 3.4.5 shall be applied.

BASES FOR 3.6.2 AND 4.6.2 PROTECTIVE INSTRUMENTATION

High Flow-Main Steam Line, ± 1 psid

High Flow-Emergency Cooling Line, ± 1 psid

High Area Temperature-Main Steam Line, $\pm 10^{\circ}\text{F}$

High Area Temperature-Clean-up and Shutdown, $\pm 6^{\circ}\text{F}$

High Radiation-Main Steam Line, +100% and -50% of set point value

High Radiation-Reactor Building Vent, +100% and -50% of set point

High Radiation-Refueling Platform, +100% and -50% of set point

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with NEDC-30851P-A, "Technical Specification Improvement Analyses for BWR Reactor Protection System," and MDE-77-0485, "Technical Specification Improvement Analysis for Nine Mile Point Nuclear Station, Unit 1."

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with NEDC-30851P-A Suppl2, "Technical Specification Improvement Analyses for BWR Isolation Instrumentation Common to RPS and ECCS Instrumentation," and with NEDC-31677P-A, "Technical Specification Improvement Analyses for BWR Isolation Actuation Instrumentation." Because of local high radiation, testing instrumentation in the area of the main steam line isolation valves can only be done during periods of Station shutdown. These functions include high area temperature isolation and isolation valve position scram.

Pages 282 Through 294 Deleted

LIMITING CONDITION FOR OPERATION

3.6.15 MAIN CONDENSER OFFGAS

Applicability:

Applies to the radioactive effluents from the main condenser.

Objective:

To assure that radioactive material is not released to the environment in any uncontrolled manner and is within the limits of 10CFR20 and 10CFR50 Appendix I.

Specification:

The gross radioactivity (beta and/or gamma) rate of noble gases measured at the recombiner discharge shall be limited to less than or equal to 500,000 $\mu\text{Ci/sec}$. This limit can be raised to 1 Ci/sec. for a period not to exceed 60 days provided the offgas treatment system is in operation.

With the gross radioactivity (beta and/or gamma) rate of noble gases at the recombiner discharge exceeding the above limits, restore the gross radioactivity rate to within its limit within 72 hours or be in at least Hot Shutdown within the next 12 hours.

SURVEILLANCE REQUIREMENT

4.6.15 MAIN CONDENSER OFFGAS

Applicability:

Applies to the periodic test and recording requirements of main condenser offgas.

Objective:

To ascertain that radioactive effluents from the main condenser are within allowable values of 10CFR20, Appendix B and 10CFR50, Appendix I.

Specification:

The gross radioactivity (beta and/or gamma) rate of noble gases from the recombiner discharge shall be determined to be within the limits of Specification 3.6.15 at the following frequencies by performing an isotopic analysis of a representative sample of gases taken at the recombiner discharge:

Monthly:

Within 4 hours following an increase on the recombiner discharge monitor of greater than 50%, factoring out increases due to changes in thermal power level and dilution flow changes.

BASES FOR 3.6.15 AND 4.6.15 MAIN CONDENSER OFFGAS

Restricting the gross radioactivity rate of noble gases from the main condenser provides assurance that the total body exposure to an individual at the exclusion area boundary will not exceed a very small fraction of the limits of 10CFR Part 100 in the event this effluent is inadvertently discharged directly to the environment without treatment. This specification implements the requirements of General Design Criteria 60 and 64 of Appendix A to 10CFR Part 50. The primary purpose of providing this specification is to limit buildup of fission product activity within the station systems which would result if high fuel leakage were to be permitted over extended periods.

Pages 297 Through 338 Deleted

- b. Occupational Radiation Exposure Report. A tabulation on an annual basis of the number of station, utility, and other personnel (including contractors), for whom monitoring was performed, receiving an annual deep dose equivalent of >100 mrem and the associated collective deep dose equivalent (reported in man-rem) according to work and job functions (e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling). This tabulation supplements the requirements of 10 CFR 20.2206. The dose assignments to various duty functions may be estimated based on pocket ion chamber, thermoluminescence dosimeter (TLD), electronic dosimeter, or film badge measurements. Small exposures totaling <20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total deep dose equivalent received from external sources should be assigned to specific major work functions. The report covering the previous calendar year shall be submitted by April 30 of each year.
- c. Monthly Operating Report. Routine reports of operating statistics and shutdown experience including documentation of challenges to the safety relief valves or safety valves, shall be submitted on a monthly basis, which will include a narrative of operating experience, in accordance with 10 CFR 50.4, no later than the 15th of each month following the calendar month covered by the report.

d. Annual Radiological Environmental Operating Report*.

The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted by May 15 of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the radiological environmental monitoring program for the reporting period. The material provided shall be consistent with the objectives outlined in the Offsite Dose Calculation Manual (ODCM), and in 10 CFR 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.

The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in a supplementary report as soon as possible.

- * A single submittal may be made for a multiple unit station. The submittal should combine sections common to all units at the station.

e. Radioactive Effluent Release Report*

The Radioactive Effluent Release Report covering the operation of the unit shall be submitted in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be consistent with the objectives outlined in the ODCM and the Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR 50, Appendix I, Section IV.B.1.

* A single submittal may be made for a multiple unit station. The submittal should combine sections common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

This Page Intentionally Blank

f. CORE OPERATING LIMITS REPORT

1. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle for the following:
 - 1) The AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR) for Specification 3.1.7.a and 3.1.7.e.
 - 2) The K_f core flow adjustment factor for Specification 3.1.7.c.
 - 3) The MINIMUM CRITICAL POWER RATIO (MCPR) for Specification 3.1.7.c and 3.1.7.e.
 - 4) The LINEAR HEAT GENERATION RATE for Specification 3.1.7.b.
 - 5) The Power/Flow relationship for Specification 3.1.7.d and e.and shall be documented in the CORE OPERATING LIMITS REPORT.
2. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents.

6.9.3 Special Reports

Special reports shall be submitted in accordance with 10 CFR 50.4 to the Regional Office within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirements of the applicable reference specification:

- a. Reactor Vessel Material Surveillance Specimen Examination, Specification 4.2.2(b) (12 months).
- b. Safety Class 1 Inservice Inspection, Specification 4.2.6 (Three months).
- c. Safety Class 2 Inservice Inspections, Specification 4.2.6 (Three months).
- d. Safety Class 3 Inservice Inspections, Specification 4.2.6 (Three months).
- e. Primary Containment Leakage Testing, Specification 3.3.3 (Three months).
- f. Secondary Containment Leakage Testing, Specification 3.4.1 (Three months).
- g. Sealed Source Leakage In Excess Of Limits, Specification 3.6.5.2 (Three months).

This Page Intentionally Blank

- e. Records of gaseous and liquid radioactive material released to the environs.
- f. Records of transient or operational cycles for those facility components designed for a limited number of transients or cycles.
- g. Records of training and qualification for current members of the plant staff.
- h. Records of in-service inspections performed pursuant to these Technical Specifications.
- i. Records of Quality Assurance activities required by the QA Manual.
- j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
- k. Records of meetings of the SORC and the SRAB.

6.11 Offsite Dose Calculation Manual (ODCM)

- a. The ODCM shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gases and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm and trip setpoints, and in the conduct of the radiological environmental monitoring program; and
- b. The ODCM shall also contain the radioactive effluent controls and radiological environmental monitoring activities, and descriptions of the information that should be included in the Annual Radiological Environmental Operating, and Radioactive Effluent Release Reports required by Specification 6.9.1.d and Specification 6.9.1.e.
- c. Licensee initiated changes to the ODCM:
 - 1. Shall be documented and records of reviews performed shall be retained. This documentation shall contain:
 - (a) Sufficient information to support the change(s) together with the appropriate analyses or evaluations justifying the change(s), and
 - (b) A determination that the change(s) maintain the levels of radioactive effluent control required by 10 CFR 20.1302, 40 CFR 190, 10 CFR 50.36a, and 10 CFR 50, Appendix I, and do not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations;

2. Shall become effective after the approval of the plant manager or a designee; and
3. Shall be submitted to the NRC in the form of a complete, legible copy of the entire ODCM as a part of, or concurrent with, the Radioactive Effluent Release Report for the period of the report in which any change in the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (i.e., month and year) the change was implemented.

6.12 High Radiation Area

As provided in paragraph 20.1601(c) of 10 CFR Part 20, the following controls shall be applied to high radiation areas in place of the controls required by paragraph 20.1601(a) and (b) of 10 CFR Part 20.

- 6.12.1 High Radiation Areas with Dose Rates not Exceeding 1.0 rem/hour (at 30 centimeters from the radiation sources or from any surface penetrated by the radiation).
- a. Each entryway to such an area shall be barricaded and conspicuously posted as a high radiation area. Such barricades may be opened as necessary to permit entry or exit of personnel or equipment.
 - b. Access to, and activities in, each such area shall be controlled by means of Radiation Work Permit (RWP) or equivalent that includes specification of radiation dose rates in the immediate work area(s) and other appropriate radiation protection equipment and measures.
 - c. Individuals qualified in radiation protection procedures and personnel continuously escorted by such individuals may be exempted from the requirement for an RWP or equivalent while performing their assigned duties provided that they are following plant radiation protection procedures for entry to, exit from, and work in such areas.
 - d. Each individual or group entering such an area shall possess at least one of the following:
 1. A radiation monitoring device that continuously displays radiation dose rates in the area ("radiation monitoring and indicating device").
 2. A radiation monitoring device that continuously integrates the radiation dose rates in the area and alarms when the device's dose alarm setpoint is reached ("alarming dosimeter"), with an appropriate alarm setpoint.

3. A radiation monitoring device that continuously transmits dose rate and cumulative dose to a remote receiver monitored by radiation protection personnel responsible for controlling personnel radiation exposure within the area.
 4. A self-reading dosimeter and,
 - (a) Be under the surveillance, as specified in the RWP or equivalent, while in the area, of an individual at the work site, qualified in radiation protection procedures, equipped with a radiation monitoring and indicating device who is responsible for controlling personnel radiation exposure within the area, or
 - (b) Be under the surveillance, as specified in the RWP or equivalent, while in the area, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area.
- e. Except for individuals qualified in radiation protection procedures, entry into such areas shall be made only after dose rates in the area have been established and entry personnel are knowledgeable of them.

6.12.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour (at 30 centimeters from the radiation source or from any surface penetrated by the radiation), but less than 500 rads/hour (at 1 meter from the radiation source or from any surface penetrated by the radiation).

- a. Each entryway to such an area shall be conspicuously posted as a high radiation area and shall be provided with a locked door, gate, or guard that prevent unauthorized entry, and in addition:
 - 1. All such door and gate keys shall be maintained under the administrative control of the Station Shift Supervisor - Nuclear or a designee, or the radiation protection manager or a designee; and
 - 2. Doors and gates shall remain locked or guarded except during periods of personnel entry or exit.
- b. Access to, and activities in, each such area shall be controlled by means of an RWP or equivalent that includes specification of radiation dose rates in the immediate work area(s) and other appropriate radiation protection equipment and measures.
- c. Individuals qualified in radiation protection procedures may be exempted from the requirement for an RWP or equivalent while performing radiation surveys in such areas provided that they are following plant radiation protection procedures for entry to, exit from, and work in such areas.
- d. Each individual (whether alone or in a group) entering such an area shall possess at least one of the following:
 - 1. An alarming dosimeter with an appropriate alarm setpoint.
 - 2. A radiation monitoring device that continuously transmits dose rate and cumulative dose to a remote receiver monitored by radiation protection personnel responsible for controlling personnel radiation exposure within the area with the means to communicate with and control every individual in the area.
 - 3. A self-reading dosimeter and,

- (a) Be under the surveillance, as specified in the RWP or equivalent, while in the area, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring and indicating device who is responsible for controlling personnel exposure within the area, or
 - (b) Be under the surveillance, as specified in the RWP or equivalent, while in the area, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area, and with the means to communicate with and control every individual in the area.
- 4. A radiation monitoring and indicating device in those cases where the option of Specifications 6.12.2.d.2 and 6.12.2.d.3, above, are impractical or determined to be inconsistent with the "As Low As is Reasonably Achievable" principle.
- e. Except for individuals qualified in radiation protection procedures, entry into such areas shall be made only after dose rates in the area have been established and entry personnel are knowledgeable of them.
- f. Such individual areas that are within a larger area that is controlled as a high radiation area, where no enclosure exists for the purpose of locking and where no enclosure can reasonably be constructed around the individual area need not be controlled by a locked door or gate, but shall be barricaded and conspicuously posted as a high radiation area, and a conspicuous, clearly visible flashing light shall be activated at the area as a warning device.

4. The combined Local Leak Rate Test (Type B & C Tests including airlocks) acceptance criteria is less than $0.6 L_a$, calculated on a minimum pathway basis, at all times when containment integrity is required.

The provisions of Specification 4.0.1 do not apply to the test frequencies specified in the 10 CFR 50 Appendix J Testing Program Plan.

6.17 Radioactive Effluent Controls Program

This program conforms to 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably achievable. The program shall be contained in the ODCM, shall be implemented by procedures, and shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

- a. Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM;
- b. Limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas, conforming to ten times the concentration values in Appendix B, Table 2, Column 2 to 10 CFR 20.1001 - 20.2402;
- c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10CFR20.1302 and with the methodology and parameters in the ODCM;
- d. Limitations on the annual and quarterly doses or dose commitment to a member of the public from radioactive materials in liquid effluents released from each unit to unrestricted areas, conforming to 10 CFR 50, Appendix I;
- e. Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days;
- f. Limitations on the functional capability and use of the liquid and gaseous effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a period of 31 days would exceed 2% of the guidelines for the annual dose or dose commitment, conforming to 10 CFR 50, Appendix I;

- g. Limitations on the dose rate resulting from radioactive material released in gaseous effluents from the site to areas at or beyond the site boundary shall be in accordance with the following:
 - 1. For noble gases: a dose rate ≤ 500 mrem/yr to the whole body and a dose rate ≤ 3000 mrem/yr to the skin, and
 - 2. For iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives greater than 8 days: a dose rate ≤ 1500 mrem/yr to any organ;
- h. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the site boundary; conforming to 10 CFR 50, Appendix I;
- i. Limitations on the annual and quarterly doses to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;
- j. Limitations on the annual dose or dose commitment to any member of the public, beyond the site boundary, due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190; and
- k. Limitations on venting and purging of the primary containment through the Emergency Ventilation System to maintain releases as low as reasonably achievable.

The provisions of Surveillance Requirement 4.0.1 are applicable to the Radioactive Effluent Controls Program surveillance frequencies.

6.18 Explosive Gas and Storage Tank Radioactivity Monitoring Program

This program provides controls for potentially explosive gas mixtures contained in the Main Condenser Offgas Treatment System and the quantity of radioactivity contained in unprotected outdoor liquid storage tanks.

The program shall include:

- a. The limits for concentrations of hydrogen in the Main Condenser Offgas Treatment System and a surveillance program to ensure the limits are maintained. Such limits shall be appropriate to the system's design criteria (i.e., whether or not the system is designed to withstand a hydrogen explosion); and

- b. A surveillance program to ensure that the quantity of radioactivity contained in all outside temporary liquid radwaste tanks that are not surrounded by liners, dikes, or walls, capable of holding tanks' contents and that do not have tank overflows and surrounding area drains connected to the Liquid Radwaste Treatment System is ≤ 10 Ci, excluding tritium and dissolved or entrained noble gases.

The provisions of Surveillance Requirement 4.0.1 are applicable to the Explosive Gas and Storage Tank Radioactivity Monitoring Program surveillance frequencies.

ATTACHMENT B
NIAGARA MOHAWK POWER CORPORATION
LICENSE NO. DPR-63
DOCKET NO. 50-220

Supporting Information and No Significant Hazards Consideration Analysis

INTRODUCTION

This proposed change revises the Nine Mile Point Unit 1 (NMP1) Technical Specifications (TSs) by (1) implementing programmatic controls for radiological effluent technical specifications (RETS) in the Administrative Controls section of the TSs, (2) relocating existing procedural details to licensee-controlled documents or new programs to accommodate the incorporation of Generic Letter (GL) 89-01 and the relevant portions of the Improved Standard Technical Specifications (NUREG-1433), and (3) updating the references to 10 CFR 20.1 - 20.602 with the corresponding references to 10 CFR 20.1001 - 20.2402 in conformance to NUREG-1433.

NRC GL 89-01, "Implementation of Programmatic Controls for Radiological Effluent Technical Specifications in the Administrative Controls Section of the Technical Specifications and the Relocation of Procedural Details of RETS to the Offsite Dose Calculation Manual or to the Process Control Program," and NUREG-1302, "Offsite Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Boiling Water Reactors (GL 89-01, Supplement No. 1)," provide guidance for implementing programmatic controls for RETS. GL 89-01 encouraged licensees to propose changes to their TSs consistent with the guidance provided. Subsequently, NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4," and GL 95-10, "Relocation of Selected Technical Specifications Requirements Related to Instrumentation," were issued. NUREG-1433 and GL 95-10 provide more recent guidance on preferred implementation of the programmatic controls for RETS.

This license amendment application proposes changes consistent with the recommendations of GL 89-01 (and NUREG-1302), as modified by GL 95-10 and NUREG-1433. The proposed changes also update the references to 10 CFR 20.1 - 20.602 with the corresponding references to 10 CFR 20.1001 - 20.2402 in conformance to NUREG-1433. The equivalent radionuclide concentration for conformance to Appendix B to 10 CFR 20.1001 - 20.2402 is defined in the proposed radioactive effluent controls program. The new 10 CFR 20 requirements became effective on June 20, 1991. NMP1 had previously elected not to convert to the new requirements since the existing requirements were retained in the Code of Federal Regulations and the associated TS requirements were determined to be more restrictive. The proposed changes have been incorporated in such a manner as to improve consistency between the NMP1 and Nine Mile Point Unit 2 (NMP2) Administrative Controls TSs. NMP2 converted to the Improved Standard Technical Specifications and new 10 CFR 20 requirements on December 2, 2000.

The existing TS programmatic controls and procedural details affected by the proposed changes involve the radioactive effluent monitoring instrumentation, the control of liquid and gaseous effluents, the equipment requirements for liquid and gaseous effluents, radiological environmental monitoring, radiation protection, and radiological reporting. The procedural details will be relocated to the Offsite Dose Calculation Manual (ODCM), Process Control Program (PCP), NMP1 Updated Final Safety Analysis Report (UFSAR), or Quality Assurance Topical Report (QATR), as appropriate.

Certain existing TSs related to RETS will be retained in their present form or as a new program. The main condenser offgas specification and the mechanical vacuum pump isolation specification and instrumentation requirements will be retained in their present form. Three new programs are proposed to be added to the Administrative Controls section of the TSs in order to implement the programmatic controls for RETS. In addition, the procedural details relative to the "Radiation Protection Program" are proposed to be relocated to the UFSAR consistent with NUREG-1433 to accommodate incorporation of the new programs. The new programs to be added are the "Offsite Dose Calculation Manual (ODCM)," "Radioactive Effluent Controls Program," and "Explosive Gas and Storage Tank Radioactivity Monitoring Program." Although the procedural details for RETS are being relocated to licensee-controlled documents, regulatory controls for various RETS-related requirements will be retained in the form of the new ODCM and radioactive effluent controls programs. Regulatory controls for the liquid holdup waste tanks and explosive gas mixture specifications will be retained in the form of the new combined explosive gas and storage tank radioactivity monitoring program. The procedural details related to the liquid holdup tank specification and tank level instrumentation will be relocated to the ODCM. The procedural details for the explosive gas mixture specification and explosive gas monitoring instrumentation will be relocated to the UFSAR.

The provisions of 10 CFR 50.36a require each licensee of a nuclear power reactor to include TSs that keep releases of radioactive materials to unrestricted areas during normal conditions, including expected occurrences, as low as is reasonably achievable (ALARA). Pursuant to 10 CFR 50.36a, the procedural details being relocated to the ODCM, PCP, UFSAR, and QATR do not satisfy the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. It is not the intent of these proposed changes to reduce the level of radiological effluent controls. No technical requirements are being reduced or eliminated as a result of these changes. The applicable regulatory requirements governing the radiation protection plan, radioactive effluents, radioactive sources, and radiological monitoring, including 10 CFR 20, 40 CFR 190, 10 CFR 30, 10 CFR 50.36a, 10 CFR 50, Appendices A and I, 10 CFR 61, and 10 CFR 71, will continue to be maintained. The proposed changes serve only to adopt TS improvements to conform to established NRC guidance as provided in GL 89-01, GL 95-10, and NUREG-1433.

Implementation of this proposed license amendment will simplify the NMP1 RETS, meet the regulatory requirements for radioactive effluents and radiological monitoring, and implement NRC endorsed TS improvements.

EVALUATION

Table 1 (below) provides a description of each proposed change and the supporting justification for the change. The change numbers in the left-hand column of the Table correspond to the boxed (□) annotation numbers in Attachment C, "Mark-up Copy of the Proposed Changes to the Current Technical Specifications."

Table 1

Change #	Proposed Change	Justification
1	In the Table of Contents (page iii), change the Limiting Condition for Operation (LCO) title for TS 3/4.6.1 from "Station Process Effluents," to "Mechanical Vacuum Pump Isolation."	This is a conforming change that results from deletions from the TSs. See the following discussions (Change #'s 9, 10, 11, and 14 - 21) for the justifications for the deletions. The change to the Table of Contents is considered administrative, with no impact of its own.
2	In the Table of Contents (page iv), delete the LCO title and page number for TS 3/4.6.14 and insert "(Deleted)." Change the LCO title for TS 3/4.6.15 from "Radioactive Effluents" to "Main Condenser Offgas." Delete the LCO title and page number for TS 3/4.6.16 and insert "Through 3.6.22 (Deleted)" and "Through 4.6.22 (Deleted)." Delete TSs 3/4.6.17 through 3/4.6.22.	These are conforming changes that result from deletions from the TSs. See the following discussions (Change #'s 13 - 28) for the justifications for the deletions. The changes to the Table of Contents are considered administrative, with no impact of their own.
3	In the Table of Contents (page vi), change the title for TS 6.11 from "Radiation Protection Program" to "Offsite Dose Calculation Manual (ODCM)." Change the page number for TS 6.12 to "371a." Insert new programs: TS "6.17, Radioactive Effluent Controls Program, page "374," and TS "6.18, Explosive Gas and Storage Tank Radioactivity Monitoring Program," page "375."	These are conforming changes that result from other changes to the TSs. See the following discussions (Change #'s 34 - 38) for the justifications specific to each change. The changes to the Table of Contents are considered administrative, with no impact of their own.
4	Relocate TS definitions (pages 6, 7, and 8) 1.18, "Gaseous Radwaste Treatment System;" 1.19, "Member of the Public;" 1.20, "Milk Sampling Location;" 1.23, "Purge - Purging;" 1.26, "Source Check;" 1.27, "Unrestricted Area;" 1.28, "Ventilation Exhaust Treatment System;" and 1.29, "Venting;" to the ODCM. Definition 1.27 (page 7) will reflect the updated 10 CFR 20 requirements. Insert "(Deleted)" in place of the relocated definitions.	These definitions are no longer needed in the TSs. The definitions are being relocated to the ODCM since the applicable RETS (TSs 3/4.6.14, 3/4.6.15, 3/4.6.16, 3/4.6.18, 3/4.6.19, and 3/4.6.20 - see Change #'s 13 - 18, 20, 21, and 24 - 26 below) are being relocated to the ODCM. These changes are consistent with GL 89-01, NUREG-1302, and NUREG-1433. The relocation of the definitions to the ODCM is considered administrative, with no impact of its own.
5	Relocate TS definition (page 6) 1.21, "Offsite Dose Calculation Manual (ODCM)," to the ODCM. Insert "(Deleted)" in place of the definition.	This definition is no longer needed since proposed TS 6.11, "Offsite Dose Calculation Manual (ODCM)," (see Change #35 below) adequately defines the ODCM. This change is consistent with NUREG-1302 and NUREG-1433. The relocation of the definition to the ODCM is considered administrative, with no impact of its own.

Change #	Proposed Change	Justification
6	Relocate TS definition (page 7) 1.22, "Process Control Program (PCP)," to the UFSAR. Insert "(Deleted)" in place of the definition.	The details contained in this definition are not needed in the TSs. The PCP implements the requirements of 10 CFR 20, 10 CFR 61, and 10 CFR 71. Compliance with these regulations is required by the NMP1 operating license. As such, relocation of the details related to the PCP does not affect safe operation of the plant and it is not necessary for these details to be repeated in the TSs. This change is consistent with NUREG-1433.
7	Relocate TS definition (page 7) 1.24, "Site Boundary," to the ODCM. Insert "(Deleted)" in place of the definition.	This definition is not needed since TS 5.1 adequately defines the site boundary. This change is consistent with GL 89-01, NUREG-1302, and NUREG-1433. The relocation of the definition to the ODCM is considered administrative, with no impact of its own.
8	Relocate TS definition (page 7) 1.25, "Solidification," to the PCP. Insert "(Deleted)" in place of the definition.	This definition is no longer used in the TSs. This definition is being relocated to the PCP since the applicable RETS (TS 3/4.6.16.c - see Change #23 below) are being relocated to the UFSAR and the term "solidification" is not retained in the associated administrative reporting requirements (TS 6.9.1.e - see Change #31 below). This change is consistent with NUREG-1302 and NUREG-1433. The relocation of the definition to the PCP is considered administrative, with no impact of its own.
9	In TS 3.6.0, paragraph A (page 191), change "Station process effluents" to "mechanical vacuum pump isolation." Change the title of TS 3/4.6.1 (page 192) from "Station Process Effluents" to "Mechanical Vacuum Pump Isolation."	These are conforming changes that result from another change to the TSs. The station process effluent requirements are being deleted from TS 3/4.6.1 (see Change #10 below) which only leaves the requirements for mechanical vacuum pump isolation in this specification. The proposed changes are nomenclature preference changes only that more accurately reflect the retained requirements. Therefore, the proposed changes are considered administrative, with no impact of their own.
10	Delete the requirements of TS 3/4.6.1.a (page 192) and insert "(Deleted)."	This is a conforming change that results from another change to the TSs. Except for main condenser offgas, the radioactive effluent release limits and monitoring requirements of TS 3/4.6.15 are being relocated to the ODCM (see Change #'s 14 - 18, 20, and 21 below) and will no longer exist in the TSs. TS 3/4.6.1.a serves only to provide direction to the reader to refer to TS 3/4.6.15 for the applicable effluent release limits and monitoring requirements. Following relocation of the RETS-related requirements of TS 3/4.6.15 to the ODCM, the only requirements retained in 3/4.6.15 will be for main condenser offgas. As such, the direction currently contained in TS 3/4.6.1.a will no longer be applicable or appropriate. Furthermore, since TS 3/4.6.15 is being re-titled as "Main Condenser Offgas" (see Change #19 below), there will be no confusion as to its applicability. Therefore, the proposed change eliminates requirements that no longer apply or are no

Change #	Proposed Change	Justification
		longer necessary and, as such, the change is considered administrative, with no impact of its own.
11	In the first line of TS 3.6.2.a.(8) (page 196), replace "Off-Gas and" with "Mechanical." In the second line of the specification, change "respective system" to "mechanical vacuum pump."	These are conforming changes that result from another change to the TSs. TS 3/4.6.14 is being relocated to the ODCM (see Change #13 below) and will no longer exist in the TSs. TS 3.6.2.a.(8) provides direction to the reader to isolate the respective system if the offgas or mechanical vacuum pump isolation instrumentation requirements are not met. The provided direction for the offgas isolation instrumentation will no longer be applicable following relocation of TS 3/4.6.14 to the ODCM since Tables 3.6.14-2 and 4.6.14-2, which contain the main condenser offgas radiation monitoring instrumentation requirements, are also being relocated to the ODCM. The proposed changes to TS 3.6.2.a.(8) serve only to (1) delete a reference to the offgas isolation instrumentation that will no longer apply and (2) update the nomenclature to more accurately reflect the retained requirements. The nomenclature changes are consistent with those proposed for TS 3/4.6.1 (see Change #9 above). Therefore, the proposed changes are considered administrative, with no impact of their own.
12	In the Bases for TS 3/4.6.2 (page 252), relocate the listed allowable setpoint deviations (tolerances) for the "High Radiation-Emergency Cooling Line Vent" and "High Radiation - Offgas Line," including the FSAR reference, to the ODCM.	These are conforming changes that result from another change to the TSs. As discussed in Change #11 above and Change #13 below, TS 3/4.6.14 along with Tables 3.6.14-2 and 4.6.14-2, which contain the requirements for the emergency condenser noble gas activity monitor and main condenser radioactivity monitor, are being relocated to the ODCM. Accordingly, the allowable setpoint deviations (tolerances) for the "High Radiation-Emergency Cooling Line Vent" and "High Radiation - Offgas Line" instrumentation are also being relocated to the ODCM. This proposed change is considered administrative, with no impact of its own.
13	<p>With the exception of the explosive gas monitoring instrumentation requirements, relocate TS 3/4.6.14, "Radioactive Effluent Instrumentation," including Tables 3.6.14-1, 4.6.14-1, 3.6.14-2, and 4.6.14-2 and the applicable Bases, (pages 282 through 294) to the ODCM. The Note (b) to Tables 4.6.14-1 and 4.6.14-2 (pages 287 and 292) have been updated to specify the "National Institute of Standards and Technology (NIST)" as the current reference standard certifying organization. The deletion of pages 282 through 294 is annotated on page 282.</p> <p>In the case of the explosive gas monitoring instrumentation, relocate TS 3/4.6.17, "Explosive Gas Mixture," and the TS 3/4.6.14.b requirements applicable to Instrument 2.a of Tables 3.6.14-2</p>	The radioactive effluent instrumentation is neither a safety system, nor is it connected to the reactor coolant system. The primary function of this instrumentation is to show conformance to the discharge limits of 10 CFR 20. It is not installed to detect excessive reactor coolant leakage. The radioactive effluent instrumentation is used to routinely monitor the release of radioactive liquid and gaseous effluents from normal effluent flow paths. The current specification requires the licensee to maintain operability of the instrumentation and establish setpoints in accordance with the ODCM. The alarm/trip setpoints are established to assure the alarm/trip will occur prior to exceeding the limits of 10 CFR 20. Plant design basis accident (DBA) analyses do not assume any action, either automatic or manual, resulting from the radioactive effluent monitors.

Change #	Proposed Change	Justification
	and 4.6.14-2, including the applicable Bases and requirements in the Tables, (pages 289, 291, 292, 293, 294, 317, and 318) to the UFSAR.	<p>The explosive gas monitoring instrumentation (TS 3/4.6.17 and Instrument 2.a of Tables 3.6.14-2 and 4.6.14-2) is provided to assure the concentration of potentially explosive gas mixtures contained in the gaseous radwaste treatment system is maintained below the flammability limit of hydrogen. The offgas system is designed to withstand a possible hydrogen-oxygen explosion without affecting the function of any safety-related equipment. The concentration of hydrogen in the offgas is not an initial assumption of any DBA or transient analysis. Furthermore, as discussed in GL 95-10, the NRC staff has concluded that the explosive gas monitoring instrumentation is not a significant contributor to plant risk.</p> <p>Therefore, based on the above evaluation, the detailed procedural requirements in TS 3/4.6.14 and TS 3/4.6.17 do not satisfy the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. The ODCM and proposed ODCM and effluent controls programs (proposed TSs 6.11 and 6.17) will provide adequate regulatory controls for the radioactive effluent instrumentation. The proposed relocation of TS 3/4.6.14 to the ODCM is consistent with GL 89-01, as modified by GL 95-10 in the case of the explosive gas monitoring instrumentation. Relocation of the requirements for the explosive gas monitoring instrumentation to the UFSAR is consistent with GL 95-10. The update specifying the current reference standard certifying organization as the "National Institute of Standards and Technology (NIST)" is editorial and, as such, is considered administrative, with no impact of its own.</p>
14	Relocate TS 3/4.6.15.a.(1), "Radioactive Effluents, Liquid Concentration," including Table 4.6.15-1 and the applicable Bases, (pages 295, 297, 298, 299, and 308) to the ODCM. The TS 3.6.15.a.(1) and Bases (pages 295 and 308) will reflect the updated 10 CFR 20 requirements.	<p>TS 3/4.6.15.a.(1) limits the concentrations of radioactive materials in liquid effluents released to unrestricted areas to the concentrations specified in 10 CFR 20. Effluent control is for protection against radiation hazards from licensed activities, not accidents. This specification does not identify a parameter that is an initial condition or assumption for a DBA or transient, identify a significant abnormal degradation of the reactor coolant pressure boundary, provide any mitigation of a design basis event, or relate to a structure, system, or component (SSC) which has been shown to be significant to public health and safety. Therefore, the detailed procedural requirements in TS 3/4.6.15.a.(1) do not satisfy the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. The ODCM and proposed ODCM and effluent controls programs (proposed TSs 6.11 and 6.17) will provide adequate regulatory controls for liquid effluent</p>

Change #	Proposed Change	Justification
		releases. The proposed relocation of TS 3/4.6.15.a.(1) to the ODCM is consistent with GL 89-01.
15	Relocate TS 3/4.6.15.a.(2), "Radioactive Effluents, Liquid Dose," including the applicable Bases, (pages 296 and 309) to the ODCM.	TS 3/4.6.15.a.(2) limits the dose or dose commitment to a member of the public from radioactive materials in liquid effluents released to unrestricted areas to the specified values. These limitations on quarterly and annual calculated doses assure compliance with the dose objectives of 10 CFR 50, Appendix I. The specified dose limits are for protection against radiation hazards from licensed activities, not accidents. TS 3/4.6.15.a.(2) does not identify a parameter that is an initial condition or assumption for a DBA or transient, identify a significant abnormal degradation of the reactor coolant pressure boundary, provide any mitigation of a design basis event, or relate to a SSC which has been shown to be significant to public health and safety. Therefore, the detailed procedural requirements in TS 3/4.6.15.a.(2) do not satisfy the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. The ODCM and proposed ODCM and effluent controls programs (proposed TSs 6.11 and 6.17) will provide adequate regulatory controls for liquid effluent releases. The proposed relocation of TS 3/4.6.15.a.(2) to the ODCM is consistent with GL 89-01.
16	Relocate TS 3/4.6.15.b.(1), "Radioactive Effluents, Gaseous Dose Rate," including Table 4.6.15-2 and the applicable Bases, (pages 300, 303, 304, and 310) to the ODCM. The Bases (page 310) will reflect the updated 10 CFR 20 requirements.	TS 3/4.6.15.b.(1) limits the dose rate due to gaseous effluents in unrestricted areas to assure the dose at any time will be less than the annual dose limits of 10 CFR 20. These limits apply to the normal operation of the plant and are not assumed as an initial condition of any DBA or transient analysis and are not relied upon to limit the consequences of such events. TS 3/4.6.15.a.(2) does not identify a parameter that is an initial condition or assumption for a DBA or transient, identify a significant abnormal degradation of the reactor coolant pressure boundary, provide any mitigation of a design basis event, or relate to a SSC which has been shown to be significant to public health and safety. Therefore, the detailed procedural requirements in TS 3/4.6.15.b.(1) do not satisfy the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. The ODCM and proposed ODCM and effluent controls programs (proposed TSs 6.11 and 6.17) will provide adequate regulatory controls for gaseous effluent releases. The proposed relocation of TS 3/4.6.15.b.(1) to the ODCM is consistent with GL 89-01.
17	Relocate TS 3/4.6.15.b.(2), "Radioactive Effluents, Gaseous Air Dose," including the applicable Bases, (pages 301 and 311) to the ODCM.	TS 3/4.6.15.b.(2) provides quarterly and annual limits on the air dose due to noble gases released in gaseous effluents. These limitations on gaseous effluents are intended to assure compliance with the dose objectives of 10 CFR 50, Appendix I. The specified dose limits

Change #	Proposed Change	Justification
		<p>are for protection against radiation hazards from licensed activities, not accidents. TS 3/4.6.15.b.(2) does not identify a parameter that is an initial condition or assumption for a DBA or transient, identify a significant abnormal degradation of the reactor coolant pressure boundary, provide any mitigation of a design basis event, or relate to a SSC which has been shown to be significant to public health and safety. Therefore, the detailed procedural requirements in TS 3/4.6.15.b.(2) do not satisfy the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. The ODCM and proposed ODCM and effluent controls programs (proposed TSs 6.11 and 6.17) will provide adequate regulatory controls for gaseous effluent releases. The proposed relocation of TS 3/4.6.15.b.(2) to the ODCM is consistent with GL 89-01.</p>
18	<p>Relocate TS 3/4.6.15.b.(3), "Radioactive Effluents, Gaseous Tritium, Iodines, and Particulates," including the applicable Bases, (pages 302 and 312) to the ODCM.</p>	<p>TS 3/4.6.15.b.(3) provides quarterly and annual limits on the dose to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives greater than 8 days in gaseous effluents released, from each unit, to areas at or beyond the site boundary. These limitations on gaseous effluents are intended to assure compliance with the dose objectives of 10 CFR 50, Appendix I. The specified dose limits are for protection against radiation hazards from licensed activities, not accidents. TS 3/4.6.15.b.(3) does not identify a parameter that is an initial condition or assumption for a DBA or transient, identify a significant abnormal degradation of the reactor coolant pressure boundary, provide any mitigation of a design basis event, or relate to a SSC which has been shown to be significant to public health and safety. Therefore, the detailed procedural requirements in TS 3/4.6.15.b.(3) do not satisfy the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. The ODCM and proposed ODCM and effluent controls programs (proposed TSs 6.11 and 6.17) will provide adequate regulatory controls for gaseous effluent releases. The proposed relocation of TS 3/4.6.15.b.(3) to the ODCM is consistent with GL 89-01.</p>
19	<p>Revise TS 3/4.6.15 (pages 295, 296, 305, and 312) as follows: Change the LCO and Bases titles from "Radioactive Effluents" to "Main Condenser Offgas" (pages 295 and 312). In the Applicability for TS 3.6.15 (page 295) and Objective for TS 4.6.15 (page 295), replace "station" with "main condenser." In the Applicability for TS 4.6.15 (page 295), replace the phrase "the station process effluents" with "main condenser offgas." On page 305, delete the specification alpha-sequence designator and title "c. Main Condenser" and,</p>	<p>These are conforming changes that result from other changes to the TSs. Except for main condenser offgas, the radioactive effluent release limits and monitoring requirements of TS 3/4.6.15 are being relocated to the ODCM (see Change #'s 14 - 18 above) and will no longer exist in the TSs. Thus, only the requirements related to main condenser offgas are retained in this specification. The proposed changes are nomenclature and presentation preference changes only that more accurately reflect the retained requirements. Therefore, the proposed changes are considered administrative,</p>

Change #	Proposed Change	Justification
	except for the first paragraph of TS 4.6.15.c, move the main condenser noble gas gross radioactivity rate requirements to page 295 (the requirements contained in the first paragraph of TS 4.6.15.c are to be relocated to the ODCM - see Change #20 below). On page 312, move the Bases title to page 296, delete the Bases heading, "Main Condenser," and move the Bases information to page 296 (under the new "Main Condenser Offgas" title). Page 297 has been annotated to indicate the deletion of pages 297 through 338 as a result of the relocation of TSs 3/4.6.15 through 3/4.6.22 (Change #'s 14 - 18 above and 20 - 28 below).	with no impact of their own.
20	Relocate the first paragraph of TS 4.6.15.c, "Main Condenser," (page 305) to the ODCM.	This is a conforming change that results from another change to the TSs. The first paragraph of TS 4.6.15.c requires the radioactivity rate of noble gases at the offgas recombiner discharge to be continuously monitored in accordance with Table 3.6.14-2. Proposed TS 4.6.15, "Main Condenser Offgas," provides adequate assurance that the main condenser offgas radioactivity release rate will remain within the specified limits. Furthermore, TS 3/4.6.14, including Table 3.6.14-2, is being relocated to the ODCM (see Change #13 above) and will no longer exist in the TSs. As such, the monitoring requirements specified in the first paragraph of TS 4.6.15.c could not be applied following the relocation of TS 3/4.6.14 to the ODCM. This proposed change relocates the monitoring requirements to the ODCM consistent with GL 89-01, NUREG-1433, and NUREG-1302, which provides assurance that the requirements will be applied as intended. Therefore, this proposed change is considered administrative, with no impact of its own.
21	Relocate TS 3/4.6.15.d, "Uranium Fuel Cycle," including the applicable Bases, (pages 305, 306, 307, and 313) to the ODCM. The TS 3.6.15.d and Bases (pages 306 and 313) will reflect the updated 10 CFR 20 requirements.	TS 3/4.6.15.d provides limitations on the annual (calendar year) dose or dose commitment to any member of the public due to releases of radioactivity and to radiation from uranium fuel cycle sources. The specification is intended to assure that normal operation of the plant is in compliance with 40 CFR 190. The specified dose limits are for protection against radiation hazards from licensed activities, not accidents. TS 3/4.6.15.d does not identify a parameter that is an initial condition or assumption for a DBA or transient, identify a significant abnormal degradation of the reactor coolant pressure boundary, provide any mitigation of a design basis event, or relate to a SSC which has been shown to be significant to public health and safety. Therefore, the detailed procedural requirements in TS 3/4.6.15.d do not satisfy the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. The ODCM and proposed ODCM and effluent

Change #	Proposed Change	Justification
		controls programs (proposed TSs 6.11 and 6.17) will provide adequate regulatory controls for releases from uranium fuel cycle sources. The proposed relocation of TS 3/4.6.15.d to the ODCM is consistent with GL 89-01.
22	Relocate TS 3/4.6.16.a, "Radioactive Effluent Treatment Systems, Liquid," and TS 3/4.6.16.b, "Radioactive Effluent Treatment Systems, Gaseous," including the applicable Bases, (pages 314, 315, and 316) to the ODCM.	TSs 3/4.6.16.a and b require the liquid and gaseous radwaste treatment systems to be operable and to be used to reduce the radioactive materials in liquid and gaseous wastes prior to their discharge as necessary to meet the requirements of TS 3.6.15. The specifications are intended to implement 10 CFR 50, Appendix A, General Design Criteria (GDC) 60 and provide assurance that the release of radioactive materials in liquid and gaseous effluents are kept ALARA in accordance with 10 CFR 50.36a. The liquid and gaseous radwaste systems serve to control operational release of liquid and gaseous waste, not releases due to accidents. TSs 3/4.6.16.a and b do not identify a parameter that is an initial condition or assumption for a DBA or transient, identify a significant abnormal degradation of the reactor coolant pressure boundary, provide any mitigation of a design basis event, or relate to a SSC which has been shown to be significant to public health and safety. Therefore, the detailed procedural requirements in TSs 3/4.6.16.a and b do not satisfy the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. The ODCM and proposed ODCM and effluent controls programs (proposed TSs 6.11 and 6.17) will provide adequate regulatory controls for the liquid and gaseous radwaste treatment systems. The proposed relocation of TSs 3/4.6.16.a and b to the ODCM is consistent with GL 89-01.
23	Relocate TS 3/4.6.16.c, "Radioactive Effluent Treatment Systems, Solid," including the applicable Bases, (pages 315 and 316) to the PCP.	TS 3/4.6.16.c requires the solid radwaste system to be operable and to be used in accordance with the PCP to process wet radioactive wastes to meet shipping and burial ground requirements. If the provisions of the PCP are not satisfied, shipments from the site must be suspended. These requirements are proposed to be relocated to the PCP as described in the UFSAR. The solid radwaste system is a logical continuation of the liquid radwaste system (see Change #22 above) and operates by the same effluent controls (10 CFR 50, Appendix A, GDC 60 and 10 CFR 50.36a). The system serves to control operational release of solid waste, not releases due to accidents. TS 3/4.6.16.c does not identify a parameter that is an initial condition or assumption for a DBA or transient, identify a significant abnormal degradation of the reactor coolant pressure boundary, provide any mitigation of a design basis event, or relate to a SSC which has been shown to be significant to public health and safety. Therefore,

Change #	Proposed Change	Justification
		the detailed procedural requirements in TSs 3/4.6.16.c do not satisfy the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. The proposed relocation of TS 3/4.6.16.c to the PCP is consistent with GL 89-01.
24	Relocate TS 3/4.6.18, "Mark I Containment," including the Bases, (pages 319 and 320) to the ODCM.	TS 3/4.6.18 requires the Mark I primary containment drywell to be vented and purged through the emergency ventilation system. The primary containment vent and purge system is used primarily to control primary-to-secondary containment differential pressure during reactor operation and also to reduce drywell airborne radioactivity levels before personnel entry. This specification is intended to provide reasonable assurance that releases from normal drywell purging operations will not exceed the annual dose limits of 10 CFR 20 for unrestricted areas. The specified requirements are for protection against radiation hazards from licensed activities, not accidents. TS 3/4.6.18 does not identify a parameter that is an initial condition or assumption for a DBA or transient, identify a significant abnormal degradation of the reactor coolant pressure boundary, provide any mitigation of a design basis event, or relate to a SSC which has been shown to be significant to public health and safety. Therefore, the detailed procedural requirements in TS 3/4.6.18 do not satisfy the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. The ODCM and proposed ODCM and effluent controls programs (proposed TSs 6.11 and 6.17) will provide adequate regulatory controls for releases from drywell venting and purging. The proposed relocation of TS 3/4.6.18 to the ODCM is consistent with GL 89-01.
25	Relocate TS 3/4.6.19, "Liquid Waste Holdup Tanks," including the Bases, (pages 321 and 322) to the ODCM. The Bases (page 322) will reflect the updated 10 CFR 20 requirements.	TS 3/4.6.19 provides limitations on the quantity of radioactive material contained in an outdoor liquid waste tank. The procedural details for implementing the requirements contained in the specification are proposed to be relocated to the ODCM. This specification is intended to provide reasonable assurance that an uncontrolled release of a tank's contents would not exceed the limits of 10 CFR 20 for unrestricted areas. The specified requirements are for protection against radiation hazards from licensed activities, not accidents. TS 3/4.6.19 does not identify a parameter that is an initial condition or assumption for a DBA or transient, identify a significant abnormal degradation of the reactor coolant pressure boundary, provide any mitigation of a design basis event, or relate to a SSC which has been shown to be significant to public health and safety. Therefore, the detailed procedural requirements in TS 3/4.6.19 do not satisfy the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. The ODCM and proposed ODCM and

Change #	Proposed Change	Justification
		effluent controls programs (proposed TSs 6.11 and 6.17) will provide adequate regulatory controls for releases from outdoor waste storage tanks. The proposed relocation of TS 3/4.6.19 to the ODCM is consistent with NUREG-1433.
26	Relocate TS 3.6.20, "Radiological Environmental Monitoring Program," including Tables 3.6.20-1 and 4.6.20-1 and the Bases, (pages 323 through 333) to the ODCM.	TS 3.6.20 imposes requirements on the radiological environmental monitoring program. The radiological environmental monitoring program provides measurements of radiation and of radioactive materials in those exposure pathways and for those radionuclides which lead to the highest potential radiation exposures for members of the public resulting from station operations. This program monitors long-term impact of normal plant operations and is not related to protection of the public from the consequences of any DBA or transient. TS 3/4.6.20 does not identify a parameter that is an initial condition or assumption for a DBA or transient, identify a significant abnormal degradation of the reactor coolant pressure boundary, provide any mitigation of a design basis event, or relate to a SSC which has been shown to be significant to public health and safety. Therefore, the detailed procedural requirements in TS 3/4.6.20 do not satisfy the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. The ODCM and proposed ODCM and effluent controls programs (proposed TSs 6.11 and 6.17) will provide adequate regulatory controls for monitoring radioactive materials and exposure pathways. The proposed relocation of TS 3/4.6.20 to the ODCM is consistent with GL 89-01.
27	Relocate TS 3/4.6.21, "Interlaboratory Comparison Program," including the Bases, (pages 334 and 335) to the ODCM.	TS 3/4.6.21 provides requirements for participation in an approved interlaboratory comparison program. This program assures independent checks of the precision and accuracy of the measurements obtained for the radiological environmental monitoring program (see Change #26 above). As such, this program is not related to protection of the public from the consequences of any DBA or transient. TS 3/4.6.21 does not identify a parameter that is an initial condition or assumption for a DBA or transient, identify a significant abnormal degradation of the reactor coolant pressure boundary, provide any mitigation of a design basis event, or relate to a SSC which has been shown to be significant to public health and safety. Therefore, the detailed procedural requirements in TS 3/4.6.21 do not satisfy the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. The ODCM and proposed ODCM and effluent controls programs (proposed TSs 6.11 and 6.17) will provide adequate regulatory controls to assure independent checks of radiological measurements. The proposed relocation of TS 3/4.6.21 to the ODCM is consistent with GL 89-01.

Change #	Proposed Change	Justification
28	Relocate TS 3/4.6.22, "Land Use Census," including the Bases, (pages 336 - 338) to the ODCM. Typographical errors in the Bases title (page 338) are corrected to identify the applicable specifications and surveillance requirement for "Land Use Census" as "3.6.22" and "4.6.22," respectively.	TS 3/4.6.22 imposes requirements on the performance of the land use census. The land use census supports the measurement of radiation and of radioactive materials in those exposure pathways and for those radionuclides which lead to the highest potential radiation exposures for members of the public resulting from normal station operation. This specification assures that changes in the use of areas at or beyond the site boundary are identified and that appropriate changes are made to the radiological environmental monitoring program, if required. As such, this specification is not related to protection of the public from the consequences of any DBA or transient. TS 3/4.6.22 does not identify a parameter that is an initial condition or assumption for a DBA or transient, identify a significant abnormal degradation of the reactor coolant pressure boundary, provide any mitigation of a design basis event, or relate to a SSC which has been shown to be significant to public health and safety. Therefore, the detailed procedural requirements in TS 3/4.6.22 do not satisfy the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the TSs. The ODCM and proposed ODCM and effluent controls programs (proposed TSs 6.11 and 6.17) will provide adequate regulatory controls for the land use census. The proposed relocation of TS 3/4.6.22 to the ODCM is consistent with GL 89-01. The correction of the typographical errors in the Bases title are considered administrative, with no impact of their own.
29	Revise TS 6.9.1.b (page 362) as follows: Change the TS 6.9.1.b report title from "Annual Occupational Exposure Report" to "Occupational Radiation Exposure Report." Replace the text of the specification and footnote with the provided text insert.	TS 6.9.1.b is being revised to conform to GL 89-01, as modified by NUREG-1433 (Revision 2). The proposed changes include updates consistent with the new (effective 06/20/91) 10 CFR 20 requirements and the addition of a required April 30 report submittal date. The proposed changes do not eliminate any existing requirements and serve only to provide consistency with NRC approved administrative requirements. The changes are considered administrative in that they are conforming changes and the changes are limited to the administrative controls section of the TSs.
30	Revise TS 6.9.1.d (page 363) as follows: Relocate the reporting details in the second and fourth paragraphs, including the footnote ** text, to the ODCM. Delete footnote designator "**." Replace the text in the first paragraph and the remaining text in the second paragraph with the provided text insert. Revise the third paragraph to incorporate minor editorial changes. Add the sentence "The submittal should combine sections common to all units at the station." to footnote *.	TS 6.9.1.d is being revised to conform to GL 89-01, as modified by NUREG-1433. The proposed changes provide additional requirements, eliminate the initial report requirement that is no longer applicable, and place some details of the report in the ODCM. The specification currently requires the annual radiological operating report to be submitted "prior to May 1 of each year." The proposed changes include a relaxation of this requirement by allowing the report to be submitted "by May 15 of each year" consistent with NUREG-1433. Given that the report is still required

Change #	Proposed Change	Justification
		to be submitted to the NRC on or before May 15 and covers the previous calendar year, report completion and submittal is clearly not necessary to assure safe operation for the interval between May 1 and May 15. Furthermore, there is no requirement for the NRC to approve the report. Therefore, the proposed relaxation of the report submittal date will have no impact on the safe operation of the plant. The other changes to TS 6.9.1.d are considered administrative in that they are conforming changes (to provide consistency) and the changes are limited to the administrative controls section of the TSs.
31	Revise TS 6.9.1.e (pages 364 - 366) as follows: Revise the specification title (page 364) to read "Radioactive Effluent Release Report *." Replace the text of the first paragraph (page 364) with the provided text insert. In the first sentence of footnote ** (page 364), replace "site" with "station." In the second sentence of footnote ** (page 364), revise the phrase "... combine those sections that are common..." to read "... combine sections common..." and replace "site" with "station." Delete footnote designator "***" (page 364) and move the footnote ** text to footnote * (page 364). Relocate the reporting details in the second, third, and fourth paragraphs on page 364, including the text of footnote *, to the ODCM. Relocate the reporting details on pages 365 and 366 to the ODCM. Page 365 has been annotated to indicate that the page is intentionally blank.	TS 6.9.1.e is being revised to conform to GL 89-01, as modified by NUREG-1433. The proposed changes provide additional requirements, eliminate the initial report requirement that is no longer applicable, and place some details of the report in the ODCM. The ODCM reporting requirements are retained in proposed TS 6.11 (ODCM program - see Change #35 below). TS 6.9.1.e currently requires submittal of the radioactive effluent release report within 60 days after January 1 and July 1 of each year (i.e., semi-annually). The proposed change would allow the report to be submitted on an annual basis, consistent with 10 CFR 50.36a(a)(2). Given that the report is still required to be submitted to the NRC and covers the previous calendar year, report completion and submittal is clearly not necessary to assure safe operation. Furthermore, there is no requirement for the NRC to approve the report. Therefore, the proposed relaxation of the frequency for submitting the report will have no impact on the safe operation of the plant. The other changes to TS 6.9.1.e are considered administrative in that they are conforming changes (to provide consistency) and the changes are limited to the administrative controls section of the TSs.
32	Relocate the TS 6.9.3.h through m, "Special Reports," requirements, including Table 6.9.3-1, (pages 368 and 369) to the ODCM. In addition, a minor editorial correction has been incorporated into the first sentence of TS 6.9.3 (page 368). Page 369 has been annotated to indicate that the page is intentionally blank.	TS 6.9.3.h through m require special reports for RETS-related activities to be submitted to the NRC within the specified time period pursuant to the requirements of each referenced specification. In each case, the referenced specification is being relocated to the ODCM (see Change #'s 15, 17, 21, 22, and 26 above) and will no longer exist in the TSs. Accordingly, the applicable special report requirements for these RETS-related activities are also being relocated to the ODCM. The ODCM and proposed ODCM and effluent controls programs (proposed TSs 6.11 and 6.17) will provide adequate regulatory controls for RETS special reports. The proposed relocation of TS 6.9.3.h through m, including Table 6.9.3-1, to the ODCM is consistent with NUREG-1433. The editorial correction is considered

Change #	Proposed Change	Justification
		administrative, with no impact of its own.
33	Relocate the TS 6.10.2.1, "Record Retention," requirements (page 371) to the QATR.	TS 6.10.2.1 imposes record retention requirements on analyses required by the radiological environmental monitoring program. The RETS-related radiological environmental monitoring program requirements are being relocated to the ODCM (see Change #'s 26 - 28 above) and will no longer exist in the TSs. As a result, the associated record retention requirements are proposed to be relocated to the QATR consistent with Administrative Letter (AL) 95-06, "Relocation of Technical Specification Administrative Controls Related to Quality Assurance," dated December 12, 1995. The AL concluded that TS administrative quality assurance-related requirements may be relocated to licensee-controlled quality assurance programs. For NMP1, the quality assurance program requirements currently reside in the QATR (UFSAR, Appendix B). Record retention requirements related to activities affecting quality are contained in 10 CFR 50, Appendix B, Criterion XVII, and other sections of 10 CFR 50 that are applicable to NMP1 (e.g., 10 CFR 50.71, 10 CFR 50.59, etc.). The record retention requirements provide records of certain activities important to safety, but the records themselves do not assure safe plant operation. Relocation of the record retention requirements to the QATR will provide adequate regulatory controls for record retention of analyses required by the radiological environmental monitoring program.
34	Relocate the TS 6.11, "Radiation Protection Program," requirements (page 371) to the UFSAR.	TS 6.11 imposes requirements on the procedures for personnel radiation exposure. This specification requires procedures for personnel radiation exposure to be prepared consistent with the requirements of 10 CFR 20. These procedures relate to the protection of plant personnel from radiation hazards during normal plant operations. As such, the procedures have no impact on protection of the public from the consequences of any DBA or transient. Requirements to have procedures to implement 10 CFR 20 are contained in 10 CFR 20.1101(b). Periodic review of these procedures is addressed in 10 CFR 20.1101(c). Since the TS requirements are contained in regulations, and the NMP1 operating license requires compliance with 10 CFR 20, there is no need to repeat the requirements in the TSs. This change is consistent with NUREG-1433.
35	On page 371, replace the relocated TS 6.11, "Radiation Protection Program" title and associated requirements (see Change #34 above) with the title, "Offsite Dose Calculation Manual (ODCM)," and provided text insert.	This change is a conforming change to provide consistency with GL 89-01, as modified by NUREG-1433. Proposed TS 6.11 contains the ODCM definition and reporting requirements previously located in TS definition 1.21 and TS 6.9.1.e, respectively (see Change #'s 5 and 31 above). Since

Change #	Proposed Change	Justification
		the previous TS information is retained and simply consolidated and relocated to TS 6.11, consistent with NUREG-1433, this change represents a format and presentational preference change only. As such, this change is considered administrative, with no impact of its own.
36	Revise TS 6.12, "High Radiation Area," (pages 371 and 372) as follows: Between TS 6.12 and TS 6.12.1 (page 371), insert the provided text. Replace the text in TS 6.12.1 (pages 371 and 372) with the provided text insert. Replace the text in TS 6.12.2 and the footnotes (page 372) with the provided text insert.	TS 6.12 provides high radiation access control alternatives pursuant to 10 CFR 20.203(c)(2) (to be revised to 10 CFR 20.1601(c)). This specification has been significantly revised as a result of the changes to 10 CFR 20, the guidance provided in Regulatory Guide 8.38, "Control of Access to High and Very High Radiation Areas in Nuclear Power Plants," and current industry technology in controlling access to high radiation areas. The proposed changes include capping dose rate to differentiate a high radiation area from a very high radiation area, additional requirements for groups entering high radiation areas, and clarification of the need for communication with, and control of, workers in high radiation areas. These alternate controls relate to the protection of plant personnel from radiation hazards during normal plant operations. As such, the proposed changes have no impact on protection of the public from the consequences of any DBA or transient. The changes are consistent with NUREG-1433 (Revision 2) and provide acceptable alternate methods for controlling access to high radiation areas.
37	Add TS 6.17, "Radioactive Effluent Controls Program," as provided in the text insert.	TS 6.17 adds regulatory controls for the radioactive effluent controls program consistent with GL 89-01, as modified by NUREG-1433 (Revision 2). The proposed requirements include the new 10 CFR 20 references and applicable conforming requirements. In accordance with GL 89-01, procedural details related to RETS have been relocated to licensee-controlled documents (see Change #'s 14 - 18 and 20 - 28 above). The relocation of these procedural details is not intended to reduce the level of radiological effluent control. Rather, the programmatic controls for RETS are provided consistent with the existing regulatory requirements to allow the procedural details to be relocated to licensee-controlled documents. Since the regulatory controls are retained and simply consolidated and relocated to TS 6.17, consistent with GL 89-01, as modified by NUREG-1433 (Revision 2), this change represents a format and presentational preference change only. As such, this change is considered administrative, with no impact of its own.
38	Add TS 6.18, "Explosive Gas and Storage Tank Radioactivity Monitoring Program," as provided in the text insert.	TS 6.18 adds regulatory controls for the radioactive effluent controls program consistent with NUREG-1433, as approved for NMP2. The procedural details related to the explosive gas mixture and liquid waste

Change #	Proposed Change	Justification
		holdup tanks have been relocated to the UFSAR and ODCM, respectively (see Change #'s 13 and 25 above). The relocation of these procedural details is not intended to reduce the level of radiological effluent control. Rather, the programmatic controls for RETS are provided consistent with the existing regulatory requirements to allow the procedural details to be relocated to the licensee-controlled documents. Since the regulatory controls are retained and simply consolidated and relocated to TS 6.17, consistent with NUREG-1433, as approved for NMP2, this change represents a format and presentational preference change only. As such, this change is considered administrative, with no impact of its own.

CONCLUSION

This proposed license amendment revises the NMP1 TSs by (1) implementing programmatic controls for RETS in the Administrative Controls section of the TSs, (2) relocating existing procedural details to licensee-controlled documents or new programs to accommodate the incorporation of GL 89-01 and the relevant portions of NUREG-1433, and (3) updating the references to 10 CFR 20.1 - 20.602 with the corresponding references to 10 CFR 20.1001 - 20.2402 in conformance to NUREG-1433.

The level of radiological control will not be reduced by the proposed changes to the TSs since compliance with the applicable regulatory requirements governing the radiation protection plan, radioactive effluents, radioactive sources, and radiological environmental monitoring, including 10 CFR 20, 40 CFR 190, 10 CFR 30, 10 CFR 50.36a, 10 CFR 50, Appendices A and I, 10 CFR 61, and 10 CFR 71, will continue to be maintained. The proposed changes are administrative in nature and have been incorporated consistent with the recommendations of NRC GL 89-01, GL 95-10, and the guidance of NUREG-1433. It is, therefore, concluded that issuance of the proposed amendment will not be inimical to the common defense and security or health and safety of the public.

NO SIGNIFICANT HAZARDS CONSIDERATION ANALYSIS

According to 10 CFR 50.91, at the time a licensee requests an amendment to its operating license, the licensee must provide to the NRC its analysis using the standards in 10 CFR 50.92 concerning the issue of no significant hazards consideration. According to 10 CFR 50.92(c), a proposed amendment to an operating license involves no significant hazards considerations if operation of the facility in accordance with the proposed amendment would not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated; or

2. Create the possibility of a new or different kind of accident from any accident previously evaluated; or
3. Involve a significant reduction in a margin of safety.

Niagara Mohawk Power Corporation has evaluated this proposed amendment pursuant to 10 CFR 50.91 and has determined that it involves no significant hazards considerations.

The following analyses have been performed:

The operation of Nine Mile Point Unit 1, in accordance with the proposed amendment, will not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed changes do not affect accident initiators or precursors and do not alter the design assumptions, conditions, configuration of the facility, or manner in which the plant is operated. The proposed changes do not alter or prevent the ability of structures, systems, or components to perform their intended safety function to mitigate the consequences of an initiating event within the acceptance limits assumed in the UFSAR. The proposed changes are administrative in nature and only alter the format and location of programmatic controls and procedural details. The programmatic controls and relocated procedural details have been updated to include the new 10 CFR 20 (effective 06/20/91) requirements and compliance with 10 CFR 20 and the other applicable regulatory requirements will continue to be maintained. The proposed changes do not alter the conditions or assumptions in any of the previous accident analyses, and as a result, the radiological consequences associated with these analyses remain unchanged. Therefore, operation in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

The operation of Nine Mile Point Unit 1, in accordance with the proposed amendment, will not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes do not alter the design assumptions, conditions, configuration of the facility, or the manner in which the plant is operated. The proposed changes are administrative in nature and the relocated procedural details do not change the level of programmatic controls and procedural details. Accordingly, the proposed changes do not create any new failure modes or limiting single failures associated with a plant structure, system, or component important to safety. Also, there will be no change in the types or increase in the amounts of any effluents released offsite. Therefore, operation in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.

The operation of Nine Mile Point Unit 1, in accordance with the proposed amendment, will not involve a significant reduction in a margin of safety.

The proposed changes do not impact equipment design or operation, nor do the changes affect any TS-required safety limits or safety system settings that could adversely affect plant safety. The proposed changes are administrative in nature and comply with the recommendations of NRC GL 89-01, GL 95-10, and the guidance of NUREG-1433. The changes provide for the relocation of procedural details to licensee-controlled documents and add appropriate programmatic controls to assure continued compliance with the applicable regulatory requirements governing the radiation protection plan, radioactive effluents, radioactive sources, and radiological environmental monitoring, including 10 CFR 20, 40 CFR 190, 10 CFR 30, 10 CFR 50.36a, 10 CFR 50, Appendices A and I, 10 CFR 61, and 10 CFR 71. The programmatic controls and relocated procedural details have been updated to include the new 10 CFR 20 requirements (effective 06/20/91) in conformance to NUREG-1433. Furthermore, the proposed changes do not result in a change in the types or an increase in the amounts of any effluents released offsite. Therefore, operation in accordance with the proposed amendment will not involve a significant reduction in a margin of safety.

ATTACHMENT C

NIAGARA MOHAWK POWER CORPORATION

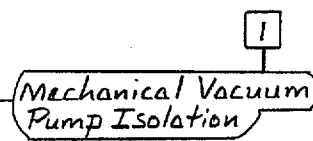
LICENSE NO. DPR-63

DOCKET NO. 50-220

Mark-up Copy of the Proposed Changes to the Current Technical Specifications

The current version of pages iii, iv, vi, 6 through 8, 191, 192, 196, 252, 282 through 338, 362 through 366, 368, 369, 371, 372, and 374 has been marked-up by hand to reflect the proposed changes.

SECTION	DESCRIPTION		PAGE
3.3.4	Isolation Valves	4.3.4	Isolation Valves
3.3.5	Access Control	4.3.5	Access Control
3.3.6	Vacuum Relief	4.3.6	Vacuum Relief
3.3.7	Containment Spray	4.3.7	Containment Spray
3.4.0	Secondary Containment		164
	<u>Limiting Condition for Operation</u>	<u>Surveillance Requirements</u>	
3.4.1	Leakage Rate	4.4.1	Leakage Rate
3.4.2	Isolation Valves	4.4.2	Isolation Valves
3.4.3	Access Control	4.4.3	Access Control
3.4.4	Emergency Ventilation	4.4.4	Emergency Ventilation
3.4.5	Control Room Ventilation	4.4.5	Control Room Ventilation
3.5.0	Shutdown and Refueling		182
	<u>Limiting Condition for Operation</u>	<u>Surveillance Requirements</u>	
3.5.1	Source Range Monitoring	4.5.1	Source Range Monitoring
3.5.2	Refueling Platform Interlock	4.5.2	Refueling Platform Interlock
3.6.0	General Reactor Plant		191
	<u>Limiting Condition for Operation</u>	<u>Surveillance Requirements</u>	
3.6.1	Station Process Effluents	4.6.1	Station Process Effluents
3.6.2	Protective Instrumentation	4.6.2	Protective Instrumentation
3.6.3	Emergency Power Sources	4.6.3	Emergency Power Sources
3.6.4	Shock Suppressors (Snubbers)	4.6.4	Shock Suppressors (Snubbers)



SECTION	DESCRIPTION	PAGE
3.6.5	Radioactive Material Sources	265
3.6.6	Through 3.6.10 (Deleted)	
3.6.11	Accident Monitoring Instrumentation	268
3.6.12	Reactor Protection System and Reactor Trip System Power Supply Monitoring	274
3.6.13	Remote Shutdown Panels	277
3.6.14	Radioactive Effluent Instrumentation	282
3.6.15	Radioactive Effluents	295
3.6.16	Radioactive Effluent Treatment Systems	314
3.6.17	Explosive Gas Mixture	317
3.6.18	Mark I Containment	319
3.6.19	Liquid Waste Holdup Tanks	321
3.6.20	Radiological Environmental Monitoring Program	323
3.6.21	Interlaboratory Comparison Program	334
3.6.22	Land Use Census	336
3.7.1	Special Test Exceptions - Shutdown Margin Demonstration	339
4.6.5	Radioactive Material Sources	265
4.6.6	Through 4.6.10 (Deleted)	
4.6.11	Accident Monitoring Instrumentation	268
4.6.12	Reactor Protection System and Reactor Trip System Power Supply Monitoring	274
4.6.13	Remote Shutdown Panels	277
4.6.14	Radioactive Effluent Instrumentation	282
4.6.15	Radioactive Effluents	295
4.6.16	Radioactive Effluent Treatment Systems	314
4.6.17	Explosive Gas Mixture	317
4.6.18	Mark I Containment	319
4.6.19	Liquid Waste Holdup Tanks	321
4.6.20	Radiological Environmental Monitoring Program	323
4.6.21	Interlaboratory Comparison Program	334
4.6.22	Land Use Census	336
4.7.1	Special Test Exceptions - Shutdown Margin Demonstration	339

SECTION	DESCRIPTION	PAGE
6.10	Record Retention 3	370
6.11	Radiation Protection Program Offsite Dose Calculation Manual (DDCM)	371
6.12	High Radiation Area	371 2-3
6.13	Fire Protection Inspection	373
6.14	Systems Integrity	373
6.15	Iodine Monitoring	373
6.16	10 CFR 50 Appendix J Testing Program Plan	373 1
<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <div style="text-align: right; margin-bottom: 5px;">3</div> 6.17 Radioactive Effluent Controls Program 374 6.18 Explosive Gas and Storage Tank Radioactivity Monitoring Program 375 </div>		

1.16 (Deleted)

1.17 (Deleted)

(Deleted) 4

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

(Deleted) 4

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 Niagara Mohawk Power Corporation, 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

(Deleted) 4

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)

(Deleted) 5

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) ← (Deleted) 6

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 ← (Deleted) 4

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 ← (Deleted) 7

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 Niagara Mohawk Power Corporation or the New York Power Authority.

1.25 Solidification ← (Deleted) 8

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

1.26 Source Check ← (Deleted) 4

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 ← (Deleted) 4

The unrestricted area shall be any area at or beyond the site boundary access that is not controlled by Niagara Mohawk Power Corporation 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.

1.28 Ventilation/Exhaust Treatment System ← (Deleted) 4

A ventilation exhaust treatment system is any system designed and installed to reduce gaseous radioiodine or radioactive material in particulate form in effluents by passing ventilation or vent exhaust gases through charcoal adsorbers and/or HEPA filters for the purpose of removing iodines or particulates from the gaseous exhaust stream prior to the release to the environment. Such a system is not considered to have any effect on noble gas effluents. Engineered Safety Feature (ESF) atmospheric cleanup systems are not considered to be ventilation exhaust treatment system components.

1.29 Venting ← (Deleted) 4

Venting 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 not provided or required during venting. Vent, used in system names, does not imply a venting process.

1.30 Reactor Coolant Leakage

a. Identified Leakage

- (1) Leakage into closed systems, such as pump seal or valve packing leaks that are captured, flow metered and conducted to a sump or collecting tank, or
- (2) Leakage into the primary containment atmosphere from sources that are both specifically located and known not to be from a through-wall crack in the piping within the reactor coolant pressure boundary.

b. Unidentified Leakage

All other leakage of reactor coolant into the primary containment area.

1.31 Core Operating Limits Report

The CORE OPERATING LIMITS REPORT is the unit-specific document that provides core operating limits for the current operating reload cycle. These cycle-specific core operating limits shall be determined for each reload cycle in accordance with Specification 6.9.1f. Plant operation within these operating limits is addressed in individual specifications.

3.6.0 GENERAL REACTOR PLANT

A) GENERAL APPLICABILITY

mechanical vacuum pump isolation - 9

Applies to Station process effluents, reactor protection system and emergency power sources.

B) GENERAL OBJECTIVE

LIMITING CONDITIONS FOR OPERATION - To define the lowest functional capability or performance level of the equipment to assure overall Station safety.

SURVEILLANCE REQUIREMENTS - To define the test or inspection required to assure the functional capability or performance level of this equipment.

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENT

- 3.6.1 ~~STATION PROCESS EFFLUENTS~~ MECHANICAL VACUUM
PUMP ISOLATION 9
- a. ~~Effluent release limits are described in Specification 3.6.15.~~ (Deleted) 10
- b. The mechanical vacuum pump line shall be capable of automatic isolation by closure of the air-operated valve upstream of the pumps. The signal to initiate isolation shall be from high radioactivity (five times normal) in the main steam line.

- 4.6.1 ~~STATION PROCESS EFFLUENTS~~
- a. ~~Monitoring the radioactive discharges from Nine Mile Point Unit 1 is described in Specification 4.6.15.~~ (Deleted) 10
- b. At least once during each operating cycle (prior to startup), verify automatic securing and isolation of the mechanical vacuum pump.

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENT

-
- (8) **Off-Gas and Vacuum Pump Isolation** - The **respective system** shall be isolated or the instrument channel shall be considered inoperable and Specification 3.6.1 shall be applied.
- (9) **Diesel Generator Initiation** - The diesel generator shall be considered inoperable and Specification 3.6.3 shall be applied.
- (10) **Emergency Ventilation Initiation** - The emergency ventilation system shall be considered inoperable and Specification 3.4.4 shall be applied.
- (11) **High Pressure Coolant Injection Initiation** - The high pressure coolant injection system shall be considered inoperable and Specification 3.1.8.c shall be applied.
- (12) **Control Room Ventilation** - The control room ventilation system shall be considered inoperable and Specification 3.4.5 shall be applied.

BASES FOR 3.6.2 AND 4.6.2 PROTECTIVE INSTRUMENTATION

High Flow-Main Steam Line, ± 1 psid

High Flow-Emergency Cooling Line, ± 1 psid

High Area Temperature-Main Steam Line, $\pm 10^\circ\text{F}$

High Area Temperature-Clean-up and Shutdown, $\pm 6^\circ\text{F}$

High Radiation-Main Steam Line, +100% and -50% of set point value

~~High Radiation-Emergency Cooling System Vent, +100% and -50% of set point~~ 12

High Radiation-Reactor Building Vent, +100% and -50% of set point

High Radiation-Refueling Platform, +100% and -50% of set point

~~High Radiation-Offgas Line, $\pm 50\%$ of set point, (Appendix D)*~~ 12

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with NEDC-30851P-A, "Technical Specification Improvement Analyses for BWR Reactor Protection System," and MDE-77-0485, "Technical Specification Improvement Analysis for Nine Mile Point Nuclear Station, Unit 1."

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with NEDC-30851P-A Suppl2, "Technical Specification Improvement Analyses for BWR Isolation Instrumentation Common to RPS and ECCS Instrumentation," and with NEDC-31677P-A, "Technical Specification Improvement Analyses for BWR Isolation Actuation Instrumentation." Because of local high radiation, testing instrumentation in the area of the main steam line isolation valves can only be done during periods of Station shutdown. These functions include high area temperature isolation and isolation valve position scram.

*FSAR 12

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
<p>3.6.14 RADIOACTIVE EFFLUENT INSTRUMENTATION</p> <p><u>Applicability:</u></p> <p>Applies to the operability of plant instrumentation that monitors plant effluents.</p> <p><u>Objective:</u></p> <p>To assure the operability of instrumentation to monitor the release of radioactive plant effluents.</p> <p><u>Specification:</u></p> <p>a. Liquid Effluent</p> <p>The radioactive liquid effluent monitoring instrumentation channels shown in Table 3.6.14-1 shall be operable with their alarm setpoints set to ensure that the limits of Specification 3.6.15.a.1 are not exceeded. The alarm setpoints of these channels shall be determined and adjusted in accordance with the methodology and parameters in the Offsite Dose Calculation Manual.</p> <p>With a radioactive liquid effluent monitoring instrumentation channel alarm setpoint less conservative than a value which will ensure that the limits of 3.6.15.a.1 are met, immediately suspend the release of radioactive liquid effluents monitored by the affected channel, or declare the channel inoperable, or change the setpoint so it is acceptably conservative.</p>	<p>4.6.14 RADIOACTIVE EFFLUENT INSTRUMENTATION</p> <p><u>Applicability:</u></p> <p>Applies to the surveillance of instrumentation that monitors plant effluents.</p> <p><u>Objective:</u></p> <p>To verify operation of monitoring instrumentation.</p> <p><u>Specification:</u></p> <p>a. Liquid Effluent</p> <p>Each radioactive liquid effluent monitoring instrumentation channel shall be demonstrated operable by performance of the sensor check, source check instrument channel calibration and channel test operations at the frequencies shown in Table 4.6.14-1.</p> <p><u>Records</u> - Auditable records shall be maintained, in accordance with procedures in the Offsite Dose Calculation Manual, of all radioactive liquid effluent monitoring instrumentation alarm setpoints. Setpoints and setpoint calculations shall be available for review to ensure that the limits of Specification 3.6.15.a.1 are met.</p>

13

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENT

With less than the minimum number of radioactive liquid effluent monitoring instrumentation channels operable, take the action shown in Table 3.6.14-1. Restore the instruments to OPERABLE status within 30 days, or outline in the next Semi-Annual Radioactive Effluent Release Report the cause of the inoperability and how the instruments were or will be restored to operable status.

TABLE 3.6.14-1
RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

		Limiting Condition for Operation	Minimum Channels Operable	Applicability
Instrument				
1.	Gross Radioactivity Monitors ^(a)			
	A. Liquid Radwaste Effluent Line		1 (c)	At all times ^(b)
	B. Service Water System Effluent Line		1 (d)	At all times ⁽ⁱ⁾
2.	Flow Rate Measurement Devices			
	A. Liquid Radwaste Effluent Line		1 (e)	At all times
	B. Discharge Canal		**	**
3.	Tank Level Indicating Devices ^(g)			
	A. Outside Liquid Radwaste Storage Tanks		1 (f)	At all times

**Pumps curves or rated capacity will be utilized to estimate flow.

NOTES FOR TABLE 3.6.14-1

- (a) Provide alarm, but do not provide automatic termination of release.
- (b) An operator shall be present in the Radwaste Control Room at all times during a release.
- (c) With the number of channels operable less than required by the minimum channels operable requirement, effluent releases may continue provided that prior to initiating a release:
1. At least two independent samples are analyzed in accordance with Specification 4.6.15.a, and
 2. At least two technically qualified members of the Facility Staff independently verify the release rate calculations and discharge line valving.
- Otherwise suspend release of radioactive effluents via this pathway.
- (d) With the number of channels operable less than required by the minimum channels operable requirement, effluent releases via this pathway may continue provided that, at least once per 12 hours, grab samples are collected and analyzed for gamma radioactivity at a lower limit of detection of at least 5×10^{-7} microcurie/ml.
- (e) During discharge, with the number of channels operable less than required by the minimum channels operable requirement, effluent releases via this pathway may continue provided the flow rate is estimated at least once per 4 hours during actual releases.
- (f) With the number of channels operable less than required by the minimum channels operable requirement, liquid additions to this tank may continue provided the tank liquid level is estimated during liquid additions to the tank.
- (g) Tanks included in this specification are those outdoor tanks that are not surrounded by liners, dikes or walls capable of holding the tank contents.
- (h) deleted
- (i) Monitoring will be conducted continuously by alternately sampling the reactor building and turbine building service water return lines for approximately 15-minute intervals.

TABLE 4.6.14-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

Surveillance Requirement

Instrument		Sensor Check	Source Check ^(f)	Channel Test	Channel Calibration
1.	Gross Beta or Gamma Radioactivity Monitors				
a.	Liquid Radwaste Effluent Line	Once/day*	Once/discharge*	Once/3 months ^{(a)*}	Once/year ^{(b)*}
b.	Service Water Effluent Line	Once/day	Once/month	Once/3 months ^(a)	Once/year ^(b)
2.	Flow Rate Measurement Devices				
a.	Liquid Radwaste Effluent Line	Once/day ^(c)	None	None	Once/year
b.	Discharge Canal ^(d)	None	None	None	Once/year
3.	Tank Level Indicating Devices ^(e)				
a.	Outside Liquid Radwaste Storage Tanks	Once/day**	None	Once/3 months	Once/18 months

* Required prior to removal of blank flange in discharge line and until blank flange is replaced.

** During liquid addition to the tank

13
NOTES FOR TABLE 4.6.14-1

- (a) The channel test shall also demonstrate that control room alarm annunciation occurs if any of the following conditions exist:
1. Instrumentation indicates measured levels above the alarm setpoint.
 2. Instrument indicates a downscale failure.
 3. Instrument controls not set in operate mode.
- (b) The channel calibration shall be performed using one or more reference standards certified by the National ¹³~~Bureau~~ of Standards or using standards that are traceable to the ¹³~~National Bureau of Standards~~ or using actual samples of liquid waste that have been analyzed on a system that has been calibrated with ¹³~~National Bureau of Standard~~ traceable sources. These standards shall permit calibrating the system over its intended range of energy and measurement. ¹³~~NIST~~ ¹³~~Institute~~ ¹³~~and Technology (NIST)~~
- (c) Sensor check shall consist of verifying indication of flow during periods of release. Sensor check shall be made at least once per 24 hours on days on which continuous, periodic or batch releases are made. ¹³~~NIST~~ ¹³
- (d) Pump performance curves or rated data may be used to estimate flow.
- (e) Tanks included in this specification are those outdoor tanks that are not surrounded by liners/dikes or walls capable of holding the tank contents.
- (f) Source check may consist of an installed/check source, response to an external source, or (for liquid radwaste monitors) verification within 30 minutes of commencing discharge of monitor response to effluent. ¹³

LIMITING CONDITION FOR OPERATION**b. Gaseous Process and Effluent**

The radioactive gaseous process and effluent monitoring instrumentation channels shown in Table 3.6.14-2 shall be operable with their alarm setpoints set to ensure that the limits of Specification 3.6.15.b.1 are not exceeded. The alarm setpoints of these channels shall be determined and adjusted in accordance with the methodology and parameters in the Offsite Dose Calculation Manual.

With a radioactive gaseous process and effluent monitoring instrumentation channel alarm setpoint less conservative than required by the above specification, immediately suspend the release of radioactive gaseous effluents monitored by the affected channel, or declare the channel inoperable, or change the setpoint so it is acceptably conservative.

With less than the minimum number of radioactive gaseous process and effluent monitoring instrumentation channels operable, take the action shown in Table 3.6.14-2. Restore the instruments to OPERABLE status within 30 days or outline in the next Semi-Annual Radioactive Effluent Release Report the cause of the inoperability and how the instruments were or will be restored to operable status.

SURVEILLANCE REQUIREMENT**b. Gaseous Process and Effluent**

Each radioactive gaseous process and effluent monitoring instrumentation channel shall be demonstrated operable by performance of the sensor check, source check, instrument channel calibration and instrument channel test operations at the frequencies shown in Table 4.6.14-2.

Auditable records shall be maintained of the calculations made, in accordance with procedures in the Offsite Dose Calculation Manual, of radioactive gaseous process and effluent monitoring instrumentation alarm setpoints. Setpoints and setpoint calculations shall be available for review to ensure that the limits of Specification 3.6.15.b.1 are met.

TABLE 3.6.14-2

RADIOACTIVE GASEOUS PROCESS AND EFFLUENT MONITORING INSTRUMENTATION

Limiting Condition for Operation

Instrument		Minimum Channels Operable	Applicability	Action
1.	Stack Effluent Monitoring			
	a. Noble Gas Activity Monitor	1	*	(a)
	b. Iodine Sampler Cartridge	1	*	(b)
	c. Particulate Sampler Filter	1	*	(b)
	d. Sample Flow Rate Measuring Device	1	*	(c)
	e. Stack Gas Flow Rate Measuring Device	1	*	(d)
2.	Main Condenser Offgas Treatment Explosive Gas Monitoring System			
	a. Hydrogen Monitor ^(f)	1	**	(e)

* At all times.

** During Offgas System Operation.

TABLE 3.6.14-2 (cont'd)
RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

Instrument		Minimum Channels Operable	Applicability	Action
3.	Condenser Air Ejector Radio-activity Monitor (Recombiner discharge or air ejector discharge)			
a.	Noble Gas Activity	1	...	(g)
b.	Offgas System Flow Rate Measuring Devices	1	...	(c)
c.	Sampler Flow Rate Measuring Devices	1	...	(c)
4.	Emergency Condenser System			
a.	Noble Gas Activity Monitor	1 per vent	(h)
... During operation of the main condenser air ejector During power operating conditions and whenever the reactor coolant temperature is greater than 212°F except for hydrostatic testing with the reactor not critical.				

NOTES FOR TABLE 3.6.14-2

- (a) With the number of channels operable less than required by the minimum channels operable requirement, effluent releases via this pathway may continue provided grab samples are taken once per 12 hours and these samples are analyzed for gross activity within 24 hours.
- (b) With the number of channels operable less than required by the minimum channels operable requirements, effluent releases via this pathway may continue provided that samples are continuously collected with auxiliary sampling equipment starting within 8 hours of discovery in accordance with the requirements of Table 4.6.15-2.
- (c) With the number of channels operable less than required by the minimum channels operable requirements, effluent releases via this pathway may continue provided the flow rate is estimated once per 8 hours.
- (d) Stack gas flow rate may be estimated by exhaust fan operating configuration.
- (e) With the number of channels operable less than required by the minimum channels operable requirement, operation of the main condenser offgas treatment system may continue provided gas samples are collected and analyzed once per 8 hours.
- (f) One monitor on each recombiner. The system is designed to withstand the effects of a hydrogen explosion.
- (g) With the number of channels operable less than required by the minimum channels operable requirement, gases from the main condenser offgas treatment system may be released provided:
1. Offgas grab samples are collected and analyzed once per 12 hours.
 2. The stack monitor is operable.
 3. Otherwise, be in at least hot shutdown within 12 hours.
- (h) With the number of channels operable less than required by the minimum channels operable requirements, steam release via this pathway may commence or continue provided vent pipe radiation dose rates are monitored once per four hours.

**TABLE 4.6.14-2
RADIOACTIVE GASEOUS PROCESS AND EFFLUENT MONITORING INSTRUMENT**

		Surveillance Requirements			
Instrument		Sensor Check	Source Check	Channel Test	Channel Calibration
1. Stack Effluent Monitoring System					
a. Noble Gas Activity Monitor		Once/day ^(a)	Once/month	Once/3 months ^(g)	Once/year ^(b)
b. Iodine Sampler Cartridge		None	None	None	None
c. Particulate Sampler Filter		None	None	None	None
d. Sampler Flow Rate Measuring Device		Once/day ^(a)	None	None	Once/year
e. Stack Gas Flow Rate Measuring Device		Once/day	None	None	Once/year
2. Main Condenser Offgas Treatment System Explosive Gas Monitoring system (for system designed to withstand the effects of a hydrogen explosion)					
a. Hydrogen Monitor		Once/day ^(d)	None	Once/month	Once/3 months ^(e)
3. Condenser Air Ejector/Radioactivity Monitor (Recombine Discharge or Air Ejector Discharge)					
a. Noble Gas Activity Monitor		Once/day ^(f)	Once/month	Once/operating cycle ^(c)	Once/year ^(b)
b. Flow Rate Monitor		Once/day ^(f)	None	None	Once/year
c. Sampler Flow Rate Monitor		Once/day ^(f)	None	None	Once/year
4. Emergency Condenser System					
a. Noble Gas Activity Monitor		Once/day ^(h)	Once/month	Once/3 months ^(g)	Once/operating cycle ^(b)

13

NOTES FOR TABLE 4.6.14-2

- (a) At all times, ¹³ ~~(and Technology)~~ ^(NIST)
- (b) The channel calibration shall be performed using one or more of the reference standards certified by the National ¹³ ~~Bureau~~ ^{NIST} of Standards, standards that are traceable to the ~~National Bureau of Standards~~ or using actual samples of gaseous effluent that have been analyzed on a system that has been calibrated with ~~National Bureau of Standards~~ traceable sources. These standards shall permit calibrating the system over its intended range of energy and measurement. ¹³ ~~NIST~~
- (c) The channel function test shall demonstrate that control room alarm annunciation occurs if either of the following conditions exist:
- 1) Instrument indicates measured levels above the Hi or Hi Hi alarm setpoint.
 - 2) Instrument indicates a downscale failure.
- The channel function test shall also demonstrate that automatic isolation of this pathway occurs if either of the following conditions exist:
- 1) Instruments indicate two channels above Hi Hi alarm setpoint.
 - 2) Instruments indicate one channel above Hi Hi alarm setpoint and one channel downscale.
- (d) During main condenser offgas treatment system operation.
- (e) The channel calibration shall include the use of standard gas samples containing a nominal: ¹³
1. One volume percent hydrogen, balance nitrogen.
 2. Four volume percent hydrogen, balance nitrogen.
- (f) During operation of the main condenser air ejector.
- (g) The channel test shall produce upscale and downscale annunciation.
- (h) During power operating conditions and whenever the reactor coolant temperature is greater than 212°F except for hydrostatic testing with the reactor not critical.

BASES FOR RADIOACTIVE EFFLUENT INSTRUMENTATION 3.6.14 and 4.6.14

The radioactive liquid and gaseous effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in liquid and gaseous effluents during actual or potential releases of liquid and gaseous effluents. The alarm/trip setpoints for these instruments shall be calculated and adjusted in accordance with the methodology and parameters in the Offsite Dose Calculation Manual to ensure that the alarm/trip will occur prior to exceeding the limits of 10CFR Part 20. This instrumentation also includes provisions for monitoring and controlling the concentrations of potentially explosive gas mixtures in the main condenser offgas treatment system. The operability and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63 and 64 of Appendix A to 10CFR Part 50. The purpose of tank level indicating devices is to assure the detection and control of leaks that if not controlled could potentially result in the transport of radioactive materials to unrestricted areas.

LIMITING CONDITION FOR OPERATION

3.6.15 RADIOACTIVE EFFLUENTS

19

Applicability: MAIN CONDENSER OFFGAS

Applies to the radioactive effluents from the station.

Objective: 19 main condenser

To assure that radioactive material is not released to the environment in any uncontrolled manner and is within the limits of 10CFR20 and 10CFR50 Appendix I.

Specification:

14 a. Liquid

(1) Concentration

19
Add Insert
from page 305

The concentration of radioactive material released in liquid effluents to unrestricted areas shall be limited to the concentrations specified in 10CFR Part 20, Appendix B, Table II, Column 2 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2×10^{-4} microcuries/ml total activity.

Should the concentration of radioactive material released in liquid effluents to unrestricted areas exceed the above limits, restore the concentration to within the above limits immediately.

SURVEILLANCE REQUIREMENT

4.6.15 RADIOACTIVE EFFLUENTS

Applicability:

Applies to the periodic test and recording requirements of the station process effluents.

Objective: main condenser offgas 19

To ascertain that radioactive effluents from the station are within allowable values of 10CFR20, Appendix B and 10CFR50, Appendix I.

Specification: main condenser 19

a. Liquid

(1) Concentration

19
Add Insert
from page 305

Radioactive liquid wastes shall be sampled and analyzed according to the sampling and analysis program of Table 4.6.15-1.

The results of the radioactivity analyses shall be used in accordance with the methodology and parameters in the Offsite Dose Calculation Manual to assure that the concentrations at the point of release are maintained within the limits of Specification 3.6.15.a(1).

LIMITING CONDITION FOR OPERATION

(2) Dose

The dose or dose commitment to a member of the public from radioactive materials in liquid effluents released, from each reactor unit, to unrestricted areas (see Figures 5.1-1) shall be limited:

- (a) During any calendar quarter to less than or equal to 1.5 mrem to the total body and to less than or equal to 5 mrem to any organ, and
- (b) During any calendar year to less than or equal to 3 mrem to the total body and to less than or equal to 10 mrem to any organ.

With the calculated dose from the release of radioactive materials in liquid effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.3 a Special Report that identifies the cause(s) for exceeding the limit(s) and defines the corrective actions that have been taken to reduce the releases and the proposed corrective actions to be taken to assure that subsequent releases will be in compliance with the above limits.

SURVEILLANCE REQUIREMENT

(2) Dose

Cumulative dose contributions from liquid effluents for the current calendar quarter and the current calendar year shall be determined in accordance with the methodology and parameters in the Offsite Dose Calculation Manual, prior to each release of a batch of liquid waste.

TABLE 4.6/15-1
RADIOACTIVE LIQUID WASTE SAMPLING AND ANALYSIS PROGRAM
Surveillance Requirement

Liquid Release Type	Minimum Sampling Frequency	Analysis Frequency	Type of Activity Analysis	Lower Limit ^(a) of Detection (LLD) (μCi/ml)
A. Batch Waste ^(b) Tanks	* Each Batch	* Each Batch	Principal Gamma ^(c) Emitters	5 x 10 ⁻⁷
			I-131	1 x 10 ⁻⁶
	* Each Batch ^(d)	* Each Batch ^(d)	Dissolved and Entrained Gases (Gamma Emitters)	1 x 10 ⁻⁵
	* Each Batch	Monthly Composite ^(e)	H-3	1 x 10 ⁻⁵
	* Each Batch	Quarterly Composite ^(e)	Gross Alpha	1 x 10 ⁻⁷
B. Service Water System Effluent			Sr-89, Sr-90	5 x 10 ⁻⁸
			Fe-55	1 x 10 ⁻⁶
	Once/month ^(f)	Once/month ^(f)	Principal Gamma ^(c) Emitters	5 x 10 ⁻⁷
			I-131	1 x 10 ⁻⁶
			Dissolved and Entrained Gases	1 x 10 ⁻⁵
			H-3	1 x 10 ⁻⁵
			Gross Alpha	1 x 10 ⁻⁷
	Once/quarter ^(f)	Once/quarter ^(f)	Sr-89, Sr-90	5 x 10 ⁻⁸
			Fe-55	1 x 10 ⁻⁶

* Completed prior to each release

NOTES FOR TABLE 4.6.15-1

- (a) The LLD is defined, for purposes of these specifications, as the smallest concentration of radioactive material in a sample that will yield a net count above system background that will be detected with 95 percent probability with only 5 percent probability of falsely concluding that a blank observation represents a "real" signal. For a particular measurement system which may include radiochemical separation:

$$LLD = \frac{4.66 S_b}{E \cdot V \cdot 2.22 \times 10^6 \cdot Y \cdot \exp(-\lambda \Delta t)}$$

Where:

LLD is the "a priori" lower limit of detection as defined above, as microcuries per unit mass or volume,

S_b is the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate, as counts per minute,

E is the counting efficiency, as counts per disintegration,

V is the sample size in units of mass or volume,

2.22×10^6 is the number of disintegrations per minute per microcurie,

Y is the fractional radiochemical yield, when applicable,

λ is the radioactive decay constant for the particular radionuclide, and

Δt for plant effluents is the elapsed time between the midpoint of sample collection and time of counting.

Typical values of E, V, Y and Δt should be used in the calculation.

It should be recognized that the LLD is defined as a before the fact limit representing the capability of a measurement system and not as an after the fact for a particular measurement.

NOTES FOR TABLE 4.6.15-1

- (b) A batch release is the discharge of liquid wastes of a discrete volume. Prior to sampling for analyses, each batch shall be isolated and then thoroughly mixed to assure representative sampling.
- (c) The principal gamma emitters for which the LLD specification applies exclusively are the following radionuclides: Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, Cs-134, Cs-137, Ce-141 and Ce-144. This list does not mean that only these nuclides are to be considered. Other gamma peaks that are identifiable, together with those of the above nuclides, shall also be analyzed and reported in the Semi-Annual Radioactive Effluent Release Report.
- (d) If more than one batch is released in a calendar month, only one batch need be sampled and analyzed during that month.
- (e) A composite sample is one in which the quantity of liquid sampled is proportional to the quantity of liquid waste discharged and in which the method of sampling employed results in a specimen that is representative of the liquids released.
- (f) If the alarm setpoint of the service water effluent monitor, as determined by the method presented in the Offsite Dose Calculation Manual, is exceeded, the frequency of sampling shall be increased to daily until the condition no longer exists. Frequency of analysis shall be increased to daily for principal gamma emitters (including dissolved and entrained gases) and an incident composite for H-3, gross alpha, Sr-89, Sr-90 and Fe-55.

LIMITING CONDITION FOR OPERATION

b. Gaseous

(1) Dose Rate

The dose rate due to radioactive materials released in gaseous effluents from the site to areas at and beyond the site boundary shall be limited to the following:

- (a) For noble gases: Less than or equal to 500 mrem/year to the total body and less than or equal to 3000 mrem/year to the skin, and
- (b) For iodine-131, iodine-133, tritium and all radionuclides in particulate form with half lives greater than 8 days: Less than or equal to 1500 mrem/year to any organ.

With the dose rate(s) exceeding the above limits, without delay restore the release rate to within the above limits(s).

SURVEILLANCE REQUIREMENT

b. Gaseous

(1) Dose Rate

The dose rate due to noble gases in gaseous effluents shall be determined to be within the limits of Specification 3.6.15 in accordance with the methodology and parameters in the Offsite Dose Calculation Manual.

The dose rate due to iodine-131, iodine-133, tritium and all radionuclides in particulate form with half lives greater than 8 days in gaseous effluents shall be determined to be within the limits of Specification 3.6.15 in accordance with methodology and parameters in the Offsite Dose Calculation Manual by obtaining representative samples and performing analyses in accordance with the sampling and analysis program specified in Table 4.6.15-2.

LIMITING CONDITION FOR OPERATION

(2) Air Dose

The air dose due to noble gases released in gaseous effluents, from each reactor unit, to areas at and beyond the site boundary shall be limited to the following:

- (a) During any calendar quarter: Less than or equal to 5 milliroentgen for gamma radiation and less than or equal to 10 mrad for beta radiation and,
- (b) During any calendar year: Less than or equal to 10 milliroentgen for gamma radiation and less than or equal to 20 mrad for beta radiation.

With the calculated air dose from radioactive noble gases in gaseous effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.3 a Special Report that identifies the cause(s) for exceeding the limit(s) and defines the corrective actions that have been taken to reduce the releases and the proposed corrective actions to be taken to assure that subsequent releases will be in compliance with the above limits.

SURVEILLANCE REQUIREMENT

(2) Air Dose

Cumulative dose contributions for the current calendar quarter and current calendar year for noble gases shall be determined monthly in accordance with the methodology and parameters in the Offsite Dose Calculation Manual.

LIMITING CONDITION FOR OPERATION**(3) Tritium, Iodines and Particulates**

The dose to a member of the public from iodine-131, iodine-133, tritium and all radionuclides in particulate form with half lives greater than 8 days in gaseous effluents released, from each reactor unit, to areas at and beyond the site boundary shall be limited to the following:

- (a) During any calendar quarter: Less than or equal to 7.5 mrem to any organ and,
- (b) During any calendar year: Less than or equal to 15 mrem to any organ.

With the calculated dose from the release of iodine-131, iodine-133, tritium and radionuclides in particulate form with half lives greater than 8 days, in gaseous effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.3, a Special Report that identifies the cause(s) for exceeding the limit and defines the corrective actions that have been taken to reduce the releases and the proposed corrective actions to be taken to assure that subsequent releases will be in compliance with the above limits.

SURVEILLANCE REQUIREMENT**(3) Tritium, Iodines and Particulates**

Cumulative dose contributions for the current calendar quarter and current calendar year for iodine-131, iodine-133, tritium and radionuclides in particulate form with half lives greater than 8 days shall be determined monthly in accordance with the methodology and parameters in the Offsite Dose Calculation Manual.

TABLE 4.6.15-2
RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

Surveillance Requirements

Gaseous Release Type	Sampling Frequency	Minimum Analysis Frequency	Type of Activity Analysis	Lower Limit ^(a) of Detection (LLD) ($\mu\text{Ci/ml}$)
A. Containment Purge ^(b)	Each Purge	Prior to each release	Principal Gamma Emitters ^(c)	1×10^{-4}
	Grab Sample	Each Purge	Principal Gamma Emitters ^(c)	1×10^{-4}
B. Stack	Once/Month ^(d)	Once/Month ^(d)	H-3	1×10^{-6}
	Once/Month ^(h)	Once/Month	Principal Gamma Emitters ^(c)	1×10^{-4}
C. Stack	Continuous ^(e)	Once/Week ^(f)	H-3	1×10^{-6}
		Charcoal Sample	I-131	1×10^{-12}
	Continuous ^(e)	Once/Week ^(f)	Principal Gamma Emitters ^(c)	1×10^{-11}
	Continuous ^(e)	Particulate Sample		
	Continuous ^(e)	Once/Month Composite Particulate Sample	Gross alpha, Sr-89, Sr-90	1×10^{-11}
	Continuous ^(e)	Noble gas monitor	Noble Gases, Gross Gamma or Principal Gamma Emitters ^(c)	$1 \times 10^{-6(g)}$

NOTES FOR TABLE 4.6.15-2

- (a) The LLD is defined in notation (a) of Table 4.6.15-1.
- (b) Purge is defined in Section 1.23.
- (c) The principal gamma emitters for which the LLD specification applies exclusively are the following radionuclides: Kr-87, Kr-88, Xe-133, Xe-135 and Xe-138 for gaseous emissions and Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, Cs-134, Cs-137, Ce-141, I-131 and Ce-144 for particulate emissions. This list does not mean that only these nuclides are to be considered. Other gamma peaks that are identifiable, together with those of the above nuclides, shall also be analyzed and reported in the Semi-Annual Radioactive Effluent Release Report pursuant to Specification 6.9.1.
- (d) Sampling and analysis shall also be performed following shutdown, startup or an increase on the recombiner discharge monitor of greater than 50 percent, factoring out increases due to changes in thermal power level or dilution flow; or when the stack release rate is in excess of 1000 $\mu\text{Ci}/\text{second}$ and steady-state gaseous release rate increases by 50 percent.
- (e) The sample flow rate and the stack flow rate shall be known for the time period covered by each dose or dose rate calculation made in accordance with Specifications 3.6.15.b.(1).(b) and 3.6.15.b.(3).
- (f) When the release rate is in excess of 1000 $\mu\text{Ci}/\text{sec}$ and steady state gaseous release rate increases by 50 percent. The iodine and particulate collection device shall be removed and analyzed to determine the changes in iodine-131 and particulate release rate. The analysis shall be done daily following each change until it is shown that a pattern exists which can be used to predict the release rate; after which it may revert to weekly sampling frequency. When samples collected for 24 hours are analyzed, the corresponding LLD's may be increased by a factor of 10.
- (g) When RAGEMS is inoperable the LLD for noble gas gross gamma analysis shall be 1×10^{-4} .
- (h) Tritium grab samples shall be taken weekly from the station ventilation exhaust (stack) when fuel is offloaded until stable tritium release levels can be demonstrated.

LIMITING CONDITION FOR OPERATION

19 c. Main Condenser

The gross radioactivity (beta and/or gamma) rate of noble gases measured at the recombiner discharge shall be limited to less than or equal to 500,000 μ Ci/sec. This limit can be raised to 1 Ci/sec. for a period not to exceed 60 days provided the offgas treatment system is in operation.

With the gross radioactivity (beta and/or gamma) rate of noble gases at the recombiner discharge exceeding the above limits, restore the gross radioactivity rate to within its limit within 72 hours or be in at least Hot Shutdown within the next 12 hours.

21 d. Uranium Fuel Cycle

The annual (calendar year) dose or dose commitment to any member of the public due to releases of radioactivity and to radiation from uranium fuel cycle sources shall be limited to less than or equal to 25 mrem to the total body or any organ, except the thyroid, which shall be limited to less than or equal to 75 mrem.

SURVEILLANCE REQUIREMENT

19 c. Main Condenser

20 The radioactivity rate of noble gases at the recombiner discharge shall be continuously monitored in accordance with Table 3.6.14/2.

Move to page 295 The gross radioactivity (beta and/or gamma) rate of noble gases from the recombiner discharge shall be determined to be within the limits of Specification 3.6.15 at the following frequencies by performing an isotopic analysis of a representative sample of gases taken at the recombiner discharge:

Monthly:

Within 4 hours following an increase on the recombiner discharge monitor of greater than 50%, factoring out increases due to changes in thermal power level and dilution flow changes.

d. Uranium Fuel Cycle

21 Cumulative dose contributions from liquid and gaseous effluents shall be determined in accordance with Specifications 4.6.15.a.(2), 4.6.15.b.(2) and 4.6.15.b.(3) and in accordance with the methodology and parameters in the Offsite Dose Calculation Manual.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
<p>With the calculated doses from the release of radioactive materials in liquid or gaseous effluents exceeding twice the limits of Specifications 3.6.15.a.2(b), 3.6.15.b.2(b) and 3.6.15.b.3(b), calculations shall be made including direct radiation contributions from the reactor units and from outside storage tanks to determine whether the above listed 40CFR190 limits have been exceeded. If such is the case, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.3, a Special Report that defines the corrective action to be taken to reduce subsequent releases to prevent recurrence of exceeding the above limits and includes the schedule for achieving conformance with the above limits. This Special Report, as defined in 10CFR Part 20.405c, shall include an analysis that estimates the radiation exposure (dose) to a member of the public from uranium fuel cycle sources, including all effluent pathways and direct radiation, for the calendar year that includes the release(s) covered by this report.</p>	<p>Cumulative dose contributions from direct radiation from the reactor units and from radwaste storage tanks shall be determined in accordance with the methodology and parameters in the Offsite Dose Calculation Manual. This requirement is applicable only under conditions set forth in Specification 3.6.15.d.</p>

LIMITING CONDITION FOR OPERATION

It shall also describe levels of radiation and concentrations of radioactive material involved, and the cause of the exposure levels or concentrations. If the estimated dose(s) exceeds the above limits, and if the release condition resulting in violation of 40CFR Part 190 has not already been corrected, the Special Report shall include a request for a variance in accordance with the provisions of 40CFR 190. Submittal of the report is considered a timely request and a variance is granted until staff action on the request is complete.

SURVEILLANCE REQUIREMENT

BASES FOR 3.6.15 AND 4.6.15 RADIOACTIVE EFFLUENTS

LIQUID CONCENTRATION

This specification is provided to ensure that the concentration of radioactive materials released in liquid waste effluents to unrestricted areas will be less than the concentration levels specified in 10CFR Part 20, Appendix B, Table II, Column 2. This limitation provides additional assurance that the levels of radioactive materials in bodies of water in unrestricted areas will result in exposures within (1) the Section II.A design objectives of Appendix I, 10CFR Part 50, to a member of the public and (2) the limits of 10CFR Part 20.106 (e) to the population. The concentration limit for dissolved or entrained noble gases is based upon the assumption that Xe-135 is the controlling radioisotope and its maximum permissible concentration in air (submersion) was converted to an equivalent concentration in water using the methods described in International Commission on Radiological Protection (ICRP) Publication 2.

The required detection capabilities for radioactive materials in liquid waste samples are tabulated in terms of the lower limits of detection (LLDs). Detailed discussion of the LLD and other detection limits can be found in HASL Procedures Manual, HASL 300 (revised annually), Currie, L. A., "Limits for Qualitative Detection and Quantitative Determination - Application to Radiochemistry," Anal. Chem. **40**, 586-93 (1968), and Hartwell, J. K., "Detection Limits for Radioanalytical Counting Techniques," Atlantic Richfield Hanford Company Report ARH-SA/215 (June 1975).

BASES FOR 3.6.15 AND 4.6.15 RADIOACTIVE EFFLUENTS

Liquid Dose

This specification is provided to implement the requirements of Section II.A, III.A and IV.A of Appendix I, 10CFR Part 50. The Limiting Condition for Operation expressed as quarter and annual limits are set at those values found in Section II.A. of Appendix I, in accordance with Section IV.A. The Limiting Condition for Operation provides the required operating flexibility and at the same time implements the guides set forth in Section IV.A of Appendix I to assure that the releases of radioactive material in liquid effluents to unrestricted areas will be kept "as low as is reasonably achievable." There are no drinking water supplies that can be potentially affected by plant operations. The dose calculation methodology and parameters in the Offsite Dose Calculation Manual implement the requirements in Section III.A of Appendix I that conformance with the guides of Appendix I be shown by calculation procedures based on models and data, such that the actual exposure of a member of the public through appropriate pathways is unlikely to be substantially underestimated. The equations specified in the Offsite Dose Calculation Manual for calculating the doses due to the actual release rates of radioactive materials in liquid effluents are consistent with the methodology provided in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10CFR Part 50, Appendix I," Revision 1, October 1977 and Regulatory Guide 1.113, "Estimating Aquatic Dispersion of Effluents from Accidental and Routine Reactor Releases for the Purpose of Implementing Appendix I," April 1977.

BASES FOR 3.6.15 AND 4.6.15 RADIOACTIVE EFFLUENTS

Gaseous Dose Rate

This specification is provided to ensure that the dose at any time at and beyond the site boundary from gaseous effluents from all units on the site will be within the annual dose limits of 10CFR Part 20 to unrestricted areas. The annual dose limits are the doses associated with the concentrations of 10CFR Part 20, Appendix B, Table II, Column 1. These limits provide reasonable assurance that radioactive material discharged in gaseous effluents will not result in the exposure of a member of the public in an unrestricted area either within or outside the site boundary, to annual average concentrations exceeding the limits specified in Appendix B, Table II of 10CFR Part 20 (10CFR Part 20.106(b)). For members of the public who may at times be within the site boundary, the occupancy of that member of the public will usually be sufficiently low to compensate for any increase in the atmospheric diffusion factor above that for the site boundary. The specified release rate limits restrict, at all times, the corresponding gamma and beta dose rates above background to a member of the public at or beyond the site boundary to less than or equal to 500 mrem/year to the total body or to less than or equal to 3000 mrem/year to the skin. These release rate limits also restrict, at all times, the corresponding thyroid dose rate above background to a child via the inhalation pathway to less than or equal to 1500 mrem/year.

The required detection capabilities for radioactive materials in gaseous waste samples are tabulated in terms of the lower limits of detection (LLDs). Detailed discussion of the LLD and other detection limits can be found in HASL Procedures Manual, HASL 300 (revised annually), Currie, L. A., "Limits for Qualitative Detection and Quantitative Determination - Application to Radiochemistry," *Anal. Chem.* 40, 586-93 (1968) and Hartwell, J. K., "Detection Limits for Radioanalytical Counting Techniques," Atlantic Richfield Hanford Company Report ARH-SA-215 (June 1975).

BASES FOR 3.6.15 AND 4.6.15 RADIOACTIVE EFFLUENTS

Dose - Noble Gases

This specification is provided to implement the requirements of Sections II.B, III.A and IV.A of Appendix I, 10CFR Part 50. The Limiting Condition for Operation expressed as quarter and annual limits are set at those values found in Section II.B of Appendix I in accordance with the guidance of Section IV.A. The action statements provide the required operating flexibility and at the same time implement the guides set forth in Section IV-A of Appendix I to assure that the releases of radioactive material in gaseous effluents to unrestricted areas will be kept "as low as is reasonably achievable." The Surveillance Requirement implements the requirements in Section III.A of Appendix I that conform with the guides of Appendix I be shown by calculational procedures based on models and data such that the actual exposure of a member of the public through appropriate pathways is unlikely to be substantially underestimated. The dose calculation methodology and parameters established in the Offsite Dose Calculation Manual for calculating the doses due to the actual release rates of radioactive noble gases in gaseous effluents are consistent with the methodology provided in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10CFR Part 50, Appendix I, "Revision 1, October 1977 and Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water Cooled Reactors," Revision 1, July 1977.

The Offsite Dose Calculation Manual equations provided to determine the air doses at and beyond the site boundary are based upon the historical average atmospheric conditions.

BASES FOR 3.6.15 AND 4.6.15 (RADIOACTIVE EFFLUENTS)

Dose - Iodine-131, Iodine-133, Tritium and Radionuclides in Particulate Form

18

This specification is provided to implement the requirements of Sections II.C, III.A and IV.A of Appendix I, 10CFR Part 50. The Limiting Condition for Operation expressed as quarter and annual limits are set at those values found in Section II.C of Appendix I in accordance with the guidance of Section IV.A. The action statements provide the required operating flexibility and at the same time implement the guides set forth in Section IV.A of Appendix I to assure that the releases of radioactive materials in gaseous effluents to unrestricted areas will be kept "as low as is reasonably achievable." The Offsite Dose Calculation Manual calculational methods specified in the Surveillance Requirement implements the requirements in Section III.A of Appendix I that conform with the guides of Appendix I be shown by calculational procedures based on models and data, such that the actual exposure of a member of the public through appropriate pathways is unlikely to be substantially underestimated. The Offsite Dose Calculation Manual calculational methodology and parameters for calculating the doses due to the actual release rates of the subject materials are consistent with the methodology provided in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10CFR Part 50, Appendix I," Revision 1, October 1977 and Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors," Revision 1, July 1977. These equations also provide for determining the actual doses based upon the historical average atmospheric conditions. The release rate specifications for iodine-131, iodine-133, tritium and radionuclides in particulate form with half lives greater than 8 days are dependent upon the existing radionuclide pathways to man, in the areas at and beyond the site boundary. The pathways that were examined in the development of these calculations were: 1) individual inhalation of airborne radionuclides, 2) deposition of radionuclides onto green leafy vegetation with subsequent consumption by man, 3) deposition onto grassy areas where milk animals and meat producing animals graze with consumption of the milk and meat by man and 4) deposition on the ground with subsequent exposure of man.

Main Condenser

19

Restricting the gross radioactivity rate of noble gases from the main condenser provides assurance that the total body exposure to an individual at the exclusion area boundary will not exceed a very small fraction of the limits of 10CFR Part 100 in the event this effluent is inadvertently discharged directly to the environment without treatment. This specification implements the requirements of General Design Criteria 60 and 64 of Appendix A to 10CFR Part 50. The primary purpose of providing this specification is to limit buildup of fission product activity within the station systems which would result if high fuel leakage were to be permitted over extended periods.

BASES FOR 3.6.15 AND 4.6.15 RADIOACTIVE EFFLUENTS

Total Dose - Uranium Fuel Cycle

This specification is provided to meet the dose limitations of 40CFR Part 190 that have been incorporated into 10CFR Part 20 by 46FR 18525. The specification requires the preparation and submittal of a Special Report whenever the calculated doses from plant generated radioactive effluents and direct radiation exceed 25 mrem to the total body or any organ, except the thyroid, which shall be limited to less than or equal to 75 mrem. For sites containing up to 4 reactors, it is highly unlikely that the resultant dose to a member of the public will exceed the dose limits of 40CFR Part 190 if the individual reactors remain within twice the dose design objectives of Appendix I and if direct radiation doses from the reactor units and outside storage tanks are kept small. The Special Report will describe a course of action that should result in the limitation of the annual dose to a member of the public to within the 40CFR Part 190 limits. For the purposes of the Special Report, it may be assumed that the dose commitment to a member of the public from other uranium fuel cycle sources is negligible, with the exception that dose contribution from other nuclear fuel cycle facilities at the same site or within a radius of 8 km must be considered. If the dose to any member of the public is estimated to exceed the requirements of 40CFR Part 190, the Special Report with a request for variance (provided the release conditions resulting in violation of 40CFR Part 190 have not already been corrected), in accordance with the provisions of 40CFR Part 190.11 and 10CFR Part 20.405c, is considered to be a timely request and fulfills the requirements of 40CFR Part 190 until NRC staff action is completed. The variance only relates to the limits of 40CFR Part 190 and does not apply in any way to the other requirements for dose limitation of 10CFR Part 20, as addressed in Specification 3.6.15.a.(1) and 3.6.15.b.(1). An individual is not considered a member of the public during any period in which he/she is engaged in carrying out any operation that is part of the nuclear fuel cycle.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
<p data-bbox="82 335 868 366">3.6.16 RADIOACTIVE EFFLUENT TREATMENT SYSTEMS</p> <p data-bbox="203 397 374 428"><u>Applicability:</u></p> <p data-bbox="203 469 903 531">Applies to the operating status of the liquid, gaseous and solid effluent treatment systems.</p> <p data-bbox="203 562 338 593"><u>Objective:</u></p> <p data-bbox="203 634 903 696">To assure operability of the liquid, gaseous and solid effluent treatment system.</p> <p data-bbox="203 727 385 758"><u>Specification:</u></p> <p data-bbox="203 789 344 820">a. Liquid</p> <p data-bbox="264 860 903 985">The liquid radwaste treatment system shall be used to reduce the radioactive materials in liquid wastes prior to their discharge as necessary to meet the requirements of Specification 3.6.15.</p> <p data-bbox="203 1047 379 1078">b. Gaseous</p> <p data-bbox="264 1118 913 1314">The gaseous radwaste treatment system shall be operable. The gaseous radwaste treatment system shall be used to reduce radioactive materials in gaseous waste prior to their discharge as necessary to meet the requirements of Specification 3.6.15.</p>	<p data-bbox="1030 335 1810 366">4.6.16 RADIOACTIVE EFFLUENT TREATMENT SYSTEMS</p> <p data-bbox="1151 397 1322 428"><u>Applicability:</u></p> <p data-bbox="1151 469 1850 531">Applies to the surveillance requirements for the liquid, gaseous and solid effluent treatment systems.</p> <p data-bbox="1151 562 1286 593"><u>Objective:</u></p> <p data-bbox="1151 634 1850 696">To verify operability of the liquid, gaseous and solid effluent treatment system.</p> <p data-bbox="1151 727 1332 758"><u>Specification:</u></p> <p data-bbox="1151 789 1292 820">a. Liquid</p> <p data-bbox="1211 860 1850 1016">Doses due to liquid releases to unrestricted areas shall be projected prior to the release of each batch of liquid radioactive waste in accordance with the methodology and parameters in the Offsite Dose Calculation Manual.</p> <p data-bbox="1151 1047 1326 1078">b. Gaseous</p> <p data-bbox="1211 1118 1850 1283">Doses due to gaseous releases to areas at and beyond the site boundary shall be calculated monthly in accordance with the methodology and parameters in the Offsite Dose Calculation Manual.</p>

LIMITING CONDITION FOR OPERATION

With gaseous radwaste from the main condenser air ejector system being discharged without treatment for more than 7 days, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.3, Special Report that identifies the inoperable equipment and the reason for its inoperability, actions taken to restore the inoperable equipment to OPERABLE status, and a summary description of those actions taken to prevent a recurrence.

23

c. Solid

The solid radwaste system shall be used in accordance with a Process Control Program to process wet radioactive wastes to meet shipping and burial ground requirements.

With the provisions of the process control program not satisfied, suspend shipments of defectively processed or defectively packaged solid radioactive wastes from the site.

SURVEILLANCE REQUIREMENT

c. Solid

23

The process control program shall be used to verify the solidification of at least one representative test specimen from at least every tenth batch of each type of wet radioactive waste (e.g., filter sludges and evaporator bottoms).

- (1) If any test specimen fails to verify solidification, the solidification of the batch may then be resumed using the alternative solidification parameters determined by the process control program.
- (2) If the initial test specimen from a batch of waste fails to verify solidification, the process control program shall provide for the collection and testing of representative test specimens from each consecutive batch of the same type of wet waste until at least 3 consecutive initial test specimens demonstrate solidification.

BASES FOR 3.6.16 AND 4.6.16 RADIOACTIVE EFFLUENT TREATMENT SYSTEMS

Liquid Radwaste Treatment System

The requirement that the appropriate portions of this system be used provides assurance that the releases of radioactive materials in liquid effluents will be kept "as low as is reasonably achievable." This specification implements the requirements of 10CFR Part 50.36a, General Design Criterion 60 of Appendix A to 10CFR Part 50 and the design objective given in Section II.D of Appendix I to 10CFR Part 50.

Gaseous Radwaste Treatment System

The requirement that this system be used provides reasonable assurance that the releases of radioactive materials in gaseous effluents will be kept "as low as is reasonably achievable." This specification implements the requirements of 10CFR Part 50.36a, General Design Criterion 60 of Appendix A to 10CFR Part 50 and the design objectives given in Section II.D of Appendix I to 10CFR Part 50. Since the capability exists to operate within specification without use of the system, it is conceivable that due to unforeseen circumstances, limited operation without the system may be made sometime during the life of the plant.

Solid Radioactive Waste

This specification implements the requirements of 10CFR Part 50.36a and General Design Criterion 60 of Appendix A to 10CFR part 50. The process parameters included in establishing the process control program may include, but are not limited to waste type, waste pH, waste/liquid/solidification agent/catalyst ratios, waste oil content, waste principal chemical constituents and mixing and curing times.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
<div> <div>3.6.17</div> <div>EXPLOSIVE GAS MIXTURE</div> <div> <div>Applicability:</div> <div>Applies to the operability of instrumentation to monitor hydrogen concentration in the main condenser off-gas treatment system.</div> <div>Objective:</div> <div>To assure the operability of the hydrogen monitoring instrumentation in the main condenser off-gas treatment system.</div> <div>Specification:</div> <div> <p>The concentration of hydrogen in the main condenser off-gas treatment system shall be limited to 4 percent by volume.</p> <p>If the concentration of hydrogen in the main condenser off-gas treatment system exceeds this limit, restore the concentration to within the limit within 48 hours.</p> </div> </div> </div>	<div> <div>4.6.17</div> <div>EXPLOSIVE GAS MIXTURE</div> <div> <div>Applicability:</div> <div>Applies to the surveillance of instrumentation that monitors hydrogen concentration in the main condenser off-gas treatment system.</div> <div>Objective:</div> <div>To verify operation of monitoring instrumentation.</div> <div>Specification:</div> <div> <p>The concentration of hydrogen in the main condenser off-gas treatment system shall be determined to be within the above limits by continuously monitoring the waste gases in the main condenser off-gas treatment system in accordance with Table 3.6.14-2 of Specification 3.6.14.</p> </div> </div> </div>

BASES FOR 3.6.17 AND 4.6.17 EXPLOSIVE GAS MIXTURE

This specification is provided to ensure that the concentration of potentially explosive gas mixtures contained in the waste gas treatment system is maintained below the flammability limits of hydrogen. Automatic control features are included in the system to prevent the hydrogen concentration from reaching these flammability limits. Maintaining the concentration of hydrogen below flammability limits provides assurance that the releases of radioactive materials will be controlled in conformance with the requirements of General Design Criterion 60 of Appendix A to 10CFR Part 50.

LIMITING CONDITION FOR OPERATION

3.6.18 MARK I CONTAINMENT

Applicability:

Applies to the venting/purging of the Mark I Containment.

Objective:

To assure that the Mark I Containment is vented/purged so that the limits of specifications 3.6.15.b.(1) and 3.6.15.b.(3) are met.

Specification:

The Mark I Containment drywell shall be vented/purged through the Emergency Ventilation System unless Specification 3.6.15.b.(1) and 3.6.15.b.(3) can be met without use of the Emergency Ventilation System.

If these requirements are not satisfied, suspend all venting/purging of the drywell.

SURVEILLANCE REQUIREMENT

4.6.18 MARK I CONTAINMENT

Applicability:

Applies to the surveillance requirement for venting and purging of the Mark I Containment when required to be vented/purged through the Emergency Ventilation System.

Objective:

To verify that the Mark I Containment is vented through the Emergency Ventilation System when required.

Specification:

The containment drywell shall be determined to be aligned for venting/purging through the Emergency Ventilation System within four hours prior to start of and at least once per 12 hours during venting/purging of the drywell.

BASES FOR 3.6.18 AND 4.6.18 MARK I CONTAINMENT

This specification provides reasonable assurance that releases from drywell purging operations will not exceed the annual dose limits of 10CFR Part 20 for unrestricted areas.

LIMITING CONDITION FOR OPERATION

3.6.19 LIQUID WASTE HOLDUP TANKS*

Applicability:

Applies to the quantity of radioactive material that may be stored in an outdoor liquid waste holdup tank.

Objective:

To assure that the quantity of radioactive material stored in outdoor holdup tanks does not exceed a specified level.

Specification:

The quantity of radioactive material contained in an outdoor liquid waste tank shall be limited to less than or equal to 10 curies, excluding tritium and dissolved or entrained noble gases.

With the quantity of radioactive material in any such tank exceeding the above limit, immediately suspend all additions of radioactive material to the tank. Within 48 hours reduce the tank contents to within the limit and describe the events leading to this condition in the next Semi-Annual Radioactive Effluent Release Report.

*Tanks included in this Specification are those outdoor tanks that are not surrounded by liners, dikes, or walls capable of holding the tank contents and that do not have tank overflows and surrounding area drains connected to the liquid radwaste treatment system.

SURVEILLANCE REQUIREMENT

4.6.19 LIQUID WASTE HOLDUP TANKS

Applicability:

Applies to the surveillance requirements for outdoor liquid waste holdup tanks.

Objective:

To verify the quantity of radioactive material stored in an outdoor liquid waste holdup tank.

Specification:

The quantity of radioactive material contained in each of the tanks listed in Specification 3.6.19 shall be determined to be within the limit of Specification 3.6.19 by analyzing a representative sample of the tank's contents at least weekly when radioactive materials are being added to the tank.

BASES FOR 3.6.19 AND 4.6.19 LIQUID HOLDUP TANKS

This specification applies to any outdoor tank that is not surrounded by liners, dikes or walls capable of holding the tank contents and that does not have tank overflows and surrounding areas drains connected to the liquid radwaste treatment system.

Restricting the quantity of radioactive material contained in the specified tanks provides assurance that in the event of an uncontrolled release of the tanks' contents, the resulting concentrations would be less than the limits of 10CFR Part 20, Appendix B, Table II, Column 2, at the nearest potable water supply and the nearest surface water supply in an unrestricted area.

LIMITING CONDITION FOR OPERATION

3.6.20 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

Applicability:

Applies to radiological samples of station environs.

Objective:

To evaluate the effects of station operations and radioactive effluent releases on the environs and to verify the effectiveness of the controls on radioactive material sources.

Specification:

The radiological environmental monitoring program shall be conducted as specified in Table 3.6.20-1.

With the radiological environmental monitoring program not being conducted as specified in Table 3.6.20-1, prepare and submit to the Commission, in the Annual Radiological Environmental Operating Report, a description of the reasons for not conducting the program as required and the plans for preventing a recurrence.

Deviations are permitted from the required sample schedule if samples are unobtainable due to hazardous conditions, seasonal unavailability, theft, uncooperative residents or to malfunction of automatic sampling equipment. In the event of the latter, every effort shall be made to complete corrective action prior to the end of the next sampling period.

SURVEILLANCE REQUIREMENT

4.6.20 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

Applicability:

Applies to the periodic sampling and monitoring requirements of the radiological environmental monitoring program.

Objective:

To ascertain what effect station operations and radioactive effluent releases have had upon the environment.

Specification:

The radiological environmental monitoring samples shall be collected pursuant to Table 3.6.20-1 from the specific locations given in the table and figure(s) in the Offsite Dose Calculation Manual and shall be analyzed pursuant to the requirements of Table 3.6.20-1 and the detection capabilities required by Table 4.6.20-1.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
<p>With the level of radioactivity (as the result of plant effluents), in an environmental sampling medium exceeding the reporting levels of Table 6.9.3-1 when averaged over any calendar quarter, prepare and submit to the Commission within 30 days from the end of the affected calendar quarter a Special Report pursuant to Specification 6.9.3. The Special Report shall identify the cause(s) for exceeding the limit(s) and define the corrective action(s) to be taken to reduce radioactive effluents so that the potential annual dose to a member of the public is less than the calendar year limits of Specifications 3.6.15.a.(2), 3.6.15.b.(2) and 3.6.15.b.(3). When more than one of the radionuclides in Table 6.9.3-1 are detected in the sampling medium, this report shall be submitted if:</p> $\frac{\text{concentration (1)}}{\text{limit level (1)}} + \frac{\text{concentration (2)}}{\text{limit level (2)}} + \dots \geq 1.0$ <p>When radionuclides other than those in Table 6.9.3-1 are detected and are the result of plant effluents, this report shall be submitted if the potential annual dose to an individual is equal to or greater than the calendar year limits of Specification 3.6.15.a.(2), 3.6.15.b.(2) and 3.6.15.b.(3).</p>	

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENT

This report is not required if the measured level of radioactivity was not the result of plant effluents; however, in such an event, the condition shall be reported and described in the Annual Radiological Environmental Operating Report.

With milk or fruit and/or vegetables no longer available at one or more of the sample locations specified in Table 3.6.20-1, identify locations for obtaining replacement samples and add them to the radiological environmental monitoring program within 30 days. The specific locations from which samples were unavailable may then be deleted from the monitoring program. Identify the cause of the unavailability of samples and identify the new location(s) for obtaining replacement samples in the next Semi-Annual Radioactive Effluent Release Report and also include in the report a revised figure(s) and table for the Offsite Dose Calculation Manual reflecting the new location(s).

TABLE 3.6.20-1
OPERATIONAL RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

Limiting Condition for Operation

Exposure Pathway and/or Sample	Number of Samples ^(a) and Locations	Sampling and Collection Frequency ^(a)	Type of Analysis and Frequency
Radioiodine & Particulates	Samples from 5 locations: 1) 3 Samples from off-site locations in different sectors of the highest calculated site average D/Q (based on all site licensed reactors) 2) 1 sample from the vicinity of an established year round community having the highest calculated site average D/Q (based on all site licensed reactors) 3) 1 sample from a control location 10-17 miles distant and in a least prevalent wind direction ^(d)	Continuous sampler operation with sample collection weekly or as required by dust loading, whichever is more frequent	<u>Radioiodine Canisters</u> analyze once/week for I-131. <u>Particulate Samplers</u> Gross beta radioactivity following filter change, ^(b) composite (by location) for gamma isotopic analysis ^(c) once per 3 months, (as a minimum)
Direct Radiation ^(e)	32 stations with two or more dosimeters to be placed as follows: an inner ring of stations in the general area of the site boundary and an outer ring in the 4 to 5 mile range from the site with a station in each land based sector. * The balance of the stations should be placed in special interest areas such as population centers, nearby residences, schools and in 2 or 3 areas to serve as control stations.	Once per 3 months	Gamma dose once per 3 months

* At this distance, 8 wind rose sectors are over Lake Ontario.

TABLE 3.6.20-1 (cont'd)

OPERATIONAL RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM**Limiting Condition for Operation**

Exposure Pathway and/or Sample	Number of Samples ^(a) and Locations	Sampling and Collection Frequency ^(a)	Type of Analysis and Frequency
<u>WATERBORNE</u>			
Surface ^(f)	1) 1 sample upstream 2) 1 sample from the site's downstream cooling water intake	Composite sample over 1 month period ^(g)	Gamma isotopic analysis ^(c) once/month. Composite for once per 3 months tritium analysis.
Sediment from Shoreline	1 sample from a downstream area with existing or potential recreational value	Twice per year	Gamma isotopic analysis ^(c)
<u>INGESTION</u>			
Milk	1) Samples from milk sampling locations in 3 locations within 3.5 miles distance having the highest calculated site average D/Q. If there are none, then 1 sample from milking animals in each of 3 areas 3.5-5.0 miles distant having the highest calculated site average D/Q (based on all site licensed reactors) 2) 1 sample from a milk sampling location at a control location (9-20 miles distant and in a least prevalent wind direction) ^(d)	Twice per month, April-December (samples will be collected in January-March if I-131 is detected in November and December of the preceding year)	Gamma isotopic ^(c) and I-131 analysis twice per month when animals are on pasture (April-December); once/month at other times (January-March) if required

TABLE 3.6.20-1 (cont'd)
OPERATIONAL RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

Limiting Condition for Operation

Exposure Pathway and/or Sample	Number of Samples ^(a) and Locations	Sampling and Collection Frequency ^(a)	Type of Analysis and Frequency
Fish	1) 1 sample each of two commercially or recreationally important species in the vicinity of a plant discharge area ^(h)	Twice per year	Gamma isotopic analysis ^(c) on edible portions twice per year
	2) 1 sample each of the same species from an area at least 5 miles distant from the site. ^(d)		
Food Products	1) Samples of three different kinds of broad leaf vegetation (such as vegetables) grown nearest to each of two different off-site locations of highest calculated site average D/Q (based on all licensed site reactors)	Once per year during harvest season	Gamma isotopic ^(c) analysis of edible portions (isotopic to include I-131 or a separate I-131 analysis may be performed) once during the harvest season
	2) One sample of each of the similar broad leaf vegetation grown at least 9.3-20 miles distant in a least prevalent wind direction		

NOTES FOR TABLE 3.6.20/1

- (a) It is recognized that, at times, it may not be possible or practical to obtain samples of the media of choice at the most desired location or time. In these instances, suitable alternative media and locations may be chosen for the particular pathway in question and may be substituted. Actual locations (distance and directions) from the site shall be provided in the Annual Radiological Environmental Operating Report. Highest D/Q locations are based on historical meteorological data for all site licensed reactors.
- (b) Particulate sample filters should be analyzed for gross beta 24 hours or more after sampling to allow for radon and thoron daughter decay. If the gross beta activity in air is greater than 10 times a historical yearly mean of control samples, gamma isotopic analysis shall be performed on the individual samples.
- (c) Gamma isotopic analysis means the identification and quantification of gamma emitting radionuclides that may be attributable to the effluents from the facility.
- (d) The purpose of these samples is to obtain background information. If it is not practical to establish control locations in accordance with the distance and wind direction criteria, other sites, such as historical control locations which provide valid background data may be substituted.
- (e) One or more instruments, such as a pressurized ion chamber, for measuring and recording dose rate continuously may be used in place of, or in addition to, integrating dosimeters. For the purpose of this table, a thermoluminescent dosimeter may be considered to be one phosphor and two or more phosphors in a packet may be considered as two or more dosimeters. Film badges shall not be used for measuring direct radiation.
- (f) The "upstream sample" should be taken at a distance beyond significant influence of the discharge. The "downstream sample" should be taken in an area beyond but near the mixing zone, if possible.
- (g) Composite samples should be collected with equipment (or equivalent) which is capable of collecting an aliquot at time intervals which are very short (e.g. hourly), relative to the compositing period (e.g. monthly) in order to assure obtaining a representative sample.
- (h) In the event commercial or recreational important species are not available as a result of three attempts, then other species may be utilized as available.

TABLE 4.6.20-1
DETECTION CAPABILITIES FOR ENVIRONMENTAL SAMPLE ANALYSIS^(a,b)
LOWER LIMIT OF DETECTION LLD^(c)

Surveillance Requirement

Analysis	Water ^(c) (pCi/l)	Airborne Particulate or Gases (pCi/m ³)	Fish (pCi/kg, wet)	Milk (pCi/l)	Food Products (pCi/kg, wet)	Sediment (pCi/kg, dry)
gross beta	4	0.01				
H-3	2000*					
Mn-54	15		130			
Fe-59	30		260			
Co-58, Co-60	15		130			
Zn-65	30		260			
Zr-95, Nb-95	15					
I-131	1**	0.07		1	60	
Cs-134	15	0.05	130	15	60	150
Cs-137	18	0.06	150	18	80	180
Ba/La-140	15			15		

* If no drinking water pathway exists, a value of 3000 pCi/liter may be used.

** If no drinking water pathway exists, a value of 15 pCi/liter may be used.

NOTES FOR TABLE 4.6/20-1

- (a) This list does not mean that only these nuclides are to be considered. Other peaks that are identifiable, together with those of the above nuclides, shall also be analyzed and reported in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.d.
- (b) Required detection capabilities for thermoluminescent dosimeters used for environmental measurements are given in ANSI N.545 (1975), Section 4.3. Allowable exceptions to ANSI N.545 (1975), Section 4.3 are contained in the Nine Mile Point Unit 1 Offsite Dose Calculation Manual (ODCM).
- (c) The LLD is defined, for purposes of these specifications, as the smallest concentration of radioactive material in a sample that will yield a net count, above system background, that will be detected with 95 percent probability with only 5 percent probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement system, which may include radiochemical separation:

$$LLD = \frac{4.66 S_b}{E \cdot V \cdot 2.22 \cdot Y \cdot \exp(-\lambda \Delta t)}$$

Where:

- LLD is the "a priori" lower limit of detection as defined above, as picocuries per unit mass or volume,
 - S_b is the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate, as counts per minute,
 - E is the counting efficiency, as counts per disintegration,
 - V is the sample size in units of mass or volume,
 - 2.22 is the number of disintegrations per minute per picocurie,
 - Y is the fractional radiochemical yield, where applicable,
 - λ is the radioactive decay constant for the particular radionuclide, and
 - Δt for environmental samples is the elapsed time between sample collection, or end of the sample collection period and time of counting.
- Typical values of E, V, Y and Δt should be used in the calculation.

NOTES FOR TABLE 4.6.20-1

It should be recognized that the LLD is defined as a before the fact limit representing the capability of a measurement system and not as an after the fact limit for the particular measurement. Analyses shall be performed in such a manner that the stated LLDs will be achieved under routine conditions. Occasionally, background fluctuations, unavoidable small sample sizes, the presence of interfering nuclides or other uncontrollable circumstances may render these LLDs unachievable. In such cases, the contributing factors shall be identified and described in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.d.

BASES 3.6.20 AND 4.6.20 RADIOLOGICAL ENVIRONMENTAL MONITORING PLAN

The radiological environmental monitoring program required by this specification provides representative measurements of radiation and of radioactive materials in those exposure pathways and for those radionuclides that lead to the highest potential radiation exposures of members of the public resulting from the station operation. This monitoring program implements Section IV.B.2 of Appendix I to 10CFR Part 50 and thereby supplements the radiological effluent monitoring program by verifying that the measurable concentrations of radioactive materials and levels of radiation are not higher than expected on the basis of the effluent measurements and the modeling of the environmental exposure pathways. Guidance for this monitoring program is provided by the Radiological Assessment Branch Technical Position on Environmental Monitoring. The initially specified monitoring program will be effective for at least the first three years of commercial operation. Following this period, program changes may be initiated based on operational experience.

The required detection capabilities for environmental sample analyses are tabulated in terms of the lower limits of detection (LLDs). The LLDs required by Table 4.6.20-1 are considered optimum for routine environmental measurements in industrial laboratories. It should be recognized that the LLD is defined as a before the fact limit representing the capability of a measurement system and not as an after the fact limit for a particular measurement.

Detailed discussion of the LLD, and other detection limits, can be found in HASL Procedures Manual, HASL-300 (revised annually) Currie, L.A., "Limits for Qualitative Detection and Quantitative Determination - Application to Radiochemistry," Anal. Chem 40, 586-93 (1968) and Hartwell, J.K., "Detection Limits for Radioanalytical Counting Techniques," Atlantic Richfield Hanford Company Report ARH-SA-215 (June 1975).

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENT

3.6.21 INTERLABORATORY COMPARISON PROGRAM

Applicability:

Applies to participation in an interlaboratory comparison program on environmental sample analysis.

Objective:

To ensure the accuracy of measurements of radioactive material in environmental samples.

Specification:

Analyses shall be performed on radioactive materials supplied as part of an Interlaboratory Comparison Program which has been approved by the Commission. Participation in this program shall include media for which environmental samples are routinely collected and for which intercomparison samples are available.

With analyses not being performed as required above, report the corrective actions taken to prevent a recurrence to the Commission in the Annual Radiological Environmental Operating Report.

4.6.21 INTERLABORATORY COMPARISON PROGRAM

Applicability:

Applies to testing the validity of measurements on environmental samples.

Objective:

To verify the accuracy of measurements on radioactive material in environmental samples.

Specification:

The Interlaboratory Comparison Program shall be described in the Offsite Dose Calculation Manual. A summary of the results obtained as part of the above required Interlaboratory Comparison Program shall be included in the Annual Radiological Environmental Operating Report. Participants in the EPA Cross Check Program may provide the EPA program code designation in lieu of providing results.

BASES FOR 3.6.21 AND 4.6.21 INTERLABORATORY COMPARISON PROGRAM

The requirement for participation in an approved Interlaboratory Comparison Program is provided to ensure that independent checks on the precision and accuracy of the measurements of radioactive material in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring for the purposes of Section IV.B.2 of Appendix A to 10CFR Part 50.

LIMITING CONDITION FOR OPERATION

3.6.22 LAND USE CENSUS

Applicability:

Applies to the performance of a land use census in the vicinity of the Nine Mile Point Nuclear Facility.

Objective:

To determine the utilization of land within a distance of three miles from the Facility.

Specification:

A land use census shall be conducted and shall identify within a distance of three miles the location in each of the 16 meteorological sectors the nearest residence and within a distance of three miles the location in each of the 16 meteorological sectors of all milk animals. In lieu of a garden census, specifications for vegetation sampling in Table 3.6.20-1 shall be followed, including analysis of appropriate controls.

With a land use census identifying a milk animal location(s) that represents a calculated D/Q value greater than the D/Q value currently being used in specification 4.6.15.b.(3) identify the new location(s) in the next Semi-Annual Radioactive Effluent Release Report.

SURVEILLANCE REQUIREMENT

4.6.22 LAND USE CENSUS

Applicability:

Applies to assuring that current land use is known.

Objective:

To verify the appropriateness of the environmental surveillance program.

Specification:

The land use census shall be conducted during the growing season at least once per 12 months using that information that will provide the best results, such as conducting a door-to-door survey, aerial survey or consulting local agriculture authorities. The results of the land use census shall be included in the Annual Radiological Environmental Operating Report.

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENT

If the D/Q value at a new milk sampling location is significantly greater (50%) than the D/Q value at an existing milk sampling location, add the new location to the radiological environmental monitoring program within 30 days. The sampling location(s) excluding the control station location, having the lowest calculated D/Q may be deleted from this monitoring program after October 31 of the year in which this land use census was conducted. Pursuant to Specification 6.9.1.e identify the new location(s) in the next Semi-Annual Radioactive Effluent Release Report and also include in the report a revised figure(s) and table for the Offsite Dose Calculation Manual reflecting the new location(s).

BASES FOR 3.6.20 AND 4.6.20 LAND USE CENSUS

This specification is provided to ensure that changes in the use of areas at and beyond the site boundary are identified and that modifications to the radiological environmental monitoring program are made if required by the results of this census. The best survey information such as from a door-to-door survey(s), from an aerial survey or from consulting with local agricultural authorities shall be used. This census satisfies the requirements of Section IV.B.3 of Appendix I to 10CFR Part 50.

In lieu of a garden census, the significance of the exposure via the garden pathway can be evaluated by the sampling of vegetation as specified in Table 3.6.20-1.

A milk sampling location, as defined in Section 1, requires that at least 10 milking cows are present at a designated milk sample location. It has been found from past experience, and as a result of conferring with local farmers, that a minimum of 10 milking cows is necessary to guarantee an adequate supply of milk twice per month for analytical purposes. Locations with less than 10 milking cows are usually utilized for breeding purposes which eliminates a stable supply of milk for samples as a result of suckling calves and periods when the adult animals are dry.

29

Radiation

- b. Annual Occupational Exposure Report. A tabulation shall be submitted on an annual basis which includes the number of station, utility and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man rem exposure according to work and job functions, 1/ e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling. The dose assignment to various duty functions may be estimates based on pocket dosimeter, TLD, or film badge measurements. Small exposures totaling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions.

INSERT
6.9.1.6

29

- c. Monthly Operating Report. Routine reports of operating statistics and shutdown experience including documentation of challenges to the safety relief valves or safety valves, shall be submitted on a monthly basis, which will include a narrative of operating experience, in accordance with 10 CFR 50.4, no later than the 15th of each month following the calendar month covered by the report.

1/ This tabulation supplements the requirements of 20.407 of 10 CFR Part 20.

INSERT 6.9.1.b

A tabulation on an annual basis of the number of station, utility, and other personnel (including contractors), for whom monitoring was performed, receiving an annual deep dose equivalent of > 100 mrem and the associated collective deep dose equivalent (reported in man-rem) according to work and job functions (e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling). This tabulation supplements the requirements of 10 CFR 20.2206. The dose assignments to various duty functions may be estimated based on pocket ion chamber, thermoluminescence dosimeter (TLD), electronic dosimeter, or film badge measurements. Small exposures totaling $< 20\%$ of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total deep dose equivalent received from external sources should be assigned to specific major work functions. The report covering the previous calendar year shall be submitted by April 30 of each year.

d. Annual Radiological Environmental Operating Report*.

Routine Radiological Environmental Operating Reports covering the operation of the unit during the previous calendar year shall be submitted prior to May 1 of each year. The initial report shall be submitted prior to May 1, 1985.

The Annual Radiological Environmental Operating Reports shall include summaries, interpretations, and an analysis of trends of the results of the radiological environmental surveillance activities for the report period, including a comparison with operational controls as appropriate, and with environmental surveillance reports from the previous 5 years, and an assessment of the observed impacts of the plant operation on the environment. The reports shall also include the results of land use censuses required by Specification 3.6.22.

The Annual Radiological Environmental Operating Reports shall include the results of analysis of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the Table and Figures in the Offsite Dose Calculation Manual, as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted as soon as possible in a supplementary report.

The reports shall also include the following: a summary description of the radiological environmental monitoring program; at least two legible maps** covering all sampling locations keyed to a table giving distances and directions from the centerline of one reactor; the results of licensee participation in the Interlaboratory Comparison Program, required by Specification 3.6.21; discussion of all deviations from the sampling schedule of Table 3.6.20-1; and discussion of all analyses in which the LLD required in Table 4.6.20-1 was not achievable.

* A single submittal may be made for a multiple unit station.

The submittal should combine sections common to all units at the station.

(One map shall cover stations near the site boundary; a second shall include the more distant stations.)

INSERT 6.9.1.d

The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted by May 15 of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the radiological environmental monitoring program for the reporting period. The material provided shall be consistent with the objectives outlined in the Offsite Dose Calculation Manual (ODCM), and in 10 CFR 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.

31
e. ~~Semi-annual~~ Radioactive Effluent Release Report * 31

INSERT 6.9.1.e
Routine Radioactive Effluent Release Reports covering the operation of the unit during the previous 6 months of operation shall be submitted within 60 days after January 1 and July 1 of each year. The period of the first report shall begin on January 1, 1985.

The Radioactive Effluent Release Reports shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit as outlined in Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants," Revision 1, June 1974, with data summarized on a quarterly basis following the format of Appendix B thereof.

31
The Radioactive Effluent Release Report to be submitted within 60 days after January 1 of each year shall include an annual summary of hourly meteorological data collected over the previous year. This annual summary may be either in the form of an hour-by-hour listing on magnetic tape of wind speed, wind direction, atmospheric stability, and precipitation (if measured), or in the form of joint frequency distributions of wind speed, wind direction, and atmospheric stability. * This same report shall include an assessment of the radiation doses from radioactive liquid and gaseous effluents to members of the public due to their activities inside the site boundary (Figure 5.1-1) during the report period. 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 methodology and parameters in the Offsite Dose Calculation Manual.

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, for the previous calendar year to show conformance with 40 CFR Part 190, Environmental Radiation Protection Standards for Nuclear Power Operation. Acceptable methods for calculating the dose contribution from liquid and gaseous effluents are given in the Offsite Dose Calculation Manual.

31
* In lieu of submission with the Semi-annual Radioactive Effluent Release Report, the licensee has the option of retaining this summary of required meteorological data on site in a file that shall be provided to the NRC upon request.

31
A single submittal may be made for a multiple unit ~~site~~. The submittal should combine ~~those~~ sections ~~that are~~ common to all units at the ~~site~~; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit. ~~station~~ 31

INSERT 6.9.1.e

The Radioactive Effluent Release Report covering the operation of the unit shall be submitted in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be consistent with the objectives outlined in the ODCM and the Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR 50, Appendix I, Section IV.B.1.

The Radioactive Effluent Release Report² shall include the following information for each class of solid waste (as defined by 10 CFR Part 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, Type B, Large Quantity), and,
- f. Solidification agent or absorbent (e.g., cement)

The Radioactive Effluent Release Report² shall include any changes made during the reporting period to the Process Control Program (PCP) and to the Offsite Dose Calculation Manual (ODCM), as well as a listing of new locations for dose calculations and/or environmental monitoring identified by the land use census pursuant to Specification 3.6.20.

Changes to the Process Control Program (PCP) shall be reported to the Commission in the ~~Semiannual~~ Radioactive Effluent Release Report for the period in which the change(s) was made. This submittal shall contain:

- a. Sufficiently detailed information to totally support the rationale for the change without benefit of additional or supplemental information;
- b. A determination that the change did not reduce the overall conformance of the solidified waste product to existing criteria for solid wastes; and
- c. Documentation of the fact that the change has been reviewed and found acceptable.

THIS PAGE INTENTIONALLY BLANK

31

Changes to the Offsite Dose Calculation Manual (ODCM): Shall be reported to the Commission in the Semiannual Radioactive Effluent Release Report for the period in which the change(s) was made effective. This submittal shall contain:

- a. Sufficiently detailed information to totally support the rationale for the change without benefit of additional or supplemental information. Information submitted should consist of a package of those pages of the Offsite Dose Calculation Manual to be changed, together with appropriate analyses or evaluations justifying the change(s);
- b. A determination that the change will not reduce the accuracy or reliability of dose calculations or setpoint determinations; and
- c. Documentation of the fact that the change has been reviewed and found acceptable.

f. CORE OPERATING LIMITS REPORT

1. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle for the following:
 - 1) The AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR) for Specification 3.1.7.a and 3.1.7.e.
 - 2) The K_f core flow adjustment factor for Specification 3.1.7.c.
 - 3) The MINIMUM CRITICAL POWER RATIO (MCPR) for Specification 3.1.7.c and 3.1.7.e.
 - 4) The LINEAR HEAT GENERATION RATE for Specification 3.1.7.b.
 - 5) The Power/Flow relationship for Specification 3.1.7.d and e.
 and shall be documented in the CORE OPERATING LIMITS REPORT.
2. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents.

6.9.3 Special Reports

32
to the

Special reports shall be submitted in accordance with 10 CFR 50.4 Regional Office within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirements of the applicable reference specification:

- a. Reactor Vessel Material Surveillance Specimen Examination, Specification 4.2.2(b) (12 months).
- b. Safety Class 1 Inservice Inspection, Specification 4.2.6 (Three months).
- c. Safety Class 2 Inservice Inspections, Specification 4.2.6 (Three months).
- d. Safety Class 3 Inservice Inspections, Specification 4.2.6 (Three months).
- e. Primary Containment Leakage Testing, Specification 3.3.3 (Three months).
- f. Secondary Containment Leakage Testing, Specification 3.4.1 (Three months).
- g. Sealed Source Leakage In Excess Of Limits, Specification 3.6.5.2 (Three months).

- h. Calculate Dose from Liquid Effluent in Excess of Limits, Specification 3.6.15.a(2)(b) (30 days from the end of the affected calendar quarter).
- i. Calculate Air Dose from Noble Gases Effluent in Excess of Limits, Specification 3.6.15.b(2)(b) (30 days from the end of the affected calendar quarter).
- j. Calculate Dose from I-131, H-3 and Radioactive Particulates with half lives greater than eight days in Excess of Limits, Specification 3.6.15.b(3)(b) (30 days from the end of the affected calendar quarter).
- k. Calculated Doses from Uranium Fuel Cycle Source in Excess of Limits, Specification 3.6.15.d (30 days from the end of the affected calendar year).
- l. Inoperable Gaseous Radwaste Treatment System, Specification 3.6.16.b (30 days from the event).
- m. Environmental Radiological Reports. With the level of radioactivity (as the result of plant effluents) in an environmental sampling medium exceeding the reporting level of Table 6.9.3-1, when averaged over any calendar quarter, in lieu of a Licensee Event Report, prepare and submit to the Commission within thirty (30) days from the end of the calendar quarter a special report identifying the cause(s) for exceeding the limits, and define the corrective action to be taken.

32

TABLE 6.9.3-1
REPORTING LEVEL FOR RADIOACTIVITY CONCENTRATIONS IN ENVIRONMENTAL SAMPLES

REPORTING LEVELS					
Analysis	Water (pCi/l)	Airborne Particulate or Gases (pCi/m3)	Fish (pCi/kg, wet)	Milk (pCi/l)	Food Products (pCi/kg, wet)
H-3	20,000*				
Mn-54	1,000		30,000		
Fe-59	400		10,000		
Co-58	1,000		30,000		
Co-60	300		10,000		
Zn-65	300		20,000		
Zr-95, Nb-95	400				
I-131	2**	0.9		3	100
Cs-134	30	10.0	1,000	60	1,000
Cs-137	50	20.0	2,000	70	2,000
Ba/La-140	200			300	

* For drinking water samples. This is a 40 CFR 141 value. If no drinking water pathway exists, a value of 30,000 pCi/liter may be used.

** If no drinking water pathway exists, a value of 20 pCi/liter may be used.

THIS PAGE INTENTIONALLY BLANK

- e. Records of gaseous and liquid radioactive material released to the environs.
- f. Records of transient or operational cycles for those facility components designed for a limited number of transients or cycles.
- g. Records of training and qualification for current members of the plant staff.
- h. Records of in-service inspections performed pursuant to these Technical Specifications.
- i. Records of Quality Assurance activities required by the QA Manual.
- j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
- k. Records of meetings of the SORC and the SRAB.

33 l. Records of analyses required by the radiological environmental monitoring program that would permit evaluation of the accuracy of the analysis at a later date. This should include procedures effective at specified times and Quality Assurance records showing that these procedures were followed.

6.11 Radiation Protection Program

Offsite Dose Calculation Manual (ODCM)

35

INSERT 6.11

34 Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.

6.12 High Radiation Area

INSERT 6.12

36

6.12.1 In lieu of the "control device" or "alarm signal" required by Paragraph 20.203(c)(2) of 10CFR20, each high radiation area normally accessible* by personnel in which the intensity of radiation is greater than 100 mrem/hr** but less than 1000 mrem/hr** shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit in accordance with site approved procedures. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

INSERT
6.12.1

36

INSERT 6.11

- a. The ODCM shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gases and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm and trip setpoints, and in the conduct of the radiological environmental monitoring program; and
- b. The ODCM shall also contain the radioactive effluent controls and radiological environmental monitoring activities, and descriptions of the information that should be included in the Annual Radiological Environmental Operating, and Radioactive Effluent Release Reports required by Specification 6.9.1.d and Specification 6.9.1.e.
- c. Licensee initiated changes to the ODCM:
 - 1. Shall be documented and records of reviews performed shall be retained. This documentation shall contain:
 - (a) Sufficient information to support the change(s) together with the appropriate analyses or evaluations justifying the change(s), and
 - (b) A determination that the change(s) maintain the levels of radioactive effluent control required by 10CFR20.1302, 40CFR190, 10CFR50.36a, and 10CFR50, Appendix I, and do not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations;
 - 2. Shall become effective after the approval of the plant manager or a designee; and
 - 3. Shall be submitted to the NRC in the form of a complete, legible copy of the entire ODCM as a part of, or concurrent with, the Radioactive Effluent Release Report for the period of the report in which any change in the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (i.e., month and year) the change was implemented.

36 INSERT 6.12

As provided in paragraph 20.1601(c) of 10 CFR Part 20, the following controls shall be applied to high radiation areas in place of the controls required by paragraph 20.1601(a) and (b) of 10 CFR Part 20.

36 INSERT 6.12.1

High Radiation Areas with Dose Rates not Exceeding 1.0 rem/hour (at 30 centimeters from the radiation sources or from any surface penetrated by the radiation).

- a. Each entryway to such an area shall be barricaded and conspicuously posted as a high radiation area. Such barricades may be opened as necessary to permit entry or exit of personnel or equipment.
- b. Access to, and activities in, each such area shall be controlled by means of Radiation Work Permit (RWP) or equivalent that includes specification of radiation dose rates in the immediate work area(s) and other appropriate radiation protection equipment and measures.
- c. Individuals qualified in radiation protection procedures and personnel continuously escorted by such individuals may be exempted from the requirement for an RWP or equivalent while performing their assigned duties provided that they are following plant radiation protection procedures for entry to, exit from, and work in such areas.
- d. Each individual or group entering such an area shall possess at least one of the following:
 - 1. A radiation monitoring device that continuously displays radiation dose rates in the area ("radiation monitoring and indicating device").
 - 2. A radiation monitoring device that continuously integrates the radiation dose rates in the area and alarms when the device's dose alarm setpoint is reached ("alarming dosimeter"), with an appropriate alarm setpoint.
 - 3. A radiation monitoring device that continuously transmits dose rate and cumulative dose to a remote receiver monitored by radiation protection personnel responsible for controlling personnel radiation exposure within the area.

INSERT 6.12.1 (continued)

4. A self-reading dosimeter and,
 - (a) Be under the surveillance, as specified in the RWP or equivalent, while in the area, of an individual at the work site, qualified in radiation protection procedures, equipped with a radiation monitoring and indicating device who is responsible for controlling personnel radiation exposure within the area, or
 - (b) Be under the surveillance, as specified in the RWP or equivalent, while in the area, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area.
- e. Except for individuals qualified in radiation protection procedures, entry into such areas shall be made only after dose rates in the area have been established and entry personnel are knowledgeable of them.

- a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.
- b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rates in the area have been established and personnel have been made knowledgeable of them.
- c. An individual qualified in radiation protection, with a radiation dose rate monitoring device, who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the Manager Radiation Protection or designate in the Radiation Work Permit.

6.12.2 In addition to the requirements of 6.12.1 areas accessible to personnel with radiation levels such that a major portion of the body could receive in one hour a dose greater than 1000 mrem** shall be provided with locked doors to prevent unauthorized entry and the hard keys or access provided by magnetic keycard shall be maintained under the administrative control of the Station Shift Supervisor or designate on duty and/or the Manager Radiation Protection or designate. Doors shall remain locked except during periods of access by personnel under an approved RWP which shall specify in accordance with site approved procedures accordingly, the dose rate levels in the immediate work area and the maximum allowable stay time for individuals in that area. In lieu of the stay time specification of the RWP, continuous surveillance, direct or remote, such as use of closed circuit TV cameras, may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities within the area. For individual areas accessible to personnel with radiation levels such that a major portion of the body could receive in one hour a dose in excess of 1000 mrem** that are located within large areas, such as the drywell, where no enclosure exists for purposes of locking, and no enclosure can be reasonably constructed around the individual areas, then that area shall be roped off, conspicuously posted and a flashing light shall be activated as a warning device.

36

INSERT
6.12.2

* by accessible passage and permanently fixed ladders
 ** measurement made at 18" from source of radioactivity

INSERT 6.12.2

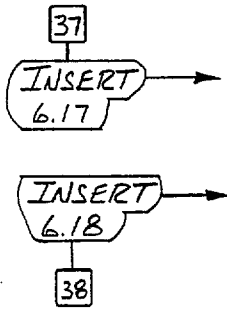
High Radiation Areas with Dose Rates Greater than 1.0 rem/hour (at 30 centimeters from the radiation source or from any surface penetrated by the radiation), but less than 500 rads/hour (at 1 meter from the radiation source or from any surface penetrated by the radiation).

- a. Each entryway to such an area shall be conspicuously posted as a high radiation area and shall be provided with a locked door, gate, or guard that prevents unauthorized entry, and in addition:
 1. All such door and gate keys shall be maintained under the administrative control of the Station Shift Supervisor - Nuclear or a designee, or the radiation protection manager or a designee; and
 2. Doors and gates shall remain locked or guarded except during periods of personnel entry or exit.
- b. Access to, and activities in, each such area shall be controlled by means of an RWP or equivalent that includes specification of radiation dose rates in the immediate work area(s) and other appropriate radiation protection equipment and measures.
- c. Individuals qualified in radiation protection procedures may be exempted from the requirement for an RWP or equivalent while performing radiation surveys in such areas provided that they are following plant radiation protection procedures for entry to, exit from, and work in such areas.
- d. Each individual (whether alone or in a group) entering such an area shall possess at least one of the following:
 1. An alarming dosimeter with an appropriate alarm setpoint.
 2. A radiation monitoring device that continuously transmits dose rate and cumulative dose to a remote receiver monitored by radiation protection personnel responsible for controlling personnel radiation exposure within the area with the means to communicate with and control every individual in the area.
 3. A self-reading dosimeter and,
 - (a) Be under the surveillance, as specified in the RWP or equivalent, while in the area, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring and indicating device who is responsible for controlling personnel exposure within the area, or

- (b) Be under the surveillance, as specified in the RWP or equivalent, while in the area, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area, and with the means to communicate with and control every individual in the area.
- 4. A radiation monitoring and indicating device in those cases where the options of Specifications 6.12.2.d.2 and 6.12.2.d.3, above, are impractical or determined to be inconsistent with the "As Low As is Reasonably Achievable" principle.
- e. Except for individuals qualified in radiation protection procedures, entry into such areas shall be made only after dose rates in the area have been established and entry personnel are knowledgeable of them.
- f. Such individual areas that are within a larger area that is controlled as a high radiation area, where no enclosure exists for the purpose of locking and where no enclosure can reasonably be constructed around the individual area need not be controlled by a locked door or gate, but shall be barricaded and conspicuously posted as a high radiation area, and a conspicuous, clearly visible flashing light shall be activated at the area as a warning device.

4. The combined Local Leak Rate Test (Type B & C Tests including airlocks) acceptance criteria is less than $0.6 L_p$, calculated on a minimum pathway basis, at all times when containment integrity is required.

The provisions of Specification 4.0.1 do not apply to the test frequencies specified in the 10 CFR 50 Appendix J Testing Program Plan.



INSERT 6.17

6.17 Radioactive Effluent Controls Program

This program conforms to 10CFR50.36a for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably achievable. The program shall be contained in the ODCM, shall be implemented by procedures, and shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

- a. Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM;
- b. Limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas, conforming to ten times the concentration values in Appendix B, Table 2, Column 2 to 10CFR20.1001 – 20.2402;
- c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10CFR20.1302 and with the methodology and parameters in the ODCM;
- d. Limitations on the annual and quarterly doses or dose commitment to a member of the public from radioactive materials in liquid effluents released from each unit to unrestricted areas, conforming to 10CFR50, Appendix I;
- e. Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days;
- f. Limitations on the functional capability and use of the liquid and gaseous effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a period of 31 days would exceed 2% of the guidelines for the annual dose or dose commitment, conforming to 10CFR50, Appendix I;
- g. Limitations on the dose rate resulting from radioactive material released in gaseous effluents from the site to areas at or beyond the site boundary shall be in accordance with the following:
 1. For noble gases: a dose rate ≤ 500 mrem/yr to the whole body and a dose rate ≤ 3000 mrem/yr to the skin, and
 2. For iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives greater than 8 days: a dose rate ≤ 1500 mrem/yr to any organ;

INSERT 6.17 (continued)

- h. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the site boundary, conforming to 10CFR50, Appendix I;
- i. Limitations on the annual and quarterly doses to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10CFR50, Appendix I;
- j. Limitations on the annual dose or dose commitment to any member of the public, beyond the site boundary, due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40CFR190; and
- k. Limitations on venting and purging of the primary containment through the Emergency Ventilation System to maintain releases as low as reasonably achievable.

The provisions of Surveillance Requirement 4.0.1 are applicable to the Radioactive Effluent Controls Program surveillance frequencies.

INSERT 6.18

6.18 Explosive Gas and Storage Tank Radioactivity Monitoring Program

This program provides controls for potentially explosive gas mixtures contained in the Main Condenser Offgas Treatment System and the quantity of radioactivity contained in unprotected outdoor liquid storage tanks.

The program shall include:

- a. The limits for concentrations of hydrogen in the Main Condenser Offgas Treatment System and a surveillance program to ensure the limits are maintained. Such limits shall be appropriate to the system's design criteria (i.e., whether or not the system is designed to withstand a hydrogen explosion); and
- b. A surveillance program to ensure that the quantity of radioactivity contained in all outside temporary liquid radwaste tanks that are not surrounded by liners, dikes, or walls, capable of holding the tanks' contents and that do not have tank overflows and surrounding area drains connected to the Liquid Radwaste Treatment System is ≤ 10 Ci, excluding tritium and dissolved or entrained noble gases.

The provisions of Surveillance Requirement 4.0.1 are applicable to the Explosive Gas and Storage Tank Radioactivity Monitoring Program surveillance frequencies.

ATTACHMENT D

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. DPR-63

DOCKET NO. 50-220

Eligibility for Categorical Exclusion from Performing an Environmental Assessment

The provisions of 10 CFR 51.22 provide criteria for, and identification of, licensing and regulatory actions eligible for exclusion from performing an environmental assessment. Niagara Mohawk Power Corporation has reviewed the proposed amendment and determined that it does not involve significant hazards considerations, and there will be no significant change in the types or a significant increase in the amounts of any effluents that may be released offsite; nor will there be any significant increase in individual or cumulative occupational radiation exposure. Therefore, the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment is required to be prepared in connection with this license amendment application.

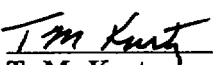
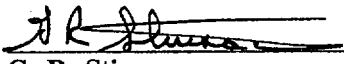
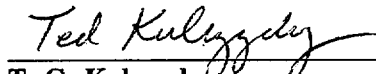
ATTACHMENT E
NIAGARA MOHAWK POWER CORPORATION
LICENSE NO. DPR-63
DOCKET NO. 50-220

Nine Mile Point Unit 1 Offsite Dose Calculation Manual (ODCM)

NINE MILE POINT NUCLEAR STATION

NINE MILE POINT UNIT 1

OFF-SITE DOSE CALCULATION MANUAL (ODCM)

<u>APPROVALS</u>	<u>SIGNATURES</u>	<u>DATE</u> <u>REVISION []</u>
Prepared by:	 T. M. Kurtz Health Physicist	<u>9/21/2001</u>
Checked by:	 G. R. Stinson Health Physicist	<u>9/28/01</u>
Reviewed by:	 T. G. Kulczycky Supervisor, Analysis Services	<u>9/28/01</u>
Reviewed by:	_____ W. R. Yaeger Manager, Engineering Services	_____

L. A. Hopkins

Plant Manager Unit 1

R. B. Abbott

V. P. Nuclear Engineering

NIAGARA MOHAWK POWER CORPORATION

SUMMARY OF REVISIONS

<i>Revision []</i>	
<u>PAGE</u>	<u>DATE</u>
1, 2, 5, 6, 8, 9, 11-13/15-18, 21, 24, 25, 36-44, 47-49, 52-81, 86-116	February 1987
3, 4, 7, 10, 14, 19, 20, 22, 23, 26-35	December 1987
45, 46, 50, 51, 82-85	January 1988
*29	May 1988 (Reissue)
*64, 77, 78	May 27, 1988 (Reissue)
i, 19, 21, 22A, 22B, 124, 25, 26, 112 i, ii, iii, 12-16, 18, 28-40, 45-47	February 1990
52, 55, 59-89, 92, 93, 97-129	June 1990
91-93, 95	June 1992
3, 4, 21, 92, 95a-c	February 1993
10, 16-20	March 1993
5, 13, 18, 20, 25-30, 65, 79	June 1993
66, 69	December 1993
16, 69	June 1994
10, 12	February 1995
10, 18, 67, 69	December 1995
5, D-1	June 1996
5, D-1	June 1997
5, D-1	April 1999
D-1	December 1999
Added Part I	September 2001

ODCM - NINE MILE POINT UNIT 1

TABLE OF CONTENTS

	<u>PAGE</u>
List of Tables	vii
List of Figures	viii
INTRODUCTION	ix
PART I - Radiological Effluent Controls	
SECTION 1.0: Definitions	I 1.0-0
SECTION 2.0: Not Used	
SECTIONS 3.0/4.0: Applicability	I 3.0-0
D 3/4.6.14 RADIOACTIVE EFFLUENT INSTRUMENTATION	I 3.1-1
D 3/4.6.14.a. Liquid Effluent	I 3.1-1
D 3/4.6.14.b. Gaseous Process and Effluent	I 3.1-7
D 3/4.6.15 RADIOACTIVE EFFLUENTS.....	I 3.1-13
D 3/4.6.15.a.(1) Liquid Concentration	I 3.1-13
D 3/4.6.15.a.(2) Liquid Dose	I 3.1-14
D 3/4.6.15.b.(1) Gaseous Dose Rate.....	I 3.1-18
D 3/4.6.15.b.(2) Gaseous Air Dose	I 3.1-19
D 3/4.6.15.b.(3) Gaseous Tritium, Iodines and Particulates	I 3.1-20
D 3/4.6.15.d Uranium Fuel Cycle	I 3.1-23
D 3/4.6.16 RADIOACTIVE EFFLUENT TREATMENT SYSTEMS	I 3.1-26
D 3/4.6.16.a Liquid	I 3.1-26
D 3/4.6.16.b Gaseous	I 3.1-26
D 3/4.6.18 MARK I CONTAINMENT	I 3.1-28
D 3/4.6.19 LIQUID WASTE HOLDUP TANKS	I 3.1-29
D 3/4.6.20 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM..	I 3.1-30
D 3/4.6.21 INTERLABORATORY COMPARISON PROGRAM	I 3.1-40
D 3/4.6.22 LAND USE CENSUS.....	I 3.1-41

ODCM - NINE MILE POINT UNIT 1

TABLE OF CONTENTS (Cont)

		<u>PAGE</u>
	BASES.....	I B 3.1-0
B 3/4.6.14	BASES FOR RADIOACTIVE EFFLUENT INSTRUMENTATION	I B 3.1-1
B 3/4.6.15	BASES FOR RADIOACTIVE EFFLUENTS.....	I B 3.1-1
	Liquid Concentration	I B 3.1-1
	Liquid Dose	I B 3.1-2
	Gaseous Dose Rate	I B 3.1-3
	Dose-Noble Gases	I B 3.1-4
	Dose-Iodine-131, Iodine-133, Tritium, and Radionuclides in Particulate Form	I B 3.1-5
	Total Dose-Uranium Fuel Cycle	I B 3.1-6
	 BASES FOR RADIOACTIVE EFFLUENT TREATMENT SYSTEMS	I B 3.1-7
B 3/4.6.16	Liquid Radwaste Treatment System	I B 3.1-7
	Gaseous Radwaste Treatment System	I B 3.1-7
B 3/4.6.18	BASES FOR MARK I CONTAINMENT	I B 3.1-8
B 3/4.6.19	BASES FOR LIQUID WASTE HOLDUP TANKS	I B 3.1-8
B 3/4.6.20	BASES FOR RADIOLOGICAL ENVIRONMENTAL MONITORING PLAN.....	I B 3.1-9
B 3/4.6.21	BASES FOR INTERLABORATORY COMPARISON PROGRAM	I B 3.1-10
B 3/4.6.22	BASES FOR LAND USE CENSUS.....	I B 3.1-11
SECTION 5.0	Not Used	
SECTION 6.0	ADMINISTRATIVE CONTROLS.....	I 6.0-0
	Reporting Requirements	I 6.0-1
	Special Reports	I 6.0-3

ODCM - NINE MILE POINT UNIT 1

TABLE OF CONTENTS (Cont)

	<u>PAGE</u>
PART II – Calculational Methodologies	II 1
1.0 LIQUID EFFLUENTS	II 2
1.1 Setpoint Determinations	II 2
1.1.1 Basis	II 2
1.1.2 Service Water System Effluent Line Alarm Setpoint	II 2
1.1.3 Liquid Radwaste Effluent Line Alarm Setpoint	II 3
1.1.4 Discussion	II 4
1.1.4.1 Control of Liquid Effluent Batch Discharges	II 4
1.1.4.2 Simultaneous Discharges of Radioactive Liquids	II 4
1.1.4.3 Sample Representativeness.....	II 5
1.1.4.4 Liquid Radwaste System Operation.....	II 5
1.1.4.5 Service Water System Contamination	II 6
1.2 Liquid Effluent Concentration Calculation	II 6
1.3 Dose Determinations	II 7
1.3.1 Maximum Dose Equivalent Pathway	II 7
2.0 GASEOUS EFFLUENTS	II 10
2.1 Setpoint Determinations	II 10
2.1.1 Basis	II 10
2.1.2 Stack Monitor Setpoints	II 10
2.1.3 Recombiner Discharge (Off Gas) Monitor Setpoints.....	II 12
2.1.4 Emergency Condenser Vent Monitor Setpoint	II 13

ODCM - NINE MILE POINT UNIT 1

TABLE OF CONTENTS (Cont)

	<u>PAGE</u>
2.1.5 Discussion	II 13
2.1.5.1 Stack Effluent Monitoring System Description	II 13
2.1.5.2 Stack Sample Flow Path - RAGEMS	II 13
2.1.5.3 Stack Sample Flow Path - OGESMS.....	II 14
2.1.5.4 Sample Frequency/Sample Analysis.....	II 14
2.1.5.5 I-133 Estimates	II 14
2.1.5.6 Gaseous Radwaste Treatment System Operation.....	II 15
2.2 Dose and Dose Rate Determinations	II 15
2.2.1 Dose Rate.....	II 16
2.2.1.1 Noble Gases	II 16
2.2.1.2 Tritium, Iodines and Particulates	II 18
2.2.2 Dose	II 19
2.2.2.1 Noble Gas Air Dose.....	II 19
2.2.2.2 Tritium Iodines and Particulates	II 20
2.2.2.3 Accumulating Doses	II 21
2.3 Critical Receptors.....	II 21
2.4 Refinement of Offsite Doses Resulting From Emergency Condenser Vent Releases.....	II 22

ODCM - NINE MILE POINT UNIT 1

TABLE OF CONTENTS (Cont)

	<u>PAGE</u>
3.0 40 CFR 190 REQUIREMENTS	II 23
3.1 Evaluation of Doses From Liquid Effluents	II 24
3.2 Evaluation of Doses From Gaseous Effluents	II 25
3.3 Evaluation of Doses From Direct Radiation	II 26
3.4 Doses to Members of the Public Within the Site Boundary.....	II 26
4.0 ENVIRONMENTAL MONITORING PROGRAM	II 29
4.1 Sampling Stations.....	II 29
4.2 Interlaboratory Comparison Program.....	II 29
4.3 Capabilities for Thermoluminescent Dosimeters Used for Environmental Measurements.....	II 30
Appendix A Liquid Dose Factor Derivation (A_{lat})	II 71
Appendix B Plume Shine Dose Factor Derivation (B_i and V_i).....	II 74
Appendix C Organ Dose and Dose Rate Factors for Iodine - 131 & 133, Particulates and Tritium (R_i)	II 78
Appendix D Diagrams of Liquid and Gaseous Radwaste Treatment Systems and Monitoring Systems	II 88

ODCM - NINE MILE POINT UNIT 1

LIST OF TABLES

PART I – Radiological Effluent Controls

	<u>PAGE</u>
D 3.6.14-1	Radioactive Liquid Effluent Monitoring Instrumentation..... I 3.1-3
D 4.6.14-1	Radioactive Liquid Effluent Monitoring Instrumentation – SR I 3.1-5
D 3.6.14-2	Radioactive Gaseous Process and Effluent Monitoring Instrumentation I 3.1-8
D 4.6.14-2	Radioactive Gaseous Process and Effluent Monitoring Instrumentation - SR I 3.1-11
D 4.6.15-1	Radioactive Liquid Waste Sampling and Analysis Program – SR I 3.1-15
D 4.6.15-2	Radioactive Gaseous Waste Sampling and Analysis Program – SR I 3.1-21
D 3.6.20-1	Operational Radiological Environmental Monitoring Program I 3.1-32
D 4.6.20-1	Detection Capabilities for Environmental Sample Analysis Lower Limit of Detection LLD – SR..... I 3.1-36
D 6.9.3-1	Reporting Level for Radioactivity Concentration in Environmental Samples I 6.0-4

PART II – Calculational Methodologies

Table 1-1	Average Energy Per Disintegration II 32
Tables 2-1 to 2-8	Air Values for the NMP-1 Facility II 33
Table 3-1	Critical Receptor Dispersion Parameters for Ground Level and Elevated Releases II 41
Table 3-2	Gamma Air and Whole Body Plume Shine Dose Factors for Noble Gases (Bi and Vi)..... II 42
Table 3-3	Immersion Dose Factors for Noble Gases..... II 43
Tables 3-4 to 3-22	Organ Dose and Dose Rate Factors (Ri)..... II 44
Table 3-23	Parameters for the Evaluation of Doses to Real Members of the Public from Gaseous and Liquid Effluents..... II 63
Table 5.1	NMP-1 Radiological Environmental Monitoring Program Sampling Locations II 64

ODCM - NINE MILE POINT UNIT 1

LIST OF FIGURES

	<u>PAGE</u>
Figure 5.1-1 Nine Mile Point On-Site Map	II 68
Figure 5.1-2 Nine Mile Point Offsite Map	II 69
Figure 5.1.3-1 Site Boundaries	II 70