UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

August 26, 1993

MEMORANDUM FOR: Edward L. Jordan, Chairman
Committee To Review Generic Requirements

FROM: Frank J. Miraglia, Deputy Director
Office of Nuclear Reactor Regulation

SUBJECT: MODIFICATION OF TECHNICAL SPECIFICATIONS TO INCORPORATE CHANGES REFLECTING THE REVISED 10 CFR PART 20, "STANDARDS FOR PROTECTION AGAINST RADIATION," AND 10 CFR 50.36A, "TECHNICAL SPECIFICATIONS ON EFFLUENTS FROM NUCLEAR POWER REACTORS"

The staff prepared the enclosed CRGR review package for a generic letter which provides guidance for a revision to the technical specifications (TS) to reflect changes to Title 10 of the Code of Federal Regulations (10 CFR) Part 20, "Standards for Protection Against Radiation," and 10 CFR 50.36a, "Technical specifications on effluents from nuclear power reactors," published May 21, 1991 and August 31, 1992, respectively. The proposed TS changes will update appropriate sections of the TS with revised wording and requirements for consistency with the revised regulations, along with editorial changes and reference updates. Frank J. Congel, Director, Division of Radiation Safety and Safeguards and Brian K. Grimes, Director, Division of Operating Reactor Support, are sponsoring this work.

The staff proposes to issue the guidance on implementing this TS improvement in a generic letter to all holders of operating licenses for nuclear power reactors. The staff will prepare a model safety evaluation report (SER) to assist project managers in processing license amendments to implement the TS changes. The draft generic letter (GL) is Enclosure A of the enclosed CRGR review package.

The TS areas revised include: definitions, gaseous and liquid effluent release dose rate and dose requirements, site description, high radiation area and administrative controls requirements. The changes are designed to ensure consistency with the revised 10 CFR Part 20 rule, as well as the recent change in reporting requirements in 10 CFR 50.36a. Technical Specification 6.11 pertaining to high radiation area (HRA) access control has been significantly revised. The TS changes include a capping dose rate to differentiate a HRA from a very high radiation area, provide alternate controls for groups entering HRAs, and clarify the need for communication and control of workers in HRAs.

Enclosures to the GL are marked copies of standard TS (STS). Enclosures are included for licensees who have and have not implemented Generic Letter 89-01

CONTACTS:
S.P. Klementowicz (301) 504-1084
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L-4.1, Part 20 (Standards for Protection Against Radiation)

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on programmatic controls and relocation of radiological effluent TS, and for licensees who have adopted the improved STS.

A notice of opportunity for public comment on the proposed generic letter will be published in the Federal Register after the CRGR has endorsed the proposed generic letter.

Please schedule a meeting at the earliest opportunity for the CRGR to review this proposal.

Frank J. Miraglia

Frank J. Miraglia, Deputy Director
Office of Nuclear Reactor Regulation

Enclosures: As stated

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

ENCLOSURE A

(DRAFT)

TO: ALL HOLDERS OF OPERATING LICENSES FOR NUCLEAR POWER REACTORS

SUBJECT: MODIFICATION OF TECHNICAL SPECIFICATIONS TO INCORPORATE CHANGES REFLECTING THE REVISED 10 CFR PART 20, "STANDARDS FOR PROTECTION AGAINST RADIATION," AND 10 CFR 50.36a, "TECHNICAL SPECIFICATIONS ON EFFLUENTS FROM NUCLEAR POWER REACTORS" (GENERIC LETTER 93-)

The U.S. Nuclear Regulatory Commission (NRC) is issuing this generic letter (GL) to provide guidance for requesting a license amendment to implement modifications to technical specifications (TS) that reflect changes to Title 10 of the Code of Federal Regulations (10 CFR) Part 20, "Standards for Protection Against Radiation," and 10 CFR 50.36a, "Technical specifications on effluents from nuclear power reactors," that became effective on June 20, 1991 and October 1, 1992, respectively.

The proposed areas of TS changes include: definitions, gaseous and liquid effluent release rate and dose requirements, site description, high radiation area, and administrative controls requirements. While these TS changes are primarily designed to ensure coherence with the revised regulations, there are several technical changes as well as editorial changes that are also being included at this time.

Licensees should note that, prior to an approved license amendment to implement the guidance in this generic letter, Appendix B to 10 CFR 20.1 - 20.601 remains a valid reference for gaseous and liquid effluent TS. This position allows licensees to retain their existing level of effluent control as implementing the ALARA requirement without submitting individual requests for amending their TS to comply with 10 CFR 20.1101(b).

Enclosure 1 provides the reasons for these changes to the TS. It also includes a model TS for all sections that address the new 10 CFR Part 20 rule. Licensees are not required to make the changes presented in this generic letter. The changes to 10 CFR Part 20 are effective whether or not the TS are revised.

Licensees are encouraged to propose TS changes for their plants that are consistent with the enclosed guidance. Enclosures 2 through 4 are marked copies of standard TS (STS). Separate enclosures are included for licensees who have or have not implemented Generic Letter 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," on programmatic controls and relocation of radiological effluent TS (Enclosures 2 and 3), and for licensees who have adopted the improved STS (Enclosure 4). NRC project managers will review the amendment requests to verify that they conform to the guidance.

Licensee action to propose TS changes under the guidance of this generic letter is voluntary. Therefore, such action is not a backfit under the provisions of 10 CFR 50.109. Therefore, the staff did not perform a backfit analysis.

The voluntary information collections contained in this request are covered by the Office of Management and Budget clearance number 3150-0011, which expires June 30, 1994. The public reporting burden for this voluntary collection of information is estimated to average 200 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this voluntary collection of information, including suggestions for reducing this burden, to the Information and Records Management Branch (MNBB-7714), U.S. Nuclear Regulatory Commission, Washington, D.C 20555, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-3019, (3150-0011), Office of Management and Budget, Washington, D.C. 20503.

Compliance with the following request for information is purely voluntary. The information would assist NRC in evaluating the cost of complying with this generic letter:

(1) the licensee staff time and costs to prepare the amendment request

(2) an estimate of the long-term costs or savings accruing from this TS change

If you have any questions about this matter, please contact one of the technical contacts listed below or the appropriate Office of Nuclear Reactor Regulation project manager.

Sincerely,

James G. Partlow
Associate Director for Projects
Office of Nuclear Reactor Regulation

Technical contacts: S. P. Klementowicz, NRR (301) 504-1084
T. R. Tjader, NRR (301) 504-1187

Enclosures:
1. Guidance for a Proposed License Amendment Request to Modify Technical Specifications
2. Standard Technical Specifications
3. Model Technical Specifications (with GL 89-01 implemented)
4. Improved Standard Technical Specifications
5. List of Recently Issued Generic Letters

Enclosure

CRGR REVIEW PACKAGE

Proposed Action: Issue a generic letter to give power reactor licensees model technical specifications that incorporate changes based on the revision to 10 CFR Part 20, and 10 CFR 50.36a dated May 21, 1991 and August 31, 1992, respectively.

CATEGORY 2

RESPONSE TO REQUIREMENTS FOR CONTENT OF PACKAGE SUBMITTED FOR CRGR REVIEW

(i) The proposed generic requirements or staff position as it is proposed to be sent out to licensees. Where the objective or intended result of a proposed generic requirement or staff position can be achieved by setting a readily quantifiable standard that has an unambiguous relationship to a readily measurable quantity and is enforceable, the proposed requirements should merely specify the objective or result to be attained, rather than prescribing to the licensee how the objective or result is to be attained.

- Enclosure A is a draft of a proposed generic letter that would provide guidance to all power reactor licensees. It contains model technical specification (TS) wording that reflect the rule change to 10 CFR Part 20 that became effective on June 20, 1991, and the rule change to 10 CFR 50.36a that became effective on October 1, 1992.

  Enclosures to the proposed generic letter include marked copies of the standard TS (STS) for BWRs and PWRs that identify the changes. The staff has proposed this guidance in order to achieve a degree of standardization and common understanding of these TS. Actions taken by licensees in response to this generic letter would be voluntary. Licensees may also propose alternate TS wording.

(ii) Draft staff papers or other underlying staff documents supporting the requirements or staff position.

- 10 CFR Part 20, "Standards for Protection Against Radiation"

  On May 21, 1991 the Nuclear Regulatory Commission (NRC) published a revision to 10 CFR Part 20, "Standards for Protection Against Radiation" (20.1001 - 20.2401). The rule became effective on June 20, 1991, and compliance will become mandatory on January 1, 1994.

- Generic Letter 89-01, "IMPLEMENTATION OF PROGRAMMATIC CONTROLS FOR RADIOACTIVE 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," issued January 31, 1989

This generic letter contains guidance that may be voluntarily used by licensees to remove the radiological effluent technical specifications (RETS) from the main body of the TS and place them in the "Offsite Dose Calculation Manual (ODCM)". In this generic letter the staff determined that programmatic controls can be implemented in the "Administrative Controls" section of the TS to satisfy existing regulatory requirements for the RETS.

- 10 CFR 50.36a, "Technical specifications on effluents from nuclear power reactors"

  On August 31, 1992, the NRC published a revision to 10 CFR 50.36a that increased the interval for submittal of the radiological effluent report from semiannually to annually. The change became effective on October 1, 1992.

(iii) Each proposed requirement or staff position shall contain the sponsoring office's position as to whether the proposal would increase requirements or staff positions, would implement existing requirements or staff positions, or would relax or reduce existing requirements or staff positions.

- The generic letter provides alternate wording to existing TS to bring them into harmony with the new 10 CFR Part 20. Specific examples are discussed below:

  Specifications 3.11.1, "Liquid Effluents," and 6.0, "Administrative Controls," provide control in the form of release rate concentration restrictions over the discharge of radioactive material in liquid waste effluents. The generic letter provides the allowable instantaneous maximum effluent release rate concentration values to be ten times those given in Appendix B, Table 2, Column 2 to 10 CFR 20.1001-20.2401. The use of the "ten times" factor with the new Appendix B values is used in order to maintain the same level of effluent control of radioactive effluents that existed when Appendix B to 10 CFR 20.1 - 20.601 was used. This is used to control releases of radioactive material in liquid effluents in order to comply with the dose design objectives contained in Appendix I to 10 CFR Part 50. This alternate wording only impacts the instantaneous maximum release rate concentration for liquid effluents. It does not affect other sections of the TS related to compliance with 10 CFR Part 50.

  In Specification 6.9, "Reporting Requirements," the required submittal date for the Annual Radioactive Effluent Release Report to the NRC of "60 days after January 1 of each year," has been changed to read "prior to May 1 of each year" to allow licensees to combine submission with a similar report (Environmental Monitoring Report). The proposed change would relax current TS.

  In Specification 6.11, "High Radioactive Areas," alternate TS wording has been proposed for licensees to voluntarily use in lieu of the

surveillance/monitoring devices in place of the issuance of a survey meter to a group of individuals entering a high radiation area. The proposed change provides alternate TS controls.

(iv) The proposed method of implementation along with the concurrence (and any comments) of the Office of the General Counsel (OGC) on the method proposed. The concurrence of affected program offices or an explanation of any nonconcurrence.

- Licensees would voluntarily propose TS changes that are consistent with the guidance given in the generic letter. Project managers would review the changes and prepare the safety evaluation report (SER) for processing the license amendment to implement the TS changes. Any action by licensees to propose TS changes in response to this guidance would be voluntary. In accordance with 10 CFR 20.1008, "Implementation," the Part 20 references used in licensee TS will automatically be those of the new 10 CFR Part 20 upon implementation, unless use of the original TS value is more restrictive. No TS amendment is required to implement the revised Part 20. The OGC reviewed the proposed generic letter and had no legal objections.

(v) Regulatory analysis generally conforming to the directives and guidance of NUREG/BR-0058 and NUREG/CR-3568.

- A regulatory analysis is not required because action taken by licensees in response to this generic letter would be voluntary.

(vi) Identification of the category of reactor plants to which the generic requirement or staff position is to apply.

- This guidance applies to all power reactor licensees.

(vii) For backfits other than compliance or adequate protection backfits, a backfit analysis as defined in 10 CFR 50.109. The backfit analysis shall include, for each category of reactor plants, an evaluation that demonstrates how action should be prioritized and scheduled in light of other ongoing regulatory activities. The backfit analysis shall document for consideration information available concerning any of the following factors as may be deemed appropriate and any other information relevant and material to the proposed action:

(a) Statement of the specific objectives that the proposed action is designed to achieve;

(b) General description of the activity that would be required by licensees or applicants in order to complete the action;

(c) Potential change in the risk to the public from the accidental offsite release of radioactive material;

(d) Potential impact on radiological exposure of facility employees and other onsite workers;

(e) Installation and continuing costs associated with the action, including the cost of facility downtime or cost of construction delay;

(f) The potential safety impact on the changes in plant or operational complexity, including the relationship to proposed and existing regulatory requirements and staff positions;

(g) The estimated resource burden on the NRC associated with the proposed action and the availability of such resources;

(h) The potential impact of differences in facility type, design or age on the relevancy and practicality of the proposed action;

(i) Whether the proposed action is interim or final, and if interim, the justification for imposing the proposed action on an interim basis;

(j) How the action should be prioritized and scheduled in light of other ongoing regulatory activities. The following information may be appropriate in this regard:

(1) The proposed priority or schedule,
(2) A summary of the current backlog of existing requirements awaiting implementation,
(3) An assessment of whether implementation of existing requirements should be deferred as a result, and
(4) Any other information that may be considered appropriate with regard to priority, schedule, or cumulative impact. For example, could implementation be delayed pending public comment?

- Backfit considerations do not apply because licensee response to this generic letter would be voluntary.

(viii) For each backfit analyzed pursuant to 10 CFR 50.109(a)(2) (i.e., not adequate protection backfits and not compliance backfits), the proposing office director's determination, together with the rationale for the determination based on the considerations of paragraphs (i) through (vii) above, that

(a) there is a substantial increase in the overall protection of public health and safety or the common defense and security to be derived from the proposal; and

(b) the direct and indirect costs of implementation, for the facilities affected, are justified in view of this increased protection.

- Backfit considerations do not apply because licensee response to this generic letter would be voluntary.

(ix) For adequate protection or compliance backfits evaluated pursuant to 10 CFR 50.109(a)(4)

(a) a documented evaluation consisting of the:

(1) objectives of the modification
(2) reasons for the modification
(3) basis for invoking the compliance or adequate protection exemption

(b) In addition, for actions that were immediately effective, the evaluation shall document the safety significance and appropriateness of the action taken and consideration of how costs contributed to selecting the solution among various acceptable alternatives.

- Backfit considerations do not apply because licensee response to this generic letter would be voluntary.

(x) For each evaluation conducted for proposed relaxations or decreases in current requirements or staff positions, the proposing office director's determination, together with the rationale for the determination based on the considerations of paragraphs (i) through (vii) above, that

(a) The public health and safety and the common defense and security would be adequately protected if the proposed reduction in requirements or positions were implemented, and

- The proposed changes will not affect the public health and safety since the provisions do not relax or decrease current requirements or staff positions.

(b) The cost savings attributed to the action would be substantial enough to justify taking the action.

- The cost savings attributed to this generic letter would not be substantial. Though not significant, licensees would realize reduced operational costs by only having to submit the Radioactive Effluent Release Report on an annual basis rather than on a semi-annual basis. No other operational costs are affected by the guidance in this generic letter. The guidance should reduce the costs of staff review of license amendments because of the standardized content of the generic letter.

(xi) For each request for information under 10 CFR 50.54(f), (which is not subject to exception as discussed in III.A) an evaluation that includes at least the following elements:

(a) A problem statement that describes the need for the information in terms of potential safety benefit.

(b) The licensee actions required and the cost to develop a response to the information request.
(c) An anticipated schedule for NRC use of the information.
(d) A statement affirming that the request does not impose new requirements on the licensee, other than for the requested information.

- The generic letter would not request information under 10 CFR 50.54(f). However, it would request that the licensee voluntarily submit information on the time and cost to prepare the license amendment request and an estimate of the long-term savings to be realized from the proposed TS changes.

(xii) An assessment of how the proposed action relates to the Commission's Safety Goal Policy Statement.

- The proposed action is not directly related to the policy statement on safety goals.

GUIDANCE FOR A PROPOSED LICENSE AMENDMENT REQUEST TO MODIFY TECHNICAL SPECIFICATIONS TO INCORPORATE CHANGES REFLECTING THE REVISED 10 CFR PART 20, "STANDARDS FOR PROTECTION AGAINST RADIATION," AND 10 CFR 50.36a, "TECHNICAL SPECIFICATIONS ON EFFLUENTS FROM NUCLEAR POWER REACTORS"

Introduction

The U.S. Nuclear Regulatory Commission (NRC) is issuing the following guidance for preparing a license amendment request to modify technical specifications (TS) reflecting changes to Title 10 of the Code of Federal Regulations (10 CFR) 10 CFR Part 20, "Standards for Protection Against Radiation," and 10 CFR 50.36a, "Technical specifications on effluents from nuclear power reactors," that became effective on June 20, 1991 and October 1, 1992, respectively. The proposed TS changes will update appropriate sections of the TS with revised wording and requirements for consistency with the revised regulations, along with some technical and editorial changes, and reference updates.

Although licensees are encouraged to revise their TS as presented in this generic letter, they are not required to do so.

Discussion

The revision of 10 CFR Part 20 has affected related information in TS and other regulations, thereby prompting NRC issuance of this guidance for preparation of conforming amendments. Among the conforming amendments are changes to 10 CFR 50.36a, "Technical specifications on effluent from nuclear power reactors," to change cited sections of 10 CFR Part 20, to the new numbering system. The changes to 10 CFR allow licensees to use the TS without taking any other action. However, we suggest, for purposes of consistency, that licensees change the sections of their TS affected by 10 CFR Part 20 as well as their reporting requirements for radioactive gaseous and liquid effluents to an annual basis.

Existing TS cite selected sections of 10 CFR Part 20 for definitions, liquid and gaseous effluent concentrations, limitations on radioactive material stored in outside storage tanks, site identifications, administrative reporting requirements, high-radiation area requirements, and administrative controls. With approval of the revised 10 CFR Part 20 rule, a revision to the applicable TS that reference 10 CFR Part 20 is appropriate. Additionally, there were approved changes to the reporting requirements contained in 10 CFR 50.36a. These changes have also been included in this generic letter. Guidance has been provided for licensees who have and have not implemented Generic Letter 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 for those licensees who have adopted the improved STS.

The NRC recommends these changes to the TS to provide licensees with acceptable and consistent language to ensure coherence with the wording in 10 CFR Part 20, 10 CFR 50.36a, and GL 89-01. In the case of gaseous and liquid effluent release rates, the TS were crafted to allow licensees to maintain their same overall level of effluent control while retaining the operational flexibility that exists with the current TS under the previous 10 CFR Part 20. The TS continue to require that gaseous and liquid effluent releases from nuclear power plants be within Appendix I of 10 CFR Part 50 values.

Licensees should note that, prior to an approved license amendment to implement the guidance in this generic letter, Appendix B to 10 CFR 20.1 - 20.601 remains a valid reference for gaseous and liquid effluent TS. This position allows licensees to retain their existing level of effluent control as implementing the ALARA requirement without submitting individual requests for amending their TS to comply with 10 CFR 20.1101(b).

The basis for the changes to the various TS sections are:

- 1.0 DEFINITIONS - New definitions are added and definitions are revised to conform with the revised 10 CFR 20.1003 definitions.

- TABLE 4.3-8 RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS - To update the current name of the organization, and clarify that calibration or reference standards can be used for subsequent channel calibrations after the initial calibration.

- 3/4.11 RADIOACTIVE EFFLUENTS - The concentration values for liquid effluents were increased by a factor of 10 to reflect the level of effluent control and operational flexibility that existed with the previous 10 CFR Part 20. 10 CFR Part 20 section numbers and table number style were updated. Effluent concentration replaced MPC. Editorial changes were made, references were updated, a fixed limit of 10 curies for tanks containing liquid, and reporting requirements were revised. Editorial changes were made to clarify that the intent of the gaseous dose rate limit is to maintain gaseous effluent releases as low as is reasonably achievable (ALARA).

- 5.0 DESIGN FEATURES - Editorial changes were made for clarification and for updating 10 CFR Part 20 section numbers.

- 6.0 ADMINISTRATIVE CONTROLS - Editorial changes were made for clarification, to update the Part 20 section numbers, to incorporate the requirements of 10 CFR Part 20, to incorporate revised 10 CFR 50.36a reporting requirements, and to add references. The 60-day time period for submitting the report was increased to 120 days to allow licensees adequate time to complete analysis of radionuclides that are difficult to measure. For STS 6.11.1, which provides high radiation area (HRA) access control alternatives under 10 CFR Part 20, the STS has been significantly revised. The changes, include a capping dose rate to differentiate a HRA from a very high radiation area, add requirements for groups entering HRAs and clarify the need for communication and control of workers in HRAs. For gaseous effluents, explicit instantaneous dose rate values were added.

STANDARD TECHNICAL SPECIFICATIONS
(To incorporate the revised 10 CFR Part 20 and 10 CFR 50.36a)

Legend: ~~XXXXX~~ = deletion
XXXXX = addition

1.0 DEFINITIONS

MEMBER(S) OF THE PUBLIC

1.16 MEMBER(S) OF THE PUBLIC shall ~~include all persons who are not occupationally associated with the plant. This category does not include employees of the licensee, its contractors, or its vendors. Also excluded from this category are persons who enter the site to service equipment or to make deliveries.~~ mean an individual in an UNRESTRICTED AREA. However, an individual is not a MEMBER OF THE PUBLIC during any period in which the individual receives an occupational dose. This category ~~does~~ may include persons who use portions of the site for recreational, occupational, or other purposes not associated with the plant.

OFFSITE DOSE CALCULATION MANUAL

1.17 The OFFSITE DOSE CALCULATION MANUAL (ODCM) shall contain the methodology and parameters used in the calculation of offsite doses resulting from 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 Environmental Monitoring Program. The ODCM shall also contain (1) the Radioactive Effluent Controls and Radiological Environmental Monitoring Programs required by Section 6.8.4 and (2) descriptions of the information that should be included in the Annual Radiological Environmental Operating and ~~Semiannual~~ Radioactive Effluent Release Reports required by TS 6.9.1.3 and 6.9.1.4.

UNRESTRICTED AREA

1.38 An UNRESTRICTED AREA shall be ~~any~~ an area, ~~at or beyond the SITE BOUNDARY~~ access to which is ~~not~~ neither limited nor controlled by the licensee ~~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.

TABLE 4.3-8
RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION
SURVEILLANCE REQUIREMENTS
TABLE NOTATIONS

(3) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the ~~National Bureau of Standards (NBS)~~ National Institute of Standards and Technology (NIST) or using standards that have been obtained from suppliers that participate in measurement assurance activities with ~~NBS~~ NIST. These standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration ~~shall~~ may be used in lieu of the reference standards associated with the initial calibration.

TABLE 4.3-8
RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION
SURVEILLANCE REQUIREMENTS
TABLE NOTATIONS

(3) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the ~~National Bureau of Standards (NBS)~~ National Institute of Standards and Technology (NIST) or using standards that have been obtained from suppliers that participate in measurement assurance activities with ~~NBS~~ NIST.
These standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration ~~shall~~ may be used in lieu of the reference standards associated with the initial calibration.

3/4.11 RADIOACTIVE EFFLUENTS
3/4.11.1 LIQUID EFFLUENTS
CONCENTRATION
LIMITING CONDITION FOR OPERATION

3.11.1.1 The concentration of radioactive material released in liquid effluents to UNRESTRICTED AREAS (see Figure 5.1-3) shall be limited to 10 times the concentrations values specified in ~~10 CFR Part 20,~~ Appendix B, Table ~~II~~ 2, Column 2 to 10 CFR 20.1001-20.2401 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2×10^{-4} microcurie/ml total activity.

APPLICABILITY: At all times.

ACTION:

a. With the concentration of radioactive material released in liquid effluents to UNRESTRICTED AREAS exceeding the above limits, immediately restore the concentration to within the above limits.

3/4 RADIOACTIVE EFFLUENTS
BASES
3/4.11.1 LIQUID EFFLUENTS
3/4.11.1.1 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 10 times the concentration ~~levels~~ values specified in ~~10 CFR Part 20,~~ Appendix B, Table ~~II~~ 2, Column 2 to 10 CFR 20.1001-20.2401. It provides operational flexibility for releasing liquid effluents in concentrations that temporarily exceed those needed to follow the Section II.A and II.C design objectives of Appendix I, 10 CFR Part 50. This limitation provides ~~additional~~ reasonable 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, 10 CFR Part 50, to a MEMBER OF THE PUBLIC and (2) ~~the limits of 10 CFR Part 20.106(e)~~ restrictions authorized by 10 CFR 20.1301(e). The concentration limit for the dissolved or entrained noble gases is based upon the assumption that Xe-135 is the controlling ~~radioisotope~~ radionuclide and its ~~MPC~~ effluent 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~~. This specification does not affect the requirement to comply with the annual limitations of 10 CFR 20.1301(a).

This Specification applies to the release of radioactive materials in liquid effluents from all units at the site.

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 Currie, L.A., "Lower Limit of Detection: Definition and Elaboration of a Proposed Position for Radiological Effluent and Environmental Measurements," NUREG/CR-4007 (September 1984), and in the HASL Procedures Manual, HASL-300.

3/4.11 RADIOACTIVE EFFLUENTS
LIQUID HOLDUP TANKS*
LIMITING CONDITION FOR OPERATION

3.11.1.4 The quantity of radioactive material contained in each of the following unprotected outdoor tanks shall be limited to less than or equal to ~~(~~10~~)~~ curies, excluding tritium and dissolved or entrained noble gases:

a. _____
b. _____
c. _____
d. Outside temporary tank

APPLICABILITY: At all times.

ACTION:

a. With the quantity of radioactive material in any of the above tanks 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 ~~Semiannual~~ Radioactive Effluent Release Report, pursuant to Specification 6.9.1.7.

b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

*Tanks included in this specification are those outdoor 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.

3/4.11 RADIOACTIVE EFFLUENTS
BASES
3/4.11.1.4 LIQUID HOLDUP TANKS

The tanks listed in this specification include all those outdoor radwaste 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.

Restricting the quantity of radioactive material contained in the specified tanks to 10 curies provides assurance that in the event of an uncontrolled release of the tank's contents, the resulting concentrations would be less than the ~~limits of 10 CFR Part 20,~~ values given in Appendix B, Table ~~II~~ 2, Column 2, to 10 CFR 20.1001-20.2401 at the nearest potable water supply and the nearest surface water supply in an UNRESTRICTED AREA.

3/4.11 RADIOACTIVE EFFLUENTS
3/4.11.2 GASEOUS EFFLUENTS
DOSE RATE
LIMITING CONDITION FOR OPERATION

3.11.2.1 The dose rate due to radioactive materials released in gaseous effluents from the site to areas at or beyond the SITE BOUNDARY (see Figure 5.1-3) shall be limited to the following:

a. For noble gases: Less than or equal to a dose rate of 500 mrems/yr to the total body and less than or equal to a dose rate of 3000 mrems/yr to the skin, and

b. For iodine-131, iodine-133, tritium, and for all radionuclides in particulate form with half-lives greater than 8 days: Less than or equal to a dose rate of 1500 mrems/yr to any organ.

APPLICABILITY: At all times.

ACTION:

a. With the dose rate(s) exceeding the above limits, immediately restore the release rate to within the above limit(s).

3/4.11 RADIOACTIVE EFFLUENTS
BASES
3/4.11.2 GASEOUS EFFLUENTS
3/4.11.2.1 DOSE RATE

~~These limits~~ This Specification provides 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~~ at or beyond the SITE BOUNDARY~~, to annual average concentrations exceeding the limits specified in Appendix B, Table II of 10 CFR Part 20 (10 CFR Part 20.106(b))~~ in excess of the annual limits of 10 CFR Part 20 (20.1301). 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 10 CFR Part 20 to UNRESTRICTED AREAS. The annual dose limits are the doses associated with the concentrations of 10 CFR Part 20, Appendix B, Table II, Column 1.~~ gaseous effluents from all units on the site will be appropriately controlled. It provides operational flexibility for releasing gaseous effluents in concentrations that temporarily exceed those needed to follow the Section II.A and II.C design objectives of Appendix I, 10 CFR Part 50. 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 reduced atmospheric ~~diffusion factor above~~ dispersion of gaseous effluents relative to that for the SITE BOUNDARY. Examples of calculations for such MEMBERS OF THE PUBLIC, with the appropriate occupancy factors, shall be given in the ODCM. 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.

This specification applies to the release of radioactive materials in gaseous effluents from all units at the site.

The required detection capabilities for radioactive material in gaseous waste samples are tabulated in terms of the lower limits of detection (LLD). Detailed discussion of the LLD, and other detection limits can be found in Currie, L.A., "Lower Limit of Detection: Definition and Elaboration of a Proposed Position for Radiological Effluent and Environmental Measurements," NUREG/CR-4007 (September 1984), and in the HASL Procedures Manual, HASL-300 (revised annually).

3/4.11 RADIOACTIVE EFFLUENTS
GAS STORAGE TANKS*
LIMITING CONDITION FOR OPERATION

3.11.2.6 The quantity of radioactivity contained in each gas storage tank shall be limited to less than or equal to [2 X 10^5] Curies of noble gases (considered as Xe-133 equivalent).

APPLICABILITY: At all times.

ACTION:

a. With the quantity of radioactive material in any gas decay 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 limits, and describe the events leading to this condition in the next ~~Semiannual~~ Radioactive Effluent Release Report, pursuant to Specification 6.9.1.4.

3/4.11 RADIOACTIVE EFFLUENTS
BASES
3/4.11.2.6 GAS STORAGE TANKS*

The tanks included in this specification are those tanks for which the quantity of radioactivity contained is not limited directly or indirectly by another Technical Specification. Restricting the quantity of radioactivity contained in each gas storage tank provides assurance that in the event of an uncontrolled release of the tank's contents, the resulting whole body exposure to a MEMBER OF THE PUBLIC at the nearest SITE BOUNDARY will not exceed 0.5 rem. ~~This is consistent with Standard Review Plan 11.3, Branch Technical Position ETSB 11-5, "Postulated Radioactive Releases Due to a Waste Gas System Leak or Failure," in NUREG-0800, July 1981.~~

* FOR PWRs ONLY

3/4.11 RADIOACTIVE EFFLUENTS
3/4.11.4 TOTAL DOSE
LIMITING CONDITION FOR OPERATION

3.11.4 The annual (calendar year) dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to direct radiation from uranium fuel cycle sources shall be limited to less than or equal to 25 mrems to the total body or any organ, except the thyroid, which shall be limited to less than or equal to 75 mrems.

APPLICABILITY: At all times.
ACTION:

a. With the calculated doses from the release of radioactive materials in liquid or gaseous effluents exceeding twice the limits of Specification 3.11.1.2a., 3.11.1.2b., 3.11.2.2a., 3.11.2.2b., 3.11.2.3a., or 3.11.2.3b., calculations shall be made including direct radiation contributions from the units (including outside storage tanks, etc.) to determine whether the above limits of Specification 3.11.4 have been exceeded. If such is the case, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, 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 ~~10 CFR 20.405(c)~~ 10 CFR 20.2203(a)(4), 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. 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 40 CFR Part 190 has not already been corrected, the Special Report shall include a request for a variance in accordance with the provisions of 40 CFR Part 190. Submittal of the report is considered a timely request, and a variance is granted until staff action on the request is complete.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

3/4.11 RADIOACTIVE EFFLUENTS
BASES
3/4.11.4 TOTAL DOSE

This Specification is provided to meet the dose limitations of 40 CFR Part 190 that have been incorporated into 10 CFR ~~Part 20 by 46 FR 18525~~ 20.1301(d). The specification requires the preparation and submittal of a Special report whenever the calculated doses due to releases of radioactivity and to radiation from uranium fuel cycle sources exceed 25 mrems to the whole body or any organ, except the thyroid, which shall be limited to less than or equal to 75 mrems. ~~For~~ Even if a sites ~~was to contain~~ing up to 4 reactors, it is highly unlikely that the resultant dose to a MEMBER OF THE PUBLIC will exceed the dose limits of 40 CFR Part 190 if the individual reactors remain within twice the dose design objectives of Appendix I, and if direct radiation doses from the units (including outside storage tanks, etc.) 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 40 CFR Part 190 limits. For the purposes of the Special Report, it may be assumed that the dose commitment to the MEMBER OF THE PUBLIC from other uranium fuel cycle sources is negligible, with the exception that dose contributions 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 40 CFR Part 190, the Special Report with a request for a variance (provided the release conditions resulting in violation of 40 CFR 190 have not already been corrected), in accordance with the provisions of 40 CFR ~~Part~~ 190.11 and ~~10 CFR Part 20.405c~~ 10 CFR 20.2203(a)(4), is considered to be a timely request and fulfills the requirements of 40 CFR Part 190 until NRC staff action is completed. The variance only relates to the limits of 40 CFR Part 190, and does not apply in any way to other requirements for dose limitation of 10 CFR Part 20, as addressed in Specifications 3.11.1.1 and 3.11.2.1. 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.

5.0 DESIGN FEATURES

5.1 SITE

MAP DEFINING UNRESTRICTED AREAS AND SITE BOUNDARY FOR RADIOACTIVE GASEOUS AND LIQUID EFFLUENTS

5.1.3 Information regarding radioactive gaseous and liquid effluents, which will allow identification of structures and release points as well as definition of UNRESTRICTED AREAS within the SITE BOUNDARY that are accessible to MEMBERS OF THE PUBLIC, shall be as shown in Figures [5.1-3 and 5.1-4].

The definition of UNRESTRICTED AREA used in implementing these Technical Specifications has been expanded over that in ~~10 CFR 20.3(a)(17)~~ 10 CFR 20.1003. The UNRESTRICTED AREA boundary may coincide with the Exclusion (fenced) Area boundary, as defined in 10 CFR 100.3(a), but the UNRESTRICTED AREA does not include areas over water bodies. For calculations performed pursuant to 10 CFR 50.36a, the concept of UNRESTRICTED AREAS, established at or beyond the SITE BOUNDARY, is utilized in the Limiting Conditions~~s~~ for Operation* to keep levels of radioactive materials in liquid and gaseous effluents as low as is reasonably achievable~~, pursuant to 10 CFR 50.36a~~.

* For licensees who have implemented Generic Letter 89-01, substitute "Controls" for "Limiting Condition for "Operation".

6.0 ADMINISTRATIVE CONTROLS
6.9 REPORTING REQUIREMENTS
ANNUAL REPORTS*

6.9.1.2 Annual Reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year. The initial report shall be submitted prior to March 1 of the year following initial criticality.

Reports required on an annual basis shall include:

a. A tabulation on an annual basis of the number of station, utility, and other personnel (including contractors) , for whom monitoring was required, receiving an annual deep dose equivalent ~~exposures~~ greater than 100 mrem~~/yr~~ and ~~their~~ the associated ~~man-rem~~ collective deep dose equivalent (reported in person-rem) ~~exposure~~ according to work and job functions ** (e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance [describe maintenance], waste processing, and refueling). The dose assignments to various duty functions may be estimated based on pocket dosimeter, ~~thermoluminescent~~ thermoluminescence dosimeter (TLD), or film badge measurements. Small exposures totalling 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~~ deep dose equivalent received from external sources should be assigned to specific major functions;

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

** This tabulation supplements the requirements of ~~20.407~~ 20.2206 of 10 CFR Part 20.

~~SEMIANNUAL~~ RADIOACTIVE EFFLUENT RELEASE REPORT*

6.9.1.4 Routine ~~Semiannual~~ Radioactive Effluent Release Report~~s~~ covering the operation of the unit during the previous ~~6 months of operation~~ year shall be submitted ~~within 60 days after January 1 and July 1~~ prior to May 1 of each year. The period of the first report shall begin with the date of initial criticality.

The ~~Semiannual~~ Radioactive Effluent Release Report~~s~~ shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the units 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. For solid wastes, the format for Table 3 and Appendix B shall be supplemented with three additional categories: class of solid wastes (as defined by 10 CFR Part 61), type of container (e.g., LSA, Type A, Type B, Large Quantity) and SOLIDIFICATION Agent or absorbent (e.g., cement, urea formaldehyde).

The ~~Semiannual~~ 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 of 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 due to the radioactive liquid and gaseous effluents released from the unit or station during the previous calendar year. This same report shall also 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 [5.1-3]) during the reporting period. All assumptions used in making these assessments, i.e., specific activity, exposure time, and location, shall be included in these reports. The meteorological conditions concurrent with the time of release of radioactive materials in gaseous effluents, as determined by sampling frequency and measurement, shall be used for determining the gaseous pathway doses. The assessment of radiation doses shall be performed in accordance with the methodology and parameters in the OFFSITE DOSE CALCULATION MANUAL (ODCM).

The ~~Semiannual~~ Radioactive Effluent Release Report ~~to be submitted within 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 Regulatory Guide 1.109, Rev. 1, October 1977 and NUREG - 0133.

The ~~Semiannual~~ Radioactive Effluent Release Reports shall include a list and description of unplanned releases from the site to UNRESTRICTED AREAS of radioactive materials in gaseous and liquid effluents made during the reporting period.

The ~~Semiannual~~ Radioactive Effluent Release Reports shall include any changes made during the reporting period to the PROCESS CONTROL PROGRAM (PCP) and to the OFFSITE DOSE CALCULATION MANUAL (ODCM), pursuant to Specifications 6.13 and 6.14, respectively, as well as any major change to Liquid, Gaseous, or Solid Radwaste Treatment Systems pursuant to Specification 6.15. It shall also include a listing of new locations for dose calculations and/or environmental monitoring identified by the Land Use Census pursuant to Specification 3.12.2.

The ~~Semiannual~~ Radioactive Effluent Release Reports shall also include the following: an explanation as to why the inoperability of liquid or gaseous effluent monitoring instrumentation was not corrected within the time specified in Specification 3.3.3.10 or 3.3.3.11, respectively; and description of the events leading to liquid holdup tanks or gas storage tanks exceeding the limits of Specification 3.11.1.4 or 3.11.2.6, respectively.

*A single submittal may be made for a multiple unit station. The submittal should combine those sections that are 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.

**In lieu of submission with the ~~Semiannual~~ 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.

6.11 HIGH RADIATION AREAS

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:

6.11.1 High Radiation Areas with Dose Rates not Exceeding 1.0 rem/hour:*

A. Each entryway to such an area shall be barricaded and conspicuously posted as a high radiation area. Such barricades may be breached only during periods of personnel entry or exit.

B. Access to, and activities in, each such area shall be controlled by means of a 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 (e.g., health physics technicians) 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 (whether alone or in a group) entering such an area shall possess:

(i) A radiation monitoring device that continuously displays radiation dose rates in the area ("radiation monitoring and indicating device"); or

(ii) 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, or

(iii) 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, or

(iv) 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. Entry into such areas shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them.

6.11.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour, * but less than 500 rads/hour:**

A. Each entryway to such an area shall be conspicuously posted as a high radiation area and shall be provided with a locked door or gate that prevents unauthorized entry, and in addition:

(i) All such door and gate keys shall be maintained under the administrative control of the shift foreman or the health physics supervisor on duty.

(ii) Doors and gates shall remain locked 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:

(i) An alarming dosimeter with an appropriate alarm setpoint, or

(ii) 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, or

(iii) A self-reading dosimeter and,

(a) Be under the surveillance, as specified in the RWP or equivalent, 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, 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.

E. Entry into such areas shall be made only after dose rates in the area have been determined 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 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.

*At 30 centimeters from the radiation source or from any surface penetrated by the radiation.

**At 1 meter from the radiation source or from any surface penetrated by the radiation.

For those licensees who have implemented Generic Letter 89-01, the following model Technical Specifications should be used to supplement or replace existing specifications.

OFFSITE DOSE CALCULATION MANUAL

1.17 The OFFSITE DOSE CALCULATION MANUAL (ODCM) shall contain the methodology and parameters used in the calculation of offsite doses resulting from 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 Environmental Monitoring Program. The ODCM shall also contain (1) the Radioactive Effluent Controls and Radiological Environmental Monitoring Programs required by Section 6.8.4 and (2) descriptions of the information that should be included in the Annual Radiological Environmental Operating and ~~Semiannual~~ Radioactive Effluent Release Reports required by Specifications 6.9.1.3 and 6.9.1.4.

6.0 ADMINISTRATIVE CONTROLS

6.8 PROCEDURES AND PROGRAMS

6.8.4 The following programs shall be established, implemented, and maintained:

g. Radioactive Effluent Controls Program

A program shall be provided conforming with 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 (1) shall be contained in the ODCM, (2) shall be implemented by operating procedures, and (3) shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

1) Limitations on the operability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM,

2) Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to 10 times the concentration values in ~~10 CFR Part 20,~~ Appendix B, Table ~~II~~ 2, Column 2 to 10 CFR 20.1001-20.2401,

3) Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents ~~in accordance with 10 CFR 20.106~~ pursuant to 10 CFR 20.1302 and with the methodology and parameters in the ODCM,

4) 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 Appendix I to 10 CFR Part 50,

5) 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,

6) Limitations on the operability and use of the liquid and gaseous effluent treatment systems to ensure that the appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a 31-day period would exceed 2 percent of the guidelines for the annual dose or dose commitment conforming to Appendix I to 10 CFR Part 50,

7) Limitations on the dose rate resulting from radioactive material released in gaseous effluents from the site to areas at or beyond the SITE BOUNDARY ~~conforming to the doses associated with 10 CFR Part 20, Appendix B, Table II, Column 1,~~ shall be limited to the following:

   a. For noble gases: Less than or equal to a dose rate of 500 mrems/yr to the total body and less than or equal to a dose rate of 3000 mrems/yr to the skin, and

   b. For iodine-131, iodine-133, tritium, and for all radionuclides in particulate form with half-lives greater than 8 days: Less than or equal to a dose rate of 1500 mrems/yr to any organ,

8) 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 Appendix I to 10 CFR Part 50,

9) 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 greater than 8 days in gaseous effluents released from each unit to areas beyond

the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50,

10) Limitations on venting and purging of the Mark II containment through the Standby Gas Treatment System to maintain releases as low as reasonably achievable (BWRs w/Mark II containments), and

11) Limitations on the annual dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources conforming to 40 CFR Part 190.

6.9 REPORTING REQUIREMENTS

~~SEMIANNUAL~~ RADIOACTIVE EFFLUENT RELEASE REPORT**

6.9.1.4 The ~~Semiannual~~ Radioactive Effluent Release Report covering the operation of the unit during the previous year ~~6 months of operation~~ shall be submitted prior to May 1 ~~within 60 days after January 1 and July 1~~ of each year. 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 (1) consistent with the objectives outlined in the ODCM and PCP and (2) in conformance with 10 CFR 50.36a and Section IV.B.1 of Appendix I to 10 CFR Part 50.

**A single submittal may be made for a multi-unit station. The submittal should combine those sections that are 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.

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

Changes to the ODCM:

a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.3.o. This documentation shall contain:

1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and

2) A determination that the change will maintain the level of radioactive effluent control required ~~by 10 CFR 20.106~~ pursuant to 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations.

b. Shall become effective after review and acceptance by the [URG] and the approval of the Plant Manager.

c. Shall be submitted to the Commission in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the ~~Semiannual~~ Radioactive Effluent Release Report for the period of the report in which any change to 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 (e.g., month/year) the change was implemented.

5.7 Procedures, Programs, and Manuals

[NOTE: Enclosure 4 is used to change the improved STS]

5.7.2.2 Process Control Program (PCP) (continued)

b. Shall be effective after review and acceptance by the [review method of Specification 5.5.1] and the approval of the [Plant Superintendent].

5.7.2.3 Offsite Dose Calculation Manual (ODCM)

a. The ODCM shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous 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 programs required by Specification 5.7.2, and descriptions of the information that should be included in the Annual Radiological Environmental Operating and Radioactive Effluent Release Reports required by Specification [5.9.1.3] and Specification [5.9.1.4].

Licensee-initiated changes to the ODCM:

a. Shall be documented and records of reviews performed shall be retained by Specification 5.10.3[n/o]. This documentation shall contain:

1. sufficient information to support the change(s) together with the appropriate analyses or evaluations justifying the change(s),

2. a determination that the change(s) maintain the levels of radioactive effluent control required ~~by~~ pursuant to 10 CFR ~~20.106~~ 20.1302, 40 CFR 190, 10 CFR 50.36a, and 10 CFR 50, Appendix I, and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations;

b. Shall become effective after review and acceptance by the [review method of Specification 5.5.1] and the approval of the [Plant Superintendent]; and

(continued)

5.7 Procedures, Programs, and Manuals

5.7.2.3 Offsite Dose Calculation Manual (ODCM) (continued)

c. 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.

5.7.2.4 Primary Coolant Sources Outside Containment

This program provides controls to minimize leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to levels as low as practicable. The systems include [Recirculation Spray, Safety Injection, Chemical and Volume Control, Gas Stripper, and Hydrogen Recombiner]. The program shall include the following:

a. Preventive maintenance and periodic visual inspection requirements; and

b. Integrated leak test requirements for each system at refueling cycle intervals or less.

5.7.2.5 In-Plant Radiation Monitoring

This program provides controls to ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:

a. Training of personnel;

b. Procedures for monitoring; and

c. Provisions for maintenance of sampling and analysis equipment.

(continued)

5.7.2 Programs and Manuals (continued)

5.7.2.6 Post-Accident Sampling

This program provides controls that ensure the capability to obtain and analyze reactor coolant, radioactive gases, and particulates in plant gaseous effluents and containment atmosphere samples under accident conditions. The program shall include the following:

a. Training of personnel;

b. Procedures for sampling and analysis; and

c. Provisions for maintenance of sampling and analysis equipment.

5.7.2.7 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 10 times the concentration values in ~~10 CFR Part 20,~~ Appendix B, Table ~~II~~ 2, Column 2 to 10 CFR 20.1001-20.2401;

c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents ~~in accordance with~~ pursuant to 10 CFR ~~20.106~~ 20.1302 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 Part 50, Appendix I;

(continued)

5.7.2.7 Radioactive Effluent Controls Program (continued)

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 percent of the guidelines for the annual dose or dose commitment, conforming to 10 CFR Part 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 ~~conforming to the doses associated with 10 CFR Part 20, Appendix B, Table II, Column 1,~~ shall be limited to the following:

1. For noble gases: Less than or equal to a dose rate of 500 mrems/yr to the total body and less than or equal to a dose rate of 3000 mrems/yr to the skin, and

2. For iodine-131, iodine-133, tritium, and for all radionuclides in particulate form with half-lives greater than 8 days: Less than or equal to a dose rate of 1500 mrems/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 Part 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 greater than 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR Part 50, Appendix I; and

j. Limitations on the annual dose or dose commitment to any member of the public due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190.

(continued)

5.9 Reporting Requirements

5.9.1 Routine Reports (continued)

5.9.1.2 Annual Reports

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

Annual Reports covering the activities of the unit as described below for the previous calendar year shall be submitted by March 31 of each year. The initial report shall be submitted by March 31 of the year following initial criticality.

Reports required on an annual basis include:

a. 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 required, receiving an annual deep dose equivalent ~~exposures~~ > 100 mrem~~/yr~~ and ~~their~~ the associated collective deep dose equivalent (reported in person-rem) ~~exposure~~ 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 ~~20.407~~ 20.2206. The dose assignments to various duty functions may be estimated based on pocket dosimeter, ~~thermoluminescent~~ thermoluminescence dosimeter (TLD), or film badge measurements. Small exposures totalling < 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total ~~whole body dose~~ deep dose equivalent received from external sources should be assigned to specific major work functions; and

[b. Any other unit unique reports required on an annual basis.]

(continued)

5.9 Reporting Requirements

5.9.1 Routine Reports (continued)

5.9.1.4 Radioactive Effluent Release Report

NOTE
A single submittal may be made for a multiple-unit station. The submittal shall 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.

The Radioactive Effluent Release Report covering the operation of the unit during the previous year shall be submitted prior to May 1 of each year 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 Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR Part 50, Appendix I, Section IV.B.1.

5.9.1.5 Monthly Operating Reports

Routine reports of operating statistics and shutdown experience [, including documentation of all challenges to the pressurizer power operated relief valves or pressurizer safety valves,] shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

5.9.1.6 CORE OPERATING LIMITS REPORT (COLR)

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

The individual specifications that address core operating limits must be referenced here.

b. 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:

(continued)

5.11 HIGH RADIATION AREAS

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:

5.11.1 High Radiation Areas with Dose Rates not Exceeding 1.0 rem/hour:*

A. Each entryway to such an area shall be barricaded and conspicuously posted as a high radiation area. Such barricades may be breached only during periods of entry or exit.

B. Access to, and activities in, each such area shall be controlled by means of a 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 (e.g., health physics technicians) 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 (whether alone or in a group) entering such an area shall possess:

(i) A radiation monitoring device that continuously displays radiation dose rates in the area ("radiation monitoring and indicating device"), or

(ii) 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, or

(iii) 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, or

(iv) A self-reading dosimeter and,

(a) Be under the surveillance, as specified in the RWP or

(continued)

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. Entry into such areas shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them.

5.11.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour, * but less than 500 rads/hour:**

A. Each entryway to such an area shall be conspicuously posted as a high radiation area and shall be provided with a locked door or gate that prevents unauthorized entry, and in addition:

(i) All such door and gate keys shall be maintained under the administrative control of the shift foreman or the health physics supervisor on duty.

(ii) Doors and gates shall remain locked 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.

(continued)

D. Each individual entering such an area shall possess:

(i) An alarming dosimeter with an appropriate alarm setpoint, or

(ii) 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, or

(iii) A self-reading dosimeter and,

(a) Be under the surveillance, as specified in the RWP or equivalent, 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, 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.

E. Entry into such areas shall be made only after dose rates in the area have been determined 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 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.

*At 30 centimeters (12 inches) from the radiation source or from any surface penetrated by the radiation.

**At 1 meter from the radiation source or from any surface penetrated by the radiation.

(continued)

on programmatic controls and relocation of radiological effluent TS, and for licensees who have adopted the improved STS.

A notice of opportunity for public comment on the proposed generic letter will be published in the Federal Register after the CRGR has endorsed the proposed generic letter.

Please schedule a meeting at the earliest opportunity for the CRGR to review this proposal.

Original signed by
Frank J. Miraglia

Frank J. Miraglia, Deputy Director
Office of Nuclear Reactor Regulation

Enclosures: As stated

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