

Docket Nos.: 50-369
and 50-370

June 21, 1988

Mr. H. B. Tucker, Vice President
Nuclear Production Department
Duke Power Company
422 South Church Street
Charlotte, North Carolina 28242

Dear Mr. Tucker:

SUBJECT: ISSUANCE OF AMENDMENT NO. 87 TO FACILITY OPERATING LICENSE NPF-9 AND
AMENDMENT NO. 68 TO FACILITY OPERATING LICENSE NPF-17 - MCGUIRE
NUCLEAR STATION, UNITS 1 AND 2 (TACS 67206/67207)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 87 to Facility Operating License NPF-9 and Amendment No. 68 to Facility Operating License NPF-17 for the McGuire Nuclear Station, Units 1 and 2. These amendments consist of changes to the Technical Specifications (TS) in response to your application dated January 11, 1988.

The amendments change Technical Specifications Sections 3.0 and 4.0 to conform to Generic Letter 87-09. As agreed in a phone conversation with Mr. R. Ouelette of your company, a sentence was added to the Bases for Section 3.0.1 of the Technical Specifications to make this section consistent with the standard provided by Generic Letter 87-09. The amendments are effective as of their date of issuance.

A copy of the related safety evaluation supporting Amendment No. 87 to Facility Operating License NPF-9 and Amendment No. 68 to Facility Operating License NPF-17 is enclosed.

Notice of issuance of amendments will be included in the Commission's next bi-weekly Federal Register notice.

Sincerely,

Original signed by:

Darl Hood, Project Manager
Project Directorate II-3
Division of Reactor Projects I/II

Enclosures:

1. Amendment No. 87 to NPF-9
2. Amendment No. 68 to NPF-17
3. Safety Evaluation

cc w/enclosures:
See next page

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MRood

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DS/H
PD#II-3/DRP-I/II
DHood:pw

5/26/88

PD#II-3/DRP-I/II
DMatthews

6/8/88

Mr. H. B. Tucker
Duke Power Company

McGuire Nuclear Station

cc:

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

DUKE POWER COMPANY

DOCKET NO. 50-369

McGUIRE NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 87
License No. NPF-9

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the McGuire Nuclear Station, Unit 1 (the facility) Facility Operating License No. NPF-9 filed by the Duke Power Company (the licensee) dated January 11, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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DATED: June 21, 1988

AMENDMENT NO. 87 TO FACILITY OPERATING LICENSE NPF-9 - McGuire Nuclear Station, Unit 1
AMENDMENT NO. 68 TO FACILITY OPERATING LICENSE NPF-17 - McGuire Nuclear Station, Unit 2

DISTRIBUTION:

Docket File

NRC PDR

Local PDR

PD#II-3 R/F

McGuire R/F

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D. Matthews

M. Rood

D. Hood

OGC-WF

J. Partlow

E. Jordan

W. Jones

T. Barnhart (8)

ACRS (10)

GPA/PA

ARM/LFMB

E. Butcher

D. Hagan

2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachments to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-9 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 87, are hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects-I/II

Attachment:
Technical Specification
Changes

Date of Issuance: June 21, 1988

OFFICIAL RECORD COPY

LA:PDII-3
MRood
5/26/88

^{DSH}
PM:PDII-3
DHood:pw
5/26/88

OTBB
Eutcher
6/1/88

OGC-WF
CW
6/6/88

DMatthews
6/8/88



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

DUKE POWER COMPANY

DOCKET NO. 50-370

McGUIRE NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 68
License No. NPF-17

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the McGuire Nuclear Station, Unit 2 (the facility) Facility Operating License No. NPF-17 filed by the Duke Power Company (the licensee) dated January 11, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachments to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-17 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 68, are hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects-I/II

Attachment:
Technical Specification
Changes

Date of Issuance: June 21, 1988

OFFICIAL RECORD COPY

LA:PDII-3
MR008
5/24/88

DSN
PM:PDII-3
DHood:pw
5/26/88

OTAB
Butcher
6/1/88

OGC-WF
Culm
6/6/88

D:PDII-3
DMatthews
6/8/88

ATTACHMENT TO LICENSE AMENDMENT NO.

FACILITY OPERATING LICENSE NO. NPF-9

DOCKET NO. 50-369

AND

TO LICENSE AMENDMENT NO.

FACILITY OPERATING LICENSE NO. NPF-17

DOCKET NO. 50-370

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change. The corresponding overleaf pages are also provided to maintain document completeness.

| <u>Amended Page</u> | <u>Overleaf Page</u> |
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| 3/4 0-2 | |
| B3/4 0-1 | |
| B3/4 0-2 | |
| B3/4 0-3 | |
| B3/4 0-4 (new page) | |
| B3/4 0-5 (new page) | |
| B3/4 0-6 (new page) | |
| 3/4 2-21 | |
| 3/4 3-2 | 3/4 3-1 |
| 3/4 3-3 | |
| 3/4 3-4 | |
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Overleaf Page

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3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

3/4.0 APPLICABILITY

LIMITING CONDITION FOR OPERATION

3.0.1 Compliance with the Limiting Conditions for Operation contained in the succeeding specifications is required during the OPERATIONAL MODES or other conditions specified therein; except that upon failure to meet the Limiting Conditions for Operation, the associated ACTION requirements shall be met.

3.0.2 Noncompliance with a specification shall exist when the requirements of the Limiting Condition for Operation and associated ACTION requirements are not met within the specified time intervals. If the Limiting Condition for Operation is restored prior to expiration of the specified time intervals, completion of the Action requirements is not required.

3.0.3 When a Limiting Condition for Operation is not met, except as provided in the associated ACTION requirements, within 1 hour action shall be initiated to place the unit in a MODE in which the specification does not apply by placing it, as applicable, in:

- a. At least HOT STANDBY within the next 6 hours,
- b. At least HOT SHUTDOWN within the following 6 hours, and
- c. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the action may be taken in accordance with the specified time limits as measured from the time of failure to meet the Limiting Condition for Operation. Exceptions to these requirements are stated in the individual specifications.

This specification is not applicable in MODE 5 or 6.

3.0.4 Entry into an OPERATIONAL MODE or other specified condition shall not be made when the conditions for the Limiting Condition for Operation are not met and the associated ACTION requires a shutdown if they are not met within a specified time interval. Entry into an OPERATIONAL MODE or specified condition may be made in accordance with ACTION requirements when conformance to them permits continued operation of the facility for an unlimited period of time. This provision shall not prevent passage through or to OPERATIONAL MODES as required to comply with ACTION requirements. Exceptions to these requirements are stated in the individual specifications.

3.0.5 Limiting Conditions for Operation including the associated ACTION requirements shall apply to each unit individually unless otherwise indicated as follows:

- a. Whenever the Limiting Condition for Operation refers to systems or components which are shared by both units, the ACTION requirements will apply to both units simultaneously. This will be indicated in the ACTION section;
- b. Whenever the Limiting Condition for Operation applies to only one unit, this will be identified in the APPLICABILITY section of the specification; and
- c. Whenever certain portions of a specification contain operating parameters, setpoints etc., which are different for each unit, this will be identified in parentheses or footnotes. (For example, "...flow rate of 54,000 cfm (Unit 1) or 43,000 cfm (Unit 2)...").

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be met during the OPERATIONAL MODES or other conditions specified for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement.

4.0.2 Each Surveillance Requirement shall be performed within the specified time interval with:

- a. A maximum allowable extension not to exceed 25% of the surveillance interval, but
- b. The combined time interval for any three consecutive surveillance intervals shall not exceed 3.25 times the specified surveillance interval.

4.0.3 Failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute noncompliance with the OPERABILITY requirements for a Limiting Condition for Operation. The time limits of the ACTION requirements are applicable at the time it is identified that a Surveillance Requirement has not been performed. The ACTION requirements may be delayed for up to 24 hours to permit the completion of the surveillance when the allowable outage time limits of the ACTION requirements are less than 24 hours. Surveillance Requirements do not have to be performed on inoperable equipment.

4.0.4 Entry into an OPERATIONAL MODE or other specified condition shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation have been performed within the stated surveillance interval or as otherwise specified. This provision shall not prevent passage through or to OPERATIONAL MODES as required to comply with ACTION requirements.

4.0.5 Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2, and 3 components shall be applicable as follows:

- a. Inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i);

3/4.0 APPLICABILITY

BASES

Specification 3.0.1 through 3.0.4 establish the general requirements applicable to Limiting Conditions for Operation. These requirements are based on the requirements for Limiting Conditions for Operation stated in the Code of Federal Regulations, 10 CFR 50.36(c)(2):

"Limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specification until the condition can be met."

Specification 3.0.1 establishes the Applicability statement within each individual specification as the requirement for when (i.e., in which OPERATIONAL MODES or other specified conditions) conformance to the Limiting Conditions for Operation is required for safe operation of the facility. The ACTION requirements establish those remedial measures that must be taken within specified time limits when the requirements of a Limiting Condition for Operation are not met.

There are two basic types of ACTION requirements. The first specifies the remedial measures that permit continued operation of the facility which is not further restricted by the time limits of the ACTION requirements. In this case, conformance to the ACTION requirements provides an acceptable level of safety for unlimited continued operation as long as the ACTION requirements continue to be met. The second type of ACTION requirement specifies a time limit in which conformance to the conditions of the Limiting Condition for Operation must be met. This time limit is the allowable outage time to restore an inoperable system or component to OPERABLE status or for restoring parameters within specified limits. If these actions are not completed within the allowable outage time limits, a shutdown is required to place the facility in a MODE or condition in which the specification no longer applies. It is not intended that the shutdown ACTION requirements be used as an operational convenience which permits (routine) voluntary removal of a system(s) or component(s) from service in lieu of other alternatives that would not result in redundant systems or components being inoperable.

The specified time limits of the ACTION requirements are applicable from the point in time it is identified that a Limiting Condition for Operation is not met. The time limits of the ACTION requirements are also applicable when a system or component is removed from service for surveillance testing or investigation of operational problems. Individual specifications may include a specified time limit for the completion of a Surveillance Requirement when equipment is removed from service. In this case, the allowable outage time limits of the ACTION requirements are applicable when this limit expires if the surveillance has not been completed. When a shutdown is required to comply with ACTION requirements, the plant may have entered a MODE in which a new specification becomes applicable. In this case, the time limits of the ACTION requirements would apply from the point in time that the new specification becomes applicable if the requirements of the Limiting Condition for Operation are not met.

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Specification 3.0.2 establishes that noncompliance with a specification exists when the requirements of the Limiting Condition for Operation are not met and the associated ACTION requirements have not been implemented within the specified time interval. The purpose of this specification is to clarify that (1) implementation of the ACTION requirements within the specified time interval constitutes compliance with a specification and (2) completion of the remedial measures of ACTION requirements is not required when compliance with a Limiting Condition for Operation is restored within the time interval specified in the associated ACTION requirements.

Specification 3.0.3 establishes the shutdown ACTION requirements that must be implemented when a Limiting Condition for Operation is not met and the condition is not specifically addressed by the associated ACTION requirements. The purpose of this specification is to delineate the time limits for placing the unit in a safe shutdown MODE when plant operation cannot be maintained within the limits for safe operation defined by the Limiting Conditions for Operation and its ACTION requirements. It is not intended to be used as an operational convenience which permits (routine) voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable. One hour is allowed to prepare for an orderly shutdown before initiating a change in plant operation. This time permits the operator to coordinate the reduction in electrical generation with the load dispatcher to ensure the stability and availability of the electrical grid. The time limits specified to reach lower MODES of operation permit the shutdown to proceed in a controlled and orderly manner that is well within the specified maximum cooldown rate and within the cooldown capabilities of the facility assuming only the minimum required equipment is OPERABLE. This reduces thermal stresses on components of the primary coolant system and the potential for a plant upset that could challenge safety systems under conditions for which this specification applies.

If remedial measures permitting limited continued operation of the facility under the provisions of the ACTION requirements are completed, the shutdown may be terminated. The time limits of the ACTION requirements are applicable from the point in time there was a failure to meet a Limiting Condition for Operation. Therefore, the shutdown may be terminated if the ACTION requirements have been met or the time limits of the ACTION requirements have not expired, thus providing an allowance for the completion of the required actions.

The time limits of Specification 3.0.3 allow 37 hours for the plant to be in the COLD SHUTDOWN MODE when a shutdown is required during the POWER MODE of operation. If the plant is in a lower MODE of operation when a shutdown is required, the time limit for reaching the next lower MODE of operation applies. However, if a lower MODE of operation is reached in less time than allowed, the total allowable time to reach COLD SHUTDOWN, or other applicable MODE, is not reduced. For example, if HOT STANDBY is reached in 2 hours, the time allowed to reach HOT SHUTDOWN is the next 11 hours because the total time to reach HOT SHUTDOWN is not reduced from the allowable limit of 13 hours. Therefore, if remedial measures are completed that would permit a return to

APPLICABILITY

BASES

POWER operation, a penalty is not incurred by having to reach a lower MODE of operation in less than the total time allowed.

The same principle applies with regard to the allowable outage time limits of the ACTION requirements, if compliance with the ACTION requirements for one specification results in entry into a MODE or condition of operation for another specification in which the requirements of the Limiting Condition for Operation are not met. If the new specification becomes applicable in less time than specified, the difference may be added to the allowable outage time limits of the second specification. However, the allowable outage time limits of ACTION requirements for a higher MODE of operation may not be used to extend the allowable outage time that is applicable when a Limiting Condition for Operation is not met in a lower MODE of operation.

The shutdown requirements of Specification 3.0.3 do not apply in MODES 5 and 6, because the ACTION requirements of individual specifications define the remedial measures to be taken.

Specification 3.0.4 establishes limitations on MODE changes when a Limiting Condition for Operation is not met. It precludes placing the facility in a higher MODE of operation when the requirements for a Limiting Condition for Operation are not met and continued noncompliance to these conditions would result in a shutdown to comply with the ACTION requirements if a change in MODES were permitted. The purpose of this specification is to ensure that facility operation is not initiated or that higher MODES of operation are not entered when corrective action is being taken to obtain compliance with a specification by restoring equipment to OPERABLE status or parameters to specified limits. Compliance with ACTION requirements that permit continued operation of the facility for an unlimited period of time provides an acceptable level of safety for continued operation without regard to the status of the plant before or after a MODE change. Therefore, in this case, entry into an OPERATIONAL MODE or other specified condition may be made in accordance with the provisions of the ACTION requirements. The provisions of this specification should not, however, be interpreted as endorsing the failure to exercise good practice in restoring systems or components to OPERABLE status before plant startup.

When a shutdown is required to comply with ACTION requirements, the provisions of Specification 3.0.4 do not apply because they would delay placing the facility in a lower MODE of operation.

Specification 3.0.5 delineates the applicability of each specification to Unit 1 and Unit 2 operation.

APPLICABILITY

BASES

Specifications 4.0.1 through 4.0.5 establish the general requirements applicable to Surveillance Requirements. These requirements are based on the Surveillance Requirements stated in the Code of Federal Regulations, 10 CFR 50.36(c)(3):

"Surveillance requirements are requirements relating to test, calibration, or inspection to ensure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions of operation will be met."

Specification 4.0.1 establishes the requirement that surveillances must be performed during the OPERATIONAL MODES or other conditions for which the requirements of the Limiting Conditions for Operation apply unless otherwise stated in an individual Surveillance Requirement. The purpose of this specification is to ensure that surveillances are performed to verify the operational status of systems and components and that parameters are within specified limits to ensure safe operation of the facility when the plant is in a MODE or other specified condition for which the associated Limiting Conditions for Operation are applicable. Surveillance Requirements do not have to be performed when the facility is in an OPERATIONAL MODE for which the requirements of the associated Limiting Condition for Operation do not apply unless otherwise specified. The Surveillance Requirements associated with a Special Test Exception are only applicable when the Special Test Exception is used as an allowable exception to the requirements of a specification.

Specification 4.0.2 establishes the conditions under which the specified time interval for Surveillance Requirements may be extended. Item a. permits an allowable extension of the normal surveillance interval to facilitate surveillance scheduling and consideration of plant operating conditions that may not be suitable for conducting the surveillance; e.g., transient conditions or other ongoing surveillance or maintenance activities. Item b. limits the use of the provisions of item a. to ensure that it is not used repeatedly to extend the surveillance interval beyond that specified. The limits of Specification 4.0.2 are based on engineering judgment and the recognition that the most probable result of any particular surveillance being performed is the verification of conformance with the Surveillance Requirements. These provisions are sufficient to ensure that the reliability ensured through surveillance activities is not significantly degraded beyond that obtained from the specified surveillance interval.

Specification 4.0.3 establishes the failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by the provisions of Specification 4.0.2, as a condition that constitutes a failure to meet the OPERABILITY requirements for a Limiting Condition for Operation. Under the provisions of this specification, systems and components are assumed to be OPERABLE when Surveillance Requirements have been satisfactorily performed within the specified time interval. However, nothing in this

APPLICABILITY

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provision is to be construed as implying that systems or components are OPERABLE when they are found or known to be inoperable although still meeting the Surveillance Requirements. This specification also clarifies that the ACTION requirements are applicable when Surveillance Requirements have not been completed within the allowed surveillance interval and that the time limits of the ACTION requirements apply from the point in time it is identified that a surveillance has not been performed and not at the time that the allowed surveillance interval was exceeded. Completion of the Surveillance Requirement within the allowable outage time limits of the ACTION requirements restores compliance with the requirements of Specification 4.0.3. However, this does not negate the fact that the failure to have performed the surveillance within the allowed surveillance interval, defined by the provisions of Specification 4.0.2, was a violation of the OPERABILITY requirements of a Limiting Condition for Operation that is subject to enforcement action. Further, the failure to perform a surveillance within the provisions of Specification 4.0.2 is a violation of a Technical Specification requirement and is, therefore, a reportable event under the requirements of 10 CFR 50.73(a)(2)(i)(B) because it is a condition prohibited by the plant's Technical Specifications.

If the allowable outage time limits of the ACTION requirements are less than 24 hours or a shutdown is required to comply with ACTION requirements, e.g., Specification 3.0.3, a 24-hour allowance is provided to permit a delay in implementing the ACTION requirements. This provides an adequate time limit to complete Surveillance Requirements that have not been performed. The purpose of this allowance is to permit the completion of a surveillance before a shutdown is required to comply with ACTION requirements or before other remedial measures would be required that may preclude completion of a surveillance. The basis for this allowance includes consideration for plant conditions, adequate planning, availability of personnel, the time required to perform the surveillance, and the safety significance of the delay in completing the required surveillance. This provision also provides a time limit for the completion of Surveillance Requirements that become applicable as a consequence of MODE changes imposed by ACTION requirements and for completing Surveillance Requirements that are applicable when an exception to the requirements of Specification 4.0.4 is allowed. If a surveillance is not completed within the 24-hour allowance, the time limits of the ACTION requirements are applicable at that time. When a surveillance is performed within the 24-hour allowance and the Surveillance Requirements are not met, the time limits of the ACTION requirements are applicable at the time that the surveillance is terminated.

Surveillance Requirements do not have to be performed on inoperable equipment because the ACTION requirements define the remedial measures that apply. However, the Surveillance Requirements have to be met to demonstrate that inoperable equipment has been restored to OPERABLE status.

APPLICABILITY

BASES

Specification 4.0.4 establishes the requirement that all applicable surveillances must be met before entry into an OPERATIONAL MODE or other condition of operation specified in the Applicability statement. The purpose of this specification is to ensure that system and component OPERABILITY requirements or parameter limits are met before entry into a MODE or condition for which these systems and components ensure safe operation of the facility. This provision applies to changes in OPERATIONAL MODES or other specified conditions associated with plant shutdown as well as startup.

Under the provisions of this specification, the applicable Surveillance Requirements must be performed within the specified surveillance interval to ensure that the Limiting Conditions for Operation are met during initial plant startup or following a plant outage.

When a shutdown is required to comply with ACTION requirements, the provision of Specification 4.0.4 do not apply because this would delay placing the facility in a lower MODE of operation.

Specification 4.0.5 establishes the requirement that inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with a periodically updated version of Section XI of the ASME Boiler and Pressure Vessel Code and Addenda as required by 10 CFR 50.55a. These requirements apply except when relief has been provided in writing by the Commission.

This specification includes a clarification of the frequencies for performing the inservice inspection and testing activities required by Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda. This clarification is provided to ensure consistency in surveillance intervals throughout the Technical Specifications and to remove any ambiguities relative to the frequencies for performing the required inservice inspection and testing activities.

Under the terms of this specification, the more restrictive requirements of the Technical Specifications take precedence over the ASME Boiler and pressure Vessel Code and applicable Addenda. The requirements of Specification 4.0.4 to perform surveillance activities before entry into an OPERATIONAL MODE or other specified condition takes precedence over the ASME Boiler and Pressure Vessel Code provision which allows pumps and valves to be tested up to one week after return to normal operation. The Technical Specification definition of OPERABLE does not allow a grace period before a component, that is not capable of performing its specified function, is declared inoperable and takes precedence over the ASME Boiler and Pressure Vessel Code provision which allows a valve to be incapable of performing its specified function for up to 24 hours before being declared inoperable.

Specification 4.0.6 delineates the applicability of the surveillance activities to Unit 1 and Unit 2 operations.

POWER DISTRIBUTION LIMITS

LIMITING CONDITION FOR OPERATION

ACTION: (Continued)

2. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 2 hours and reduce the Power Range Neutron Flux-High Trip Setpoints to less than or equal to 55% of RATED THERMAL POWER within the next 4 hours; and
3. Identify and correct the cause of the out-of-limit condition prior to increasing THERMAL POWER; subsequent POWER OPERATION above 50% of RATED THERMAL POWER may proceed provided that the QUADRANT POWER TILT RATIO is verified within its limit at least once per hour for 12 hours or until verified at 95% or greater RATED THERMAL POWER.

SURVEILLANCE REQUIREMENTS

4.2.4.1 The QUADRANT POWER TILT RATIO shall be determined to be within the limit above 50% of RATED THERMAL POWER by:

- a. Calculating the ratio at least once per 7 days when the alarm is OPERABLE, and
- b. Calculating the ratio at least once per 12 hours during steady-state operation when the alarm is inoperable.

4.2.4.2 The QUADRANT POWER TILT RATIO shall be determined to be within the limit when above 75% of RATED THERMAL POWER with one Power Range channel inoperable by using the movable incore detectors to confirm that the normalized symmetric power distribution, obtained from two sets of four symmetric thimble locations or a full-core flux map, is consistent with the indicated QUADRANT POWER TILT RATIO at least once per 12 hours.

3/4.3 INSTRUMENTATION

3/4.3.1 REACTOR TRIP SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.1 As a minimum, the Reactor Trip System Instrumentation channels and interlocks of Table 3.3-1 shall be OPERABLE with RESPONSE TIMES as shown in Table 3.3-2.

APPLICABILITY: As shown in Table 3.3-1.

ACTION:

As shown in Table 3.3-1.

SURVEILLANCE REQUIREMENTS

4.3.1.1 Each Reactor Trip System Instrumentation channel and interlock shall be demonstrated OPERABLE by the performance of the Reactor Trip System Instrumentation Surveillance Requirements specified in Table 4.3-1.

4.3.1.2 The REACTOR TRIP SYSTEM RESPONSE TIME of each Reactor trip function shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least one train such that both trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific Reactor trip function as shown in the "Total No. of Channels" column of Table 3.3-1.

TABLE 3.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION

| FUNCTIONAL UNIT | TOTAL NO. OF CHANNELS | CHANNELS TO TRIP | MINIMUM CHANNELS OPERABLE | APPLICABLE MODES | ACTION |
|--|--------------------------|---------------------|---------------------------------|----------------------|--------|
| 1. Manual Reactor Trip | 2 | 1 | 2 | 1, 2 | 1 |
| | 2 | 1 | 2 | 3*, 4*, 5* | 10 |
| 2. Power Range, Neutron Flux - High Setpoint | 4 | 2 | 3 | 1, 2 | 2 |
| Low Setpoint | 4 | 2 | 3 | 1 ^{###} , 2 | 2 |
| 3. Power Range, Neutron Flux High Positive Rate | 4 | 2 | 3 | 1, 2 | 2 |
| 4. Power Range, Neutron Flux, High Negative Rate | 4 | 2 | 3 | 1, 2 | 2 |
| 5. Intermediate Range, Neutron Flux | 2 | 1 | 2 | 1 ^{###} , 2 | 3 |
| 6. Source Range, Neutron Flux | | | | | |
| a. Startup | 2 | 1 | 2 | 2 ^{##} | 4 |
| b. Shutdown | 2 | 1 | 2 | 3*, 4*, 5* | 10 |
| c. Shutdown | 2 | 0 | 1 | 3, 4, and 5 | 5 |
| 7. Overtemperature ΔT | | | | | |
| Four Loop Operation | 4 | 2 | 3 | 1, 2 | 6 |
| Three Loop Operation | (**) | (**) | (**) | (**) | (**) |

McGUIRE - UNITS 1 and 2

3/4 3-2

Amendment No. 87 (Unit 1)
Amendment No. 68 (Unit 2)

TABLE 3.3-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION

| FUNCTIONAL UNIT | TOTAL NO. OF CHANNELS | CHANNELS TO TRIP | MINIMUM CHANNELS OPERABLE | APPLICABLE MODES | ACTION | |
|---|--------------------------|---|---|---------------------|------------|--|
| 8. Overpower ΔT | | | | | | |
| Four Loop Operation | 4 | 2 | 3 | 1, 2 | 6 | |
| Three Loop Operation | (**) | (**) | (**) | (**) | (**) | |
| 9. Pressurizer Pressure-Low | 4 | 2 | 3 | 1 | 6 (***) | |
| 10. Pressurizer Pressure--High | 4 | 2 | 3 | 1, 2 | 6 (***) | |
| 11. Pressurizer Water Level--High | 3 | 2 | 2 | 1 | 6 | |
| 12. Low Reactor Coolant Flow | | | | | | |
| a. Single Loop (Above P-8) | 3/loop | 2/loop in any oper- ating loop | 2/loop in each oper- ating loop | 1 | 6 | |
| b. Two Loops (Above P-7 and below P-8) | 3/loop | 2/loop in two oper- ating loops | 2/loop each oper- ating loop | 1 | 6 | |
| 13. Steam Generator Water Level--Low-Low | 4/stm. gen. | 2/stm. gen. in any oper- ating stm. gen. | 3/stm. gen. each oper- ating stm. gen. | 1, 2 | 6 (***) | |

McGUIRE - UNITS 1 and 2

3/4 3-3

Amendment No. 87 (Unit 1)
Amendment No. 68 (Unit 2)

TABLE 3.3-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION

| <u>FUNCTIONAL UNIT</u> | <u>TOTAL NO. OF CHANNELS</u> | <u>CHANNELS TO TRIP</u> | <u>MINIMUM CHANNELS OPERABLE</u> | <u>APPLICABLE MODES</u> | <u>ACTION</u> |
|--|----------------------------------|-----------------------------|--|-----------------------------|---------------|
| 14. Undervoltage-Reactor Coolant Pumps (above P-7) | 4-1/bus | 2 | 3 | 1 | 6 |
| 15. Underfrequency-Reactor Coolant Pumps (above P-7) | 4-1/bus | 2 | 3 | 1 | 6 |
| 16. Turbine Trip | | | | | |
| a. Low Fluid Oil Pressure | 3 | 2 | 2 | 1 | 6 |
| b. Turbine Stop Valve Closure | 4 | 4 | 1 | 1 | 11 |
| 17. Safety Injection Input from ESF | 2 | 1 | 2 | 1, 2 | 9 |
| 18. Reactor Trip System Interlocks | | | | | |
| a. Intermediate Range Neutron Flux, P-6 | 2 | 1 | 2 | 2 ^{##} | 8 |
| b. Low Power Reactor Trips Block, P-7 | | | | | |
| P-10 Input | 4 | 2 | 3 | 1 | 8 |
| or | | | | | |
| P-13 Input | 2 | 1 | 2 | 1 | 8 |
| c. Power Range Neutron Flux, P-8 | 4 | 2 | 3 | 1 | 8 |
| d. Low Setpoint Power Range Neutron Flux, P-10 | 4 | 2 | 3 | 1, 2 | 8 |
| e. Turbine Impulse Chamber Pressure, P-13 | 2 | 1 | 2 | 1 | 8 |

McGUIRE - UNITS 1 and 2

3/4 3-4

Amendment No. 87 (Unit 1)
Amendment No. 68 (Unit 2)

TABLE 3.3-1 (Continued)

TABLE NOTATION

- * With the Reactor Trip System breakers in the closed position, the Control Rod Drive System capable of rod withdrawal.
- ** Values left blank pending NRC approval of three loop operation.
- *** Comply with the provisions of Specification 3.3.2 for any portion of the channel required to be OPERABLE by Specification 3.3.2.
- ## Below the P-6 (Intermediate Range Neutron Flux Interlock) Setpoint.
- ### Below the P-10 (Low Setpoint Power Range Neutron Flux Interlock) Setpoint.

ACTION STATEMENTS

- ACTION 1 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in HOT STANDBY within the next 6 hours.
- ACTION 2 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
 - a. The inoperable channel is placed in the tripped condition within 6 hours,
 - b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.1.1, and
 - c. Either, THERMAL POWER is restricted to less than or equal to 75% of RATED THERMAL POWER and the Power Range Neutron Flux Trip Setpoint is reduced to less than or equal to 85% of RATED THERMAL POWER within 4 hours; or, the QUADRANT POWER TILT RATIO is monitored at least once per 12 hours per Specification 4.2.4.2.

INSTRUMENTATION

3/4.3.2 ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.2 The Engineered Safety Features Actuation System (ESFAS) Instrumentation channels and interlocks shown in Table 3.3-3 shall be OPERABLE with their Trip Setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4 and with RESPONSE TIMES as shown in Table 3.3-5.

APPLICABILITY: As shown in Table 3.3-3.

ACTION:

- a. With an ESFAS Instrumentation channel or interlock Trip Setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status with the Trip Setpoint adjusted consistent with the Trip Setpoint value.
- b. With an ESFAS Instrumentation channel or interlock inoperable, take the ACTION shown in Table 3.3-3.

SURVEILLANCE REQUIREMENTS

4.3.2.1 Each ESFAS Instrumentation channel and interlock and the automatic actuation logic and relays shall be demonstrated OPERABLE by the performance of the ESFAS Instrumentation Surveillance Requirements specified in Table 4.3-2.

4.3.2.2 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one train such that both trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" column of Table 3.3-3.

TABLE 3.3-3

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

| <u>FUNCTIONAL UNIT</u> | <u>TOTAL NO. OF CHANNELS</u> | <u>CHANNELS TO TRIP</u> | <u>MINIMUM CHANNELS OPERABLE</u> | <u>APPLICABLE MODES</u> | <u>ACTION</u> |
|---|----------------------------------|--------------------------------|--|-----------------------------|---------------|
| 1. Safety Injection, Reactor Trip, Feedwater Isolation, Component Cooling Water, Start Diesel Generators, and Nuclear Service Water | | | | | |
| a. Manual Initiation | 2 | 1 | 2 | 1, 2, 3, 4 | 18 |
| b. Automatic Actuation Logic and Actuation Relays | 2 | 1 | 2 | 1, 2, 3, 4 | 14 |
| c. Containment Pressure-High | 3 | 2 | 2 | 1, 2, 3 | 15 |
| d. Pressurizer Pressure - Low-Low | 4 | 2 | 3 | 1, 2, 3 [#] | 19 |
| e. Steam Line Pressure-Low | | | | | |
| Four Loops Operating | 3/steam line | 2/steam line in any steam line | 2/steam line | 1, 2, 3 [#] | 15 |
| Three Loops Operating | (**) | (**) | (**) | (**) | (**) |

McGUIRE - UNITS 1 and 2

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Amendment No. 87 (Unit 1)
Amendment No. 68 (Unit 2)

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

| <u>FUNCTIONAL UNIT</u> | <u>TOTAL NO. OF CHANNELS</u> | <u>CHANNELS TO TRIP</u> | <u>MINIMUM CHANNELS OPERABLE</u> | <u>APPLICABLE MODES</u> | <u>ACTION</u> |
|---|----------------------------------|--------------------------------------|--|-----------------------------|---------------|
| 4. Steam Line Isolation | | | | | |
| a. Manual Initiation | | | | | |
| 1) System | 2 | 1 | 2 | 1, 2, 3 | 22 |
| 2) Individual | 1/steam line | 1/steam line | 1/operating steam line | 1, 2, 3 | 23 |
| b. Automatic Actuation Logic and Actuation Relays | 2 | 1 | 2 | 1, 2, 3 | 21 |
| c. Containment Pressure-- High-High | 4 | 2 | 3 | 1, 2, 3 | 16 |
| d. Negative Steam Line Pressure Rate - High | | | | | |
| Four Loops Operating | 3/steam line | 2/steam line in any steam line | 2/steam line | 3 ^{##} | 15 |
| Three Loops Operating | (**) | (**) | (**) | (**) | (**) |
| e. Steam Line Pressure - Low | | | | | |
| Four Loops Operating | 3/steam line | 2/steam line in any steam line | 2/steam line | 1, 2, 3 [#] | 15 |
| Three Loops Operating | (**) | (**) | (**) | (**) | (**) |

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

| <u>FUNCTIONAL UNIT</u> | <u>TOTAL NO. OF CHANNELS</u> | <u>CHANNELS TO TRIP</u> | <u>MINIMUM CHANNELS OPERABLE</u> | <u>APPLICABLE MODES</u> | <u>ACTION</u> |
|--|----------------------------------|---|---|-----------------------------|---------------|
| 5. Turbine Trip & Feedwater Isolation | | | | | |
| a. Automatic Actuation Logic and Actuation Relay | 2 | 1 | 2 | 1, 2 | 21 |
| b. Steam Generator Water Level-- High-High | 3/stm. gen. | 2/stm. gen. in any oper- ating stm gen. | 2/stm. gen. in each oper- ating stm. gen. | 1, 2 | 15 |
| c. Doghouse Water Level (Feedwater Isolation Only) | 3/train/ Doghouse | 2/train/ Doghouse | 2/train/ Doghouse | 1, 2 | 25 |
| 6. Containment Pressure Control System | 8(4/train) | 4/train | 8 | 1, 2, 3, 4 | 26 |

McGUIRE - UNITS 1 and 2

3/4 3-20

Amendment No. 87 (Unit 1)
Amendment No. 68 (Unit 2)

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

| <u>FUNCTIONAL UNIT</u> | <u>TOTAL NO. OF CHANNELS</u> | <u>CHANNELS TO TRIP</u> | <u>MINIMUM CHANNELS OPERABLE</u> | <u>APPLICABLE MODES</u> | <u>ACTION</u> |
|---|----------------------------------|---|--|-----------------------------|---------------|
| 7. Auxiliary Feedwater | | | | | |
| a. Manual Initiation | 2 | 1 | 2 | 1, 2, 3 | 22 |
| b. Automatic Actuation Logic and Actuation Relays | 2 | 1 | 2 | 1, 2, 3 | 21 |
| c. Stm. Gen. Water Level- Low-Low | | | | | |
| 1) Start Motor- Driven Pumps | 4/stm. gen. | 2/stm. gen. in any opera- ting stm gen. | 3/stm. gen. in each operating stm. gen. | 1, 2, 3 | 19 |
| 2) Start Turbine- Driven Pump | 4/stm. gen. | 2/stm. gen. in any 2 operating stm. gen. | 3/stm. gen in each operating stm. gen | 1, 2, 3 | 19 |
| d. Auxiliary Feedwater Suction Pressure - Low (Suction Supply Automatic Realignment) | 2/pump | 2/pump | 2/pump | 1, 2, 3 | 24 |
| e. Safety Injection Start Motor-Driven Pumps | | | | | |

See Item 1. above for all Safety Injection initiating functions and requirements

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

| <u>FUNCTIONAL UNIT</u> | <u>TOTAL NO. OF CHANNELS</u> | <u>CHANNELS TO TRIP</u> | <u>MINIMUM CHANNELS OPERABLE</u> | <u>APPLICABLE MODES</u> | <u>ACTION</u> |
|--|----------------------------------|---|--|-----------------------------|---------------|
| 7. Auxiliary Feedwater (continued) | | | | | |
| f. Station Blackout Start Motor-Driven Pumps and Turbine-Driven Pump | 6-3/Bus | 2/Bus Either Bus | 2/Bus | 1, 2, 3 | 19 |
| g. Trip of All Main Feedwater Pumps Start Motor- Driven Pumps | 2/pump | 1/pump | 1/pump | 1, 2 [#] | 14 |
| 8. Automatic Switchover to Recirculation | | | | | |
| RWST Level | 3 | 2 | 2 | 1, 2, 3 | 15 |
| 9. Loss of Power | | | | | |
| 4 kV Emergency Bus Undervoltage-Grid Degraded Voltage | 3/Bus | 2/Bus | 2/Bus | 1, 2, 3, 4 | 15 |
| 10. Engineered Safety Features Actuation System Interlocks | | | | | |
| a. Pressurizer Pressure, P-11 | 3 | 2 | 2 | 1, 2, 3 | 20 |
| b. Low-Low T _{avg} , P-12 | 4 | 2 | 3 | 1, 2, 3 | 20 |
| c. Reactor Trip, P-4 | 2 | 2 | 2 | 1, 2, 3 | 22 |
| d. Steam Generator Level, P-14 | 3/stm gen. | 2/stm gen. in any operating stm gen. | 2/stm gen. in each operating stm gen. | 1, 2, 3 | 20 |

McGUIRE - UNITS 1 and 2

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Amendment No. 87 (Unit 1)
Amendment No. 68 (Unit 2)

TABLE 3.3-3 (Continued)

TABLE NOTATION

Trip function may be blocked in this MODE below the P-11 (Pressurizer Pressure Interlock) Setpoint.

Trip function automatically blocked above P-11 and may be blocked below P-11 when Safety Injection on low steam pressure is not blocked.

**These values left blank pending NRC approval of three loop operation.

ACTION STATEMENTS

- ACTION 14 With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1, provided the other channel is OPERABLE.
- ACTION 15 With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed until performance of the next required OPERATIONAL TEST provided the inoperable channel is placed in the tripped condition within 1 hour.
- ACTION 16 With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition and the Minimum Channels OPERABLE requirement is met. One additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.
- ACTION 17 - With less than the Minimum Channels OPERABLE requirement, operation may continue provided the containment purge supply and exhaust valves are maintained closed.

TABLE 4.3-2 (Continued)

TABLE NOTATION

- (1) Each train shall be tested at least every 62 days on a STAGGERED TEST BASIS.

INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING FOR PLANT OPERATIONS

LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels for plant operations shown in Table 3.3-6 shall be OPERABLE with their Alarm/Trip Setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

- a. With a radiation monitoring channel Alarm/Trip Setpoint exceeding the value shown in Table 3.3-6, adjust the Setpoint to within the limit within 4 hours or declare the channel inoperable.
- b. With one or more radiation monitoring channels inoperable, take the action shown in Table 3.3-6.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each radiation monitoring instrumentation channel for plant operations shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST operations for the modes and at the frequencies shown in Table 4.3-3.

INSTRUMENTATION

MOVABLE INCORE DETECTORS

LIMITING CONDITION FOR OPERATION

3.3.3.2 The Movable Incore Detection System shall be OPERABLE with:

- a. At least 75% of the detector thimbles,
- b. A minimum of two detector thimbles per core quadrant, and
- c. Sufficient movable detectors, drive, and readout equipment to map these thimbles.

APPLICABILITY: When the Movable Incore Detection System is used for:

- a. Recalibration of the Excore Neutron Flux Detection System,
- b. Monitoring the QUADRANT POWER TILT RATIO, or
- c. Measurement of $F_{\Delta H}^N$ and $F_Q(Z)$

ACTION:

With the Movable Incore Detection System inoperable, do not use the system for the above applicable monitoring or calibration functions. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.2 The Movable Incore Detection System shall be demonstrated OPERABLE at least once per 24 hours by normalizing each detector output when required for:

- a. Recalibration of the Excore Neutron Flux Detection System, or
- b. Monitoring the QUADRANT POWER TILT RATIO, or
- c. Measurement of $F_{\Delta H}^N$ and $F_Q(Z)$

INSTRUMENTATION

SEISMIC INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.3 The seismic monitoring instrumentation shown in Table 3.3-7 shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

- a. With one or more seismic monitoring instruments inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the instrument(s) to OPERABLE status.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.3.1 Each of the above seismic monitoring instruments shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST operations at the frequencies shown in Table 4.3-4.

4.3.3.3.2 Each of the above accessible seismic monitoring instruments actuated during a seismic event greater than or equal to 0.01 g shall be restored to OPERABLE status within 24 hours following the seismic event. Data shall be retrieved from accessible actuated instruments and analyzed to determine the magnitude of the vibratory ground motion. Data retrieved from the triaxial time-history accelerograph shall include a post-event CHANNEL CALIBRATION obtained by actuation of the internal test and calibrate function immediately prior to removing data. CHANNEL CALIBRATION shall be performed immediately after insertion of the new recording media in the triaxial time-history accelerograph recorder. A Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2, with a copy to Director, Office of Nuclear Reactor Regulation, Attention: Chief, Structural and Geotechnical Engineering Branch, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, within 10 days describing the magnitude, frequency spectrum, and resultant effect upon facility features important to safety.

INSTRUMENTATION

METEOROLOGICAL INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.4 The meteorological monitoring instrumentation channels shown in Table 3.3-8 shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

- a. With one or more required meteorological monitoring channels inoperable for more than 7 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the channel(s) to OPERABLE status.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.4 Each of the above meteorological monitoring instrumentation channels shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-5.

TABLE 3.3-8

METEOROLOGICAL MONITORING INSTRUMENTATION

| <u>INSTRUMENT</u> | <u>LOCATION</u> | <u>MINIMUM OPERABLE</u> |
|------------------------------|---------------------------|-----------------------------|
| 1. Wind Speed | | |
| a. Meteorological Tower | Nominal Elev. 786' | 1 |
| b. Meteorological Tower | Nominal Elev. 886' | 1 |
| 2. Wind Direction | | |
| a. Meteorological Tower | Nominal Elev. 786' | 1 |
| b. Meteorological Tower | Nominal Elev. 886' | 1 |
| 3. Air Temperature - Delta T | | |
| Meteorological Tower | Nominal Elev. 886' - 786' | 1 |

INSTRUMENTATION

FIRE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.7 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3-11 shall be OPERABLE.

APPLICABILITY: Whenever equipment protected by the fire detection instrument is required to be OPERABLE.

ACTION:

- a. With any, but not more than one-half the total in any fire zone, Function A fire detection instruments shown in Table 3.3-11 inoperable, restore the inoperable instrument(s) to OPERABLE status within 14 days or within the next 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour, unless the instrument(s) is located inside the containment, then inspect that containment zone at least once per 8 hours or monitor the containment air temperature at least once per hour at the locations given in Specification 4.6.1.5.1 or 4.6.1.5.2.
- b. With more than one-half of the Function A fire detection instruments in any fire zone shown in Table 3.3-11 inoperable, or with any Function B fire detection instruments shown in Table 3.3-11 inoperable, or with any two or more adjacent fire detection instruments shown in Table 3.3-11 inoperable, within 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour, unless the instrument(s) is located inside the containment, then inspect that containment zone at least once per 8 hours or monitor the containment air temperature at least once per hour at the locations given in Specification 4.6.1.5.1 or 4.6.1.5.2.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.7.1 Each of the above required fire detection instruments which are accessible during plant operation shall be demonstrated OPERABLE at least once per 6 months by performance of a TRIP ACTUATING DEVICE OPERATIONAL TEST. Fire detectors which are not accessible during plant operation shall be demonstrated OPERABLE by the performance of a TRIP ACTUATING DEVICE OPERATIONAL TEST during each COLD SHUTDOWN exceeding 24 hours unless performed in the previous 6 months.

Each of the above required fixed temperature/rate of rise detection instruments shall be demonstrated OPERABLE as follows:

INSTRUMENTATION

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.8 The radioactive liquid effluent monitoring instrumentation channels shown in Table 3.3-12 shall be OPERABLE with their Alarm/Trip Setpoints set to ensure that the limits of Specification 3.11.1.1 are not exceeded. The Alarm/Trip Setpoints of these channels shall be determined and adjusted in accordance with the methodology and parameters in the OFFSITE DOSE CALCULATION MANUAL (ODCM).

APPLICABILITY: At all times.

ACTION:

- a. With a radioactive liquid effluent monitoring instrumentation channel Alarm/Trip Setpoint less conservative than required by the above specification, immediately suspend the release of radioactive liquid effluents monitored by the affected channel, or declare the channel inoperable.
- b. With less than the minimum number of radioactive liquid effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3-12. Restore the inoperable instrumentation to OPERABLE status within the time specified in the ACTION or, in lieu of a Licensee Event Report, explain in the next Semiannual Radioactive Effluent Release Report why this inoperability was not corrected within the time specified.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.8 Each radioactive liquid effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST operations at the frequencies shown in Table 4.3-8.

INSTRUMENTATION

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.9 The radioactive gaseous effluent monitoring instrumentation channels shown in Table 3.3-13 shall be OPERABLE with their Alarm/Trip Setpoints set to ensure that the limits of Specification 3.11.2.1 are not exceeded. The Alarm/Trip Setpoints of these channels shall be determined and adjusted in accordance with the methodology and parameters in the ODCM.

APPLICABILITY: As shown in Table 3.3-13.

ACTION:

- a. With a radioactive gaseous effluent monitoring instrumentation channel Alarm/Trip 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.
- b. With less than the minimum number of radioactive gaseous effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3-13. Restore the inoperable instrumentation to OPERABLE status within the time specified in the ACTION or, in lieu of a Licensee Event Report, explain in the next Semiannual Radioactive Effluent Release Report why this inoperability was not corrected within the time specified.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.9 Each radioactive gaseous effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST operations at the frequencies shown in Table 4.3-9.

INSTRUMENTATION

LOOSE-PART DETECTION SYSTEM

LIMITING CONDITION FOR OPERATION

3.3.3.10 The Loose-Part Detection System shall be OPERABLE.

APPLICABILITY: MODES 1 and 2

ACTION:

- a. With one or more Loose-Part Detection System channels inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the channel(s) to OPERABLE status.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.10 Each channel of the Loose-Part Detection Systems shall be demonstrated OPERABLE by performance of:

- a. A CHANNEL CHECK at least once per 24 hours, and
- b. An ANALOG CHANNEL OPERATIONAL TEST except for verification of Setpoint at least once per 31 days, and
- c. A CHANNEL CALIBRATION at least one per 18 months.

REACTOR COOLANT SYSTEM

3/4.4.10 STRUCTURAL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.4.10 The structural integrity of ASME Code Class 1, 2 and 3 components shall be maintained in accordance with Specification 4.4.10.

APPLICABILITY: All MODES.

ACTION:

- a. With the structural integrity of any ASME Code Class 1 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) prior to increasing the Reactor Coolant System temperature more than 50°F above the minimum temperature required by NDT considerations.
- b. With the structural integrity of any ASME Code Class 2 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) prior to increasing the Reactor Coolant System temperature above 200°F.
- c. With the structural integrity of any ASME Code Class 3 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) from service.

SURVEILLANCE REQUIREMENTS

4.4.10 In addition to the requirements of Specification 4.0.5, each reactor coolant pump flywheel shall be inspected per the recommendations of Regulatory Position C.4.b of Regulatory Guide 1.14, Revision 1, August 1975.

PLANT SYSTEMS

3/4.7.9 SEALED SOURCE CONTAMINATION

LIMITING CONDITION FOR OPERATION

3.7.9 Each sealed source containing radioactive material either in excess of 100 microCuries of beta and/or gamma emitting material or 5 microCuries of alpha emitting material shall be free of greater than or equal to 0.005 microCurie of removable contamination.

APPLICABILITY: At all times.

ACTION:

- a. With a sealed source having removable contamination in excess of the above limits, immediately withdraw the sealed source from use and either:
 1. Decontaminate and repair the sealed source, or
 2. Dispose of the sealed source in accordance with Commission Regulations.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.9.1 Test Requirements - Each sealed source shall be tested for leakage and/or contamination by:

- a. The licensee, or
- b. Other persons specifically authorized by the Commission or an Agreement State.

The test method shall have a detection sensitivity of at least 0.005 microCurie per test sample.

4.7.9.2 Test Frequencies - Each category of sealed sources (excluding startup sources and fission detectors previously subjected to core flux) shall be tested at the frequency described below.

- a. Sources in use - At least once per 6 months for all sealed sources containing radioactive materials:
 - 1) With a half-life greater than 30 days (excluding Hydrogen 3), and
 - 2) In any form other than gas.

PLANT SYSTEMS

3/4.7.10 FIRE SUPPRESSION SYSTEMS

FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.10.1 The Fire Suppression Water System shall be OPERABLE with:

- a. At least two fire suppression pumps (either A and C or B and C), each with a capacity of 2500 gpm, with their discharge aligned to the fire suppression header; and
- b. An OPERABLE flow path capable of taking suction from Lake Norman and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation valves to the yard hydrant curb valves, the last valve ahead of the water flow alarm device on each sprinkler or hose standpipe, and the last valve ahead of the deluge valve on each Deluge or Spray System required to be OPERABLE per Specifications 3.7.10.2 and 3.7.10.4.

APPLICABILITY: At all times.

ACTION:

- a. With one of the above required pump and/or one water supply inoperable, restore the inoperable equipment to OPERABLE status within 7 days or provide an alternate backup pump or supply. The provisions of Specification 3.0.3 are not applicable.
- b. With the Fire Suppression Water System otherwise inoperable establish a backup Fire Suppression Water System within 24 hours.

PLANT SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

APPLICABILITY: Whenever equipment protected by the Spray/Sprinkler System is required to be OPERABLE.

ACTION:

- a. With one or more of the above required Spray and/or Sprinkler Systems inoperable, within 1 hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas, establish a hourly fire watch patrol.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.10.2 Each of the above required Spray and/or Sprinkler Systems shall be demonstrated OPERABLE:

- a. At least once per 31 days, by verifying that each valve (manual, power-operated, or automatic) in the flow path which is accessible during plant operation is in its correct position,
- b. At least once per 12 months, by cycling each testable valve in the flow path through at least one complete cycle of full travel,
- c. At least once per 18 months:
 - 1) By performing a system functional test which includes simulated automatic actuation of the system, and:
 - a) Verifying that the automatic valves in the flow path actuate to their correct position on a Fire Detection test signal, and
 - b) Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel.
 - 2) By a visual inspection of the dry pipe spray and sprinkler headers to verify their integrity; and
 - 3) By a visual inspection of each nozzle's spray area to verify the spray pattern is not obstructed.
 - 4) By verifying that each valve (manual, power-operated, or automatic) in the flow path which is inaccessible during plant operation is in its correct position.
- d. At least once per 3 years, by performing an air flow test through each open head spray/sprinkler header and verifying each open head spray/sprinkler nozzle is unobstructed.

PLANT SYSTEMS

HALON SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.10.3 The following Halon Systems shall be OPERABLE:

- a. Elevation 716 ft. - Auxiliary Building

| <u>Room No.</u> | <u>Equipment</u> |
|-----------------|--------------------------------------|
| 600 B | Turbine Driven Aux. FW Pump - Unit 1 |
| 601B | Turbine Driven Aux. FW Pump - Unit 2 |

- b. Elevation 733 ft. - Auxiliary Building

| <u>Room No.</u> | <u>Equipment</u> |
|-----------------|----------------------------|
| 703-704 | Diesel Generators - Unit 1 |
| 714-715 | Diesel Generators - Unit 2 |

APPLICABILITY: Whenever equipment protected by the Halon System is required to be OPERABLE.

ACTION:

- a. With one or more of the above required Halon Systems inoperable, within 1 hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch patrol.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.10.3 Each of the above required Halon Systems shall be demonstrated OPERABLE:

- a. At least once per 31 days, by verifying that each valve (manual, power-operated, or automatic) in the flow path is in its correct position,
- b. At least once per 6 months, by verifying Halon storage tank weight to be at least 95% of full charge weight and pressure to be at least 90% of full charge pressure, and
- c. At least once per 18 months, by:
- 1) Verifying the system, including associated ventilation dampers and fire door release mechanisms, actuates manually and automatically, upon receipt of a simulated actuation signal, and
 - 2) Performance of a flow test through headers and nozzles to assure no blockage.

PLANT SYSTEMS

FIRE HOSE STATIONS

LIMITING CONDITION FOR OPERATION

3.7.10.4 The fire hose stations shown in Table 3.7-5 shall be OPERABLE.

APPLICABILITY: Whenever equipment in the areas protected by the fire hose stations is required to be OPERABLE.

ACTION:

- a. With one or more of the fire hose stations shown in Table 3.7-5 inoperable, provide gated wye(s) on the nearest OPERABLE hose station(s). One outlet of the wye shall be connected to the standard length of hose provided for the hose station. The second outlet of the wye shall be connected to a length of hose sufficient to provide coverage for the area left unprotected by the inoperable hose station. Where it can be demonstrated that the physical routing of the fire hose would result in a recognizable hazard to operating technicians, plant equipment, or the hose itself, the fire hose shall be stored in a roll at the outlet of the OPERABLE hose station. Signs shall be mounted above the gated wye(s) to identify the proper hose to use. The above action shall be accomplished within 1 hour if the inoperable fire hose is the primary means of fire suppression; otherwise route the additional hose within 24 hours.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.10.4 Each of the fire hose stations shown in Table 3.7-5 shall be demonstrated OPERABLE:

- a. At least once per 31 days, by a visual inspection of the fire hose stations accessible during plant operations to assure all required equipment is at the station,
- b. At least once per 18 months, by:
 - 1) Visual inspection of the stations not accessible during plant operations to assure all required equipment is at the station,
 - 2) Removing the hose for inspection and re-racking, and
 - 3) Inspecting all gaskets and replacing any degraded gaskets in the couplings.
- c. At least once per 3 years, by:
 - 1) Partially opening each hose station valve to verify valve OPERABILITY and no flow blockage, and
 - 2) Conducting a hose hydrostatic test at a pressure of 150 psig or at least 50 psig above maximum fire main operating pressure, whichever is greater.

PLANT SYSTEMS

TABLE 3.7-5 (continued)

FIRE HOSE STATIONS

| <u>NO.</u> | <u>LOCATION</u> | <u>ELEVATION (FT)</u> |
|------------|-----------------|-----------------------|
| 173 | 60-MM/NN | 733 |
| 967 | 67-BB | 750 |
| 968 | 66-CC | 750 |
| 969 | 61-CC | 750 |
| 970 | 61-BB | 750 |
| 972 | 57-DD | 750 |
| 1185 | 58-JJ | 750 |
| 302 | 60-KK | 750 |
| 166 | 61-MM | 750 |
| 165 | 58-LL/MM | 750 |
| 975 | 61-BB | 767 |
| 192 | 58-JJ | 767 |
| 193 | 60-MM | 767 |
| 194 | 61-MM | 767 |
| 177 | 55-QQ | 716 |
| 894 | 44-AA/BB | 733 |
| 913 | 45-AA/BB | 733 |
| 890 | 51-BB | 733 |
| 887 | 53-DD | 733 |
| 1184 | 56-JJ | 733 |
| 163 | 54-JJ | 750 |
| 961 | 45-BB | 750 |
| 963 | 51-BB | 750 |
| 185 | 54-MM | 767 |

PLANT SYSTEMS

3/4.7.11 FIRE BARRIER PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.7.11 All fire barrier penetrations (walls, floor/ceilings, cable tray enclosures and other fire barriers) separating safety-related fire areas or separating portions of redundant systems important to safe shutdown within a fire area and all sealing devices in fire rated assembly penetrations (fire doors, fire windows, fire dampers, cable piping, and ventilation duct penetration seals) shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

- a. With one or more of the above required fire barrier penetrations and/or sealing devices inoperable, within 1 hour either establish a continuous fire watch on at least one side of the affected assembly, or verify the OPERABILITY of fire detectors on at least one side of the inoperable assembly and establish an hourly fire watch patrol.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.11.1 At least once per 18 months the above required fire barrier penetration sealing devices shall be verified OPERABLE, by performing a visual inspection of:

- a. The exposed surfaces of each fire rated assembly,
- b. Each fire window/fire damper/and associated hardware, and
- c. At least 10% of each type of sealed penetration. If apparent changes in appearance or abnormal degradations are found, a visual inspection of an additional 10% of each type of sealed penetration shall be made. This inspection process shall continue until a 10% sample with no apparent changes in appearance or abnormal degradation is found. Samples shall be selected such that each penetration seal will be inspected every 15 years.

REFUELING OPERATIONS

3/4.9.6 MANIPULATOR CRANE

LIMITING CONDITION FOR OPERATION

3.9.6 The manipulator crane and auxiliary hoist shall be used for movement of drive rods or fuel assemblies and shall be OPERABLE with:

- a. The manipulator crane used for movement of fuel assemblies having:
 - 1) A minimum capacity of 3250 pounds, and
 - 2) An overload cutoff limit less than or equal to 2900 pounds.
- b. The auxiliary hoist used for latching and unlatching drive rods having:
 - 1) A minimum capacity of 610 pounds, and
 - 2) A load indicator which shall be used to prevent lifting loads in excess of 600 pounds.

APPLICABILITY: During movement of drive rods or fuel assemblies within the reactor vessel.

ACTION:

With the requirements for crane and/or hoist OPERABILITY not satisfied, suspend use of any inoperable manipulator crane and/or auxiliary hoist from operations involving the movement of drive rods and fuel assemblies within the reactor vessel.

SURVEILLANCE REQUIREMENTS

4.9.6.1 Each manipulator crane used for movement of fuel assemblies within the reactor vessel shall be demonstrated OPERABLE within 100 hours prior to the start of such operations by performing a load test of at least 3250 pounds and demonstrating an automatic load cutoff when the crane load exceeds 2900 pounds.

4.9.6.2 Each auxiliary hoist and associated load indicator used for movement of drive rods within the reactor vessel shall be demonstrated OPERABLE within 100 hours prior to the start of such operations by performing a load test of at least 610 pounds.

REFUELING OPERATIONS

3/4.9.7 CRANE TRAVEL - SPENT FUEL STORAGE POOL BUILDING

LIMITING CONDITION FOR OPERATION

3.9.7 Loads in excess of 3000 pounds* shall be prohibited from travel over fuel assemblies in the storage pool. Truck casks shall be carried along the path outlined in Figure 3.9-1 in the fuel pit and fuel pool area.

APPLICABILITY: With fuel assemblies in the storage pool.

ACTION:

- a. With the requirements of the above specification not satisfied, place the crane load in a safe condition.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.7 The weight of each load, other than a fuel assembly and control rod, shall be verified to be less than 3000 pounds prior to moving it over fuel assemblies.*

*Weir gates of the spent fuel pool may be moved by crane over the stored fuel provided the spent fuel has decayed for at least 17.5 days since last being part of a core at power.

REFUELING OPERATIONS

3/4.9.10 WATER LEVEL - STORAGE POOL

LIMITING CONDITION FOR OPERATION

3.9.10 At least 23 feet of water shall be maintained over the top of irradiated fuel assemblies seated in the storage racks.

APPLICABILITY: Whenever irradiated fuel assemblies are in the storage pool.

ACTION:

- a. With the requirements of the above specification not satisfied, suspend all movement of fuel assemblies and crane operations with loads in the fuel storage areas and restore the water level to within its limit within 4 hours.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.10 The water level in the storage pool shall be determined to be at least its minimum required depth at least once per 7 days when irradiated fuel assemblies are in the fuel storage pool.

REFUELING OPERATIONS

3/4.9.11 FUEL HANDLING VENTILATION EXHAUST SYSTEM

LIMITING CONDITION FOR OPERATION

3.9.11 The Fuel Handling Ventilation Exhaust System shall be OPERABLE.

APPLICABILITY: Whenever irradiated fuel is in the storage pool.

ACTION:

- a. With the Fuel Handling Ventilation Exhaust System inoperable, suspend all operations involving movement of fuel within the storage pool or crane operation with loads over the storage pool until the Fuel Handling Ventilation Exhaust System is restored to OPERABLE status.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.11.1 The Fuel Handling Ventilation Exhaust System shall be determined to be operating and discharging through the HEPA filters and charcoal adsorbers at least once per 12 hours whenever irradiated fuel is being moved in the storage pool and during crane operation with loads over the storage pool.

4.9.11.2 The above required Fuel Handling Ventilation Exhaust System shall be demonstrated OPERABLE:

- a. At least once per 18 months, or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system, by:
 - 1) Verifying that the system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% and uses the test procedure guidance of Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 35,000 cfm \pm 10%;
 - 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 1%; and

REFUELING OPERATIONS

3/4.9.12 FUEL STORAGE - SPENT FUEL STORAGE POOL

LIMITING CONDITION FOR OPERATION

3.9.12 Fuel is to be stored in the spent storage pool with:

- a. The boron concentration in the spent fuel pool maintained at greater than or equal to 2000 ppm; and
- b. Storage in Region 2 restricted to irradiated fuel which has decayed at least 16 days and one of the following:
 - 1) fuel which has been qualified in accordance with Table 3.9-1; or
 - 2) Fuel which has been qualified by means of an analysis using NRC approved methodology to assure with a 95 percent probability at a 95 percent confidence level that k_{eff} is no greater than 0.95 including all uncertainties; or
 - 3) Unqualified fuel stored in a checkerboard configuration. In the event checkerboard storage is used, one row between normal storage locations and checkerboard storage locations will be vacant.

APPLICABILITY:

During storage of fuel in the spent fuel pool.

ACTION:

- a. Suspend all actions involving the movement of fuel in the spent fuel pool if it is determined a fuel assembly has been placed in the incorrect Region until such time as the correct storage location is determined. Move the assembly to its correct location before resumption of any other fuel movement.
- b. Suspend all actions involving the movement of fuel in the spent fuel pool if it is determined the pool boron concentration is less than 2000 ppm, until such time as the boron concentration is increased to 2000 ppm or greater.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

- 4.9.12a. Verify all fuel assemblies to be placed in Region 2 of the spent fuel pool are within the enrichment and burnup limits of Table 3.9-1 or that $k_{eff} \leq 0.95$ by checking the assemblies' design and burnup documentation or the assemblies' qualifying analysis documentation respectively.
- b. Verify at least once per 31 days that the spent fuel pool boron concentration is greater than 2000 ppm.

RADIOACTIVE EFFLUENTS

DOSE

LIMITING CONDITION FOR OPERATION

3.11.1.2 The dose or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released, from each unit, to UNRESTRICTED AREAS (see Figure 5.1-4) 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.

APPLICABILITY: At all times.

ACTION:

- a. With the calculated dose from the release of radioactive materials in liquid effluents exceeding any of the above limits, in lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be 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. This Special Report shall also include: (1) the results of radiological analyses of the drinking water source, and (2) the radiological impact on finished drinking water supplies with regard to the requirements of 40 CFR 141, Safe Drinking Water Act.*
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.2 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 ODCM at least once per 31 days.

*

These requirements are applicable only if the drinking water supply is taken from the river 3 miles downstream of the plant discharge.

RADIOACTIVE EFFLUENTS

LIQUID RADWASTE TREATMENT SYSTEM

LIMITING CONDITION FOR OPERATION

3.11.1.3 The Liquid Radwaste Treatment System shall be OPERABLE and appropriate portions of the system shall be used to reduce releases of radioactivity when the projected doses due to the liquid effluent, from each unit, to UNRESTRICTED AREAS (see Figure 5.1-4) would exceed 0.06 mrem to the total body or 0.2 mrem to any organ in a 31-day period.

APPLICABILITY: At all times.

ACTION:

- a. With radioactive liquid waste being discharged without treatment and in excess of the above limits and any portion of the Liquid Radwaste Treatment System not in operation, in lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days pursuant to Specification 6.9.2 a Special Report that includes the following information:
 1. Explanation of why liquid radwaste was being discharged without treatment, identification of any inoperable equipment or subsystems, and the reason for the inoperability,
 2. Action(s) taken to restore the inoperable equipment to OPERABLE status, and
 3. Summary description of action(s) taken to prevent a recurrence.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.3.1 Doses due to liquid releases from each unit to UNRESTRICTED AREAS shall be projected at least once per 31 days in accordance with the methodology and parameters in the ODCM when water systems are being released without being processed by its Radwaste Treatment System.

4.11.1.3.2 The installed Liquid Radwaste Treatment System shall be demonstrated OPERABLE by meeting Specifications 3.11.1.1 and 3.11.1.2.

RADIOACTIVE EFFLUENTS

LIQUID HOLDUP TANKS*

LIMITING CONDITION FOR OPERATION

3.11.1.4 The quantity of radioactive material contained in each temporary unprotected outdoor tank shall be limited to less than or equal to 10 Curies, excluding tritium and dissolved or entrained noble gases.

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.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.4 The quantity of radioactive material contained in each of the above tanks shall be determined to be within the above limit by analyzing a representative sample of the tank's contents at least once per 7 days when radioactive materials are being added to the tank.

*
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.

RADIOACTIVE EFFLUENTS

CHEMICAL TREATMENT PONDS

LIMITING CONDITION FOR OPERATION

3.11.1.5 The quantity of radioactive material contained in each chemical treatment pond shall be limited by the following expression:

$$\frac{264}{V} \cdot \sum_j \frac{A_j}{C_j} < 1.0$$

excluding tritium and dissolved or entrained noble gases,

Where:

A_j = pond inventory limit for single radionuclide "j", in Curies;

C_j = 10 CFR 20, Appendix B, Table II, Column 2, concentration for single radionuclide "j", microCuries/ml;

V = design volume of liquid and slurry in the pond, in gallons; and

264 = conversion unit, microCuries/Curie per milliliter/gallon.

APPLICABILITY: At all times.

ACTION:

- a. With the quantity of radioactive material in any of the above listed ponds exceeding the above limit, immediately suspend all additions of radioactive material to the pond and initiate corrective action to reduce the pond contents to within the limit.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.5 The quantity of radioactive material contained in each batch of slurry (used powdex resin) to be transferred to the chemical treatment ponds shall be determined to be within the above limit by analyzing a representative sample of the slurry, and batches to be transferred to the chemical treatment ponds shall be limited by the expression:

$$\sum_j \frac{Q_j}{C_j} < 6.0 \times 10^5 \frac{\text{pCi/gm}}{\mu\text{Ci/ml}}$$

Where:

Q_j = concentration of radioactive materials in wet, drained slurry (used powdex resin) for radionuclide "j", excluding tritium, dissolved or entrained noble gases, and radionuclides with less than an 8 day half-life. The analysis shall include at least Ce-144, Cs-134, Cs-137, Co-58 and Co-60, in picoCuries/gram. Estimates of the Sr-89 and Sr-90 batch concentration shall be included based on the most recent monthly composite analysis (within 3 months); and

C_j = 10 CFR 20, Appendix B, Table II, Column 2, concentration for single radionuclide "j", in microCuries/milliliter.

RADIOACTIVE EFFLUENTS

DOSE - NOBLE GASES

LIMITING CONDITION FOR OPERATION

3.11.2.2 The air dose due to noble gases released in gaseous effluents, from each unit, to areas at and beyond the SITE BOUNDARY (see Figure 5.1-3) shall be limited to the following:

- a. During any calendar quarter: Less than or equal to 5 mrad 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 mrad for gamma radiation and less than or equal to 20 mrad for beta radiation.

APPLICABILITY: At all times.

ACTION

- a. With the calculated air dose from radioactive noble gases in gaseous effluents exceeding any of the above limits, in lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be 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.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.2 Dose Calculations Cumulative dose contributions for the current calendar quarter and current calendar year shall be determined in accordance with the methodology and parameters in the ODCM at least once per 31 days.

RADIOACTIVE EFFLUENTS

DOSE - IODINE-131 AND 133, TRITIUM AND RADIOACTIVE MATERIALS IN PARTICULATE FORM

LIMITING CONDITION FOR OPERATION

3.11.2.3 The dose to a MEMBER OF THE PUBLIC from Iodine-131 and 133, tritium, and all radioactive materials in particulate form with half-lives greater than 8 days in gaseous effluents released, from each unit, to areas at and beyond the SITE BOUNDARY (see Figure 5.1-3) 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.

APPLICABILITY: At all times.

ACTION:

- a. With the calculated dose from the release of Iodine-131 and 133, tritium, and radioactive materials in particulate form, with half-lives greater than 8 days, in gaseous effluents exceeding any of the above limits, in lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit and defines the corrective actions to be 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.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.3 Cumulative dose contributions for the current calendar quarter and current calendar year for Iodine-131 and 133, tritium, and radionuclides in particulate form with half-lives greater than 8 days shall be determined in accordance with the methodology and parameters in the ODCM at least once per 31 days.

RADIOACTIVE EFFLUENTS

GASEOUS RADWASTE TREATMENT SYSTEM

LIMITING CONDITION FOR OPERATION

3.11.2.4 The VENTILATION EXHAUST TREATMENT SYSTEM and the WASTE GAS HOLDUP SYSTEM shall be OPERABLE and appropriate portions of these systems shall be used to reduce releases of radioactivity when the projected doses in 31 days due to gaseous effluent releases, from each unit, to areas at and beyond the SITE BOUNDARY (see Figure 5.1-3) would exceed:

- a. 0.2 mrad to air from gamma radiation, or
- b. 0.4 mrad to air from beta radiation, or
- c. 0.3 mrem to any organ of a MEMBER OF THE PUBLIC.

APPLICABILITY: At all times.

ACTION:

- a. With radioactive gaseous waste being discharged without treatment and in excess of the above limits, in lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that includes the following information:
 - 1. Identification of any inoperable equipment or subsystems, and the reason for the inoperability,
 - 2. Actions(s) taken to restore the inoperable equipment to OPERABLE status, and
 - 3. Summary description of actions(s) taken to prevent a recurrence.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.4.1 Doses due to gaseous releases from each unit to areas at and beyond the SITE BOUNDARY shall be projected at least once per 31 days in accordance with the methodology and parameters in the ODCM when gaseous streams are being released without being processed by its Radwaste Treatment System.

4.11.2.4.2 The installed Gaseous Radwaste Treatment System shall be demonstrated OPERABLE by meeting Specifications 3.11.2.1 and 3.11.2.2 or 3.11.2.3.

RADIOACTIVE EFFLUENTS

EXPLOSIVE GAS MIXTURE

LIMITING CONDITION FOR OPERATION

3.11.2.5 The concentration of oxygen in the WASTE GAS HOLDUP SYSTEM shall be limited to less than or equal to 2% by volume whenever the hydrogen concentration exceeds 4% by volume.

APPLICABILITY: At all times.

ACTION:

- a. With the concentration of oxygen in the WASTE GAS HOLDUP SYSTEM greater than 2% by volume but less than or equal 4% by volume, reduce the oxygen concentration to the above limits within 48 hours.
- b. With the concentration of oxygen in the WASTE GAS HOLDUP SYSTEM greater than 4% by volume and the hydrogen concentration greater than 4% by volume, immediately suspend all additions of waste gases to the system and reduce the concentration of oxygen to less than or equal to 4% by volume, and immediately take ACTION a. above.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.5 The concentrations of hydrogen and oxygen in the WASTE GAS HOLDUP SYSTEM shall be determined to be within the above limits by monitoring the waste gases in the WASTE GAS HOLDUP SYSTEM with the hydrogen and oxygen monitors required OPERABLE by Table 3.3-13 of Specification 3.3.3.9.

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 49,000 Curies noble gases (considered as Xe-133).

APPLICABILITY: At all times.

ACTION:

- a. With the quantity of radioactive material in any gas storage tank exceeding the above limit, immediately suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.6 The quantity of radioactive material contained in each gas storage tank shall be determined to be within the above limit at least once per 24 hours when radioactive materials are being added to the tank.

RADIOACTIVE EFFLUENTS

3/4.11.3 SOLID RADIOACTIVE WASTE

LIMITING CONDITION FOR OPERATION

3.11.3 Radioactive wastes shall be solidified or dewatered in accordance with the PROCESS CONTROL PROGRAM to meet shipping and transportation requirements during transit, and disposal site requirements when received at the disposal site.

APPLICABILITY: At all times.

ACTION:

- a. With SOLIDIFICATION or dewatering not meeting disposal site and shipping and transportation requirements, suspend shipment of inadequately processed wastes and correct the PROCESS CONTROL PROGRAM, the procedures and/or the Solid Waste System as necessary to prevent recurrence.
- b. With SOLIDIFICATION or dewatering not performed in accordance with the PROCESS CONTROL PROGRAM, test the improperly processed waste in each container to ensure that it meets burial ground and shipping requirements and take appropriate administrative action to prevent recurrence.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.3 SOLIDIFICATION of at least one representative test specimen from at least every tenth batch of each type of wet radioactive wastes (e.g., filter sludges, spent resins, evaporator bottoms, boric acid solutions and sodium sulfate solutions) shall be verified in accordance with the PROCESS CONTROL PROGRAM:

- a. If any test specimen fails to verify SOLIDIFICATION, the SOLIDIFICATION of the batch under test shall be suspended until such time as additional test specimens can be obtained, alternative SOLIDIFICATION parameters can be determined in accordance with the PROCESS CONTROL PROGRAM, and a subsequent test verifies SOLIDIFICATION. SOLIDIFICATION of the batch may then be resumed using the alternative SOLIDIFICATION parameters determined by the PROCESS CONTROL PROGRAM;

SURVEILLANCE REQUIREMENTS (Continued)

- b. 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 three consecutive initial test specimens demonstrate SOLIDIFICATION. The PROCESS CONTROL PROGRAM shall be modified as required, as provided in Specification 6.13, to assure SOLIDIFICATION of subsequent batches of waste; and
- c. With the installed equipment incapable of meeting Specification 3.11.3 or declared out of service, restore the equipment to operable status or provide for contract capability to process wastes as necessary to satisfy all applicable transportation and disposal requirements.

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 radiation, from uranium fuel cycle sources shall be limited to less than or equal to 25 mrem to the whole body or any organ, except the thyroid, which shall be limited to less than or equal to 75 mrem.

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 should be made including direct radiation contributions from the units and from outside storage tanks to determine whether the above limits of Specification 3.11.4 have been exceeded. If such is the case, in lieu of a Licensee Event Report, 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 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. 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 Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.4.1 Cumulative dose contributions from liquid and gaseous effluents shall be determined in accordance with Specifications 4.11.1.2, 4.11.2.2, and 4.11.2.3, and in accordance with the methodology and parameters in the ODCM.

4.11.4.2 Cumulative dose contributions from direct radiation from the units and from radwaste storage tanks shall be determined in accordance with the methodology and parameters in the ODCM. This requirement is applicable only under conditions set forth in ACTION a. of Specification 3.11.4.

3/4.12 RADIOLOGICAL ENVIRONMENTAL MONITORING

3/4.12.1 MONITORING PROGRAM

LIMITING CONDITION FOR OPERATION

3.12.1 The Radiological Environmental Monitoring Program shall be conducted as specified in Table 3.12-1.

APPLICABILITY: At all times.

ACTION:

- a. With the Radiological Environmental Monitoring Program not being conducted as specified in Table 3.12-1, in lieu of a Licensee Event Report, prepare and submit to the Commission, in the Annual Radiological Environmental Operating Report required by Specification 6.9.1.6, a description of the reasons for not conducting the program as required and the plans for preventing a recurrence.
- b. With the level of radioactivity in an environmental sampling medium at a specified location exceeding the reporting levels of Table 3.12-2 when averaged over any calendar quarter, in lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days a Special Report that defines the corrective actions 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 3.11.1.2, 3.11.2.2, and 3.11.2.3. When more than one of the radionuclides in Table 3.12-2 are detected in the sampling medium, this report shall be submitted if:

$$\frac{\text{concentration (1)}}{\text{limit level (1)}} + \frac{\text{concentration (2)}}{\text{limit level (2)}} + \dots \geq 1.0$$

When radionuclides other than those in Table 3.12-2 are detected and are the result of plant effluents, this report shall be submitted if the potential annual dose* to a MEMBER OF THE PUBLIC is equal to or greater than the calendar year limits of Specifications 3.11.1.2, 3.11.2.2 and 3.11.2.3. 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.

*The methodology and parameters used to estimate the potential annual dose to a MEMBER OF THE PUBLIC shall be indicated in this report.

RADIOLOGICAL ENVIRONMENTAL MONITORING

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

- c. With milk or fresh leafy vegetable samples unavailable from one or more of the sample locations required by Table 3.12-1, 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. In lieu of a Licensee Event Report and pursuant to Specification 6.9.1.7, identify the cause of the unavailability of samples and identify the new location(s) for obtaining replacement samples in the next Semiannual Radioactive Effluent Release Report and also include in the report a revised figure(s) and table for the ODCM reflecting the new location(s).
- d. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.12.1 The radiological environmental monitoring samples shall be collected pursuant to Table 3.12-1 from the locations given in the table and figure in the ODCM and shall be analyzed pursuant to the requirements of Tables 3.12-1 and the detection capabilities required by Table 4.12-1.

RADIOLOGICAL ENVIRONMENTAL MONITORING

3/4.12.2 LAND USE CENSUS

LIMITING CONDITION FOR OPERATION

3.12.2 A land use census shall be conducted and shall identify within a distance of 8 km (5 miles) the location in each of the 16 meteorological sectors of the nearest milk animal, the nearest residence and the nearest garden* of greater than 50 m² (500 ft²) producing broad leaf vegetation. (For elevated releases as defined in Regulatory Guide 1.111, Revision 1, July 1977, the land use census shall also identify within a distance of 5 km (3 miles) the locations in each of the 16 meteorological sectors of all milk animals and all gardens of greater than 50 m² producing broad leaf vegetation.)

APPLICABILITY: At all times.

ACTION:

- a. With a land use census identifying a location(s) which yields a calculated dose or dose commitment greater than the values currently being calculated in Specification 4.11.2.3, in lieu of a Licensee Event Report, identify the new location(s) in the next Semiannual Radioactive Effluent Release Report, pursuant to Specification 6.9.1.7.
- b. With a land use census identifying a location(s) which yields a calculated dose or dose commitment (via the same exposure pathway) 20% greater than at a location from which samples are currently being obtained in accordance with Specification 3.12.1, add the new location to the Radiological Environmental Monitoring Program. The sampling location(s), excluding the control station location, having the lowest calculated dose or dose commitment (via the same exposure pathway) may be deleted from this monitoring program after October 31 of the year in which this land use census was conducted. In lieu of a Licensee Event Report and pursuant to Specification 6.9.1.7, the next Semiannual Radioactive Effluent Release Report shall contain the following information: (1) the new location(s), (2) revised figure(s) and table(s) for the ODCM reflecting the new location(s), and (3) if samples cannot be obtained, an explanation of why samples are not obtainable (substitute representative locations shall be included, if possible).
- c. The provisions of Specification 3.0.3 are not applicable.

*Broad leaf vegetation sampling of at least three different kinds of vegetation may be performed at the SITE BOUNDARY in each of two different direction sectors with the highest predicted D/Qs in lieu of the garden census. Specifications for broad leaf vegetation sampling in Table 3.12-1.4c shall be followed, including analysis of control samples.

RADIOLOGICAL ENVIRONMENTAL MONITORING

3/4.12.3 INTERLABORATORY COMPARISON PROGRAM

LIMITING CONDITION FOR OPERATION

3.12.3 Analyses shall be performed on radioactive materials, supplied as part of an Interlaboratory Comparison Program that has been approved by the Commission, that correspond to samples required by Specification 3.12.1

APPLICABILITY: At all times.

ACTION:

- a. 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 pursuant to Specification 6.9.1.6.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.12.3 The Interlaboratory Comparison Program shall be described in the ODCM. 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 pursuant to Specification 6.9.1.6.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 87 TO FACILITY OPERATING LICENSE NPF-9
AND AMENDMENT NO. 68 TO FACILITY OPERATING LICENSE NPF-17

DUKE POWER COMPANY

DOCKET NOS. 50-369 AND 50-370

MCGUIRE NUCLEAR STATION, UNITS 1 AND 2

1.0 INTRODUCTION

By letter dated January 11, 1988, Duke Power Company, (the licensee) requested amendments to Facility Operating License Nos. NPF-9 and NPF-17 for the McGuire Nuclear Station, Units 1 and 2. The proposed amendments would revise Sections 3.0 and 4.0 of the Technical Specifications (TS) to incorporate the changes recommended in NRC's Generic Letter (GL) 87-09, "Sections 3.0 and 4.0 of the Standard Technical Specifications (STS) on the Applicability of Limiting Conditions for Operation and Surveillance Requirements." In this letter the NRC has concluded that certain recommended modifications to TSs 3.0.4, 4.0.3 and 4.0.4 would clarify the intent of these TSs and would resolve three problems associated with the existing requirements, as follows: (1) the revision of TS 3.0.4 would remove unnecessary restrictions on operational mode changes in those cases where conformance with Action Statement requirements provides an acceptable level of safety for continued operation for an unlimited period of time; (2) the revision of TS 4.0.3 would provide a 24-hour delay before implementing TS Action Statement Requirements due to a missed surveillance, in those cases where the required restoration time is less than 24 hours; and (3) the revision of TS 4.0.4 would assure that its Surveillance requirements do not prevent the plant's passage through or to Operational Modes as required to comply with TS Action Statement requirements.

2.0 EVALUATION

Technical Specification 3.0.4

The existing TS 3.0.4 specifies, in part, that "Entry into an Operational Mode or other specified condition shall not be made unless the conditions for the Limiting Condition for Operation (LCO) are met without reliance on provisions contained in the Action requirements." The staff position in GL 87-09 is that this TS, as presently written to exclude reliance on provisions contained in the Action requirements, "unduly restricts facility operation when conformance to the Action Requirements provides an acceptable level of safety for continued operation. For an LCO that has Action Requirements permitting continued operation for an unlimited period of time, entry into an operational mode or other specified condition of operation should be permitted in accordance with those Action Requirements. This is consistent with NRC's regulatory requirements for an LCO. The restriction on a change in operational modes or other specified

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conditions should apply only where the Action Requirements establish a specified time interval in which the LCO must be met or a shutdown of the facility would be required. However, nothing in this staff position should be interpreted as endorsing or encouraging a plant startup with inoperable equipment. The staff believes that good practice should dictate that the plant startup should normally be initiated only when all required equipment is operable and that startup with inoperable equipment must be the exception rather than the rule."

In accordance with this position, the staff recommended in GL 87-09 the following change to replace the first sentence of TS 3.0.4:

"Entry into an OPERATIONAL MODE or other specified condition shall not be made when the conditions for the Limiting Conditions for Operation are not met and the associated ACTION requires a shutdown if they are not met within a specified time interval. Entry into an OPERATIONAL MODE or specified condition may be made in accordance with ACTION requirements when conformance to them permits continued operation of the facility for an unlimited period of time."

The licensee's proposed change to TS 3.0.4 conforms to the above staff recommendation and is, therefore, acceptable.

The revised TS 3.0.4 eliminated the need for exceptions to it in TSs for a number of individual systems. For such systems, the exceptions to TS 3.0.4 are deleted in the proposed TS changes. Since these deletions are consistent with the revised form of TS 3.0.4, we find that they are acceptable.

Technical Specification 4.0.3

McGuire TS 4.0.3 presently states that failure to perform a Surveillance Requirement within the specified surveillance interval shall constitute a failure to meet the operability requirements for an LCO. Thus, the TS requires the immediate implementation of the shutdown actions of TS 3.0.2. In GL 87-09, the staff finds:

"It is overly conservative to assume that systems or components are inoperable when a surveillance requirement has not been performed. The opposite is in fact the case; the vast majority of surveillances demonstrate that systems or components in fact are operable. When a surveillance is missed, it is primarily a question of operability that has not been verified by the performance of the required surveillance. Because the allowable outage time limits of some Action Requirements do not provide an appropriate time limit for performing a missed surveillance before shutdown requirements may apply, the Technical Specifications should include a time limit that would allow a delay of the required actions to permit the performance of the missed surveillance.

This time limit should be based on considerations of plant conditions, adequate planning, availability of personnel, the time required to perform the surveillance, as well as the safety significance of the delay in completion of the surveillance. After reviewing possible limits, the staff has concluded that, based on these considerations, 24-hours would be an acceptable time limit for completing a missed surveillance when the allowable outage times of the Action Requirements are less than this time

limit or when shutdown Action Requirements apply. The 24-hour time limit would balance the risks associated with an allowance for completing the surveillance within this period against the risks associated with the potential for a plant upset and challenge to safety systems when the alternative is a shutdown to comply with Action Requirements before the surveillance can be completed."

The 24-hour delay in the application of the Action Requirements would also provide time to obtain a temporary waiver of a Surveillance Requirement that could not be completed because of current plant conditions.

On the basis of these considerations, the staff recommended in GL 87-09 the following revised version of TS 4.0.3:

"Failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute noncompliance with the OPERABILITY requirements for a Limiting Condition for Operation. The time limits of the ACTION requirements are applicable at the time it is identified that a Surveillance Requirement has not been performed. The ACTION requirements may be delayed for up to 24 hours to permit the completion of the surveillance when the allowable outage time limits of the ACTION requirements are less than 24 hours."

In GL 87-09, the staff also recommended the deletion of the statement that exceptions to TS 4.0.3 are stated in individual specifications. This statement is deleted because TS 4.0.3 is always applicable and there are no exceptions for individual specifications.

The licensee's proposed change to TS 4.0.3 is identical to the above version recommended by the NRC staff and is, therefore, acceptable.

Technical Specification 4.0.4

McGuire TS 4.0.4 currently requires that before a new Operational Mode is entered, Surveillance Requirements pertaining to the new mode are to be performed within time limits specified by TS 4.0.3. A conflict arises when Action Requirements require a mode change, but the Surveillance Requirements which become applicable in the new mode have not been performed within the specified interval so that TS 4.0.4 does not permit a mode change. If an exception to TS 4.0.4 is allowed (e.g. for cases where the Surveillance Requirements can only be completed after entry into the mode to which they apply), there may still be a conflict with TS 4.0.3 if the Surveillance Requirements have not been performed within the allowed surveillance interval.

In GL 87-09, the staff took the following position:

"The potential for a plant upset and challenge to safety systems is heightened if surveillances are performed during a shutdown to comply with Action Requirements. It is not the intent of Specification 4.0.4 to prevent passage through or to operational modes to comply with Action Requirements and it should not apply when mode changes are imposed by Action Requirements. Accordingly, Specification 4.0.4 should be modified

to note that its provisions shall not prevent passage through or to operational modes as required to comply with Action Requirements. A similar provision is included in Specification 3.0.4.

It is not the intent of Specification 4.0.3 that the Action Requirements should preclude the performance of surveillances when an exception to Specification 4.0.4 is allowed. However, since Specification 4.0.3 has been changed to permit a delay of up to 24 hours in the applicability of the Action Requirements, an appropriate time limit now exists for the completion of those Surveillance Requirements that become applicable when an exception to Specification 4.0.4 is allowed."

Based on these considerations, the staff recommended in GL 87-09 that the following sentence be added to TS 4.0.4:

"This provision shall not prevent passage through or to OPERATIONAL MODES as required to comply with ACTION Requirements."

The licensee's proposed change to TS 4.0.4 is identical to the NRC staff's recommendation and is, therefore, acceptable.

Bases for TS 3.0 and TS 4.0

The licensee's originally proposed revisions to the Bases for TS 3.0 and TS 4.0 were identical to those recommended by the staff in GL 87-09, except for a sentence omitted in the Bases for TS 3.0.4. Following a telephone discussion with the NRC staff, the licensee agreed to include the omitted sentence. With this inclusion, the proposed Bases are identical to those recommended by the staff and are, therefore, acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

These amendments involve changes to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 and changes in surveillance requirements. The staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational exposure. The NRC staff has made a determination that the amendments involve no significant hazards consideration, and there has been no public comment on such finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

4.0 CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (53 FR 13014) on April 20, 1988. The Commission consulted with the state of North Carolina. No public comments were received, and the state of North Carolina did not have any comments.

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: S. S. Kirsliis, PD#II-3/DRP-I/II
D. Hood, PD#II-3/DRP-I/II

Dated: June 21, 1988

June 21, 1988

Docket File

Docket Nos. 50-369
and 50-370

MEMORANDUM FOR: Sholly Coordinator

FROM: Darl S. Hood, Project Manager
Project Directorate II-3
Division of Reactor Projects-I/II

SUBJECT: REQUEST FOR PUBLICATION IN BIWEEKLY FR NOTICE - NOTICE
OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE
(TACS 67206/67207)

Duke Power Company, Docket Nos. 50-369 and 50-370, McGuire Nuclear Station,
Units 1 and 2, Mecklenburg County, North Carolina

Date of application for amendments: January 11, 1988

Brief description of amendments: The amendments changed Technical Specifications
Sections 3.0 and 4.0 to conform to Generic Letter 87-09.

Date of issuance: June 21, 1988

Effective date: June 21, 1988

Amendment Nos.: 87 and 68

Facility Operating License Nos. NPF-9 and NPF-17: Amendments revised the
Technical Specifications.

Date of initial notice in FEDERAL REGISTER: April 20, 1988 (53 FR 13014)

The Commission's related evaluation of the amendments is contained in a Safety
Evaluation dated June 21, 1988.

No significant hazards consideration comments received: No.

Local Public Document Room location: Atkins Library, University of North
Carolina, Charlotte (UNCC Station), North Carolina 28223

Original signed by:

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Darl S. Hood, Project Manager
Project Directorate II-3
Division of Reactor Projects-I/II

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DHood:pw
5/26/88

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6/18/88