



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

August 14, 1990

Docket No. 50-416

Mr. William T. Cottle
Vice President, Operations - Grand Gulf
Entergy Operations, Inc.
Post Office Box 756
Port Gibson, Mississippi 39150

Dear Mr. Cottle:

SUBJECT: ISSUANCE OF AMENDMENT NO. 69 TO FACILITY OPERATING LICENSE
NO. NPF-29 - GRAND GULF NUCLEAR STATION, UNIT 1, REGARDING GENERAL
REQUIREMENTS IN SECTION 3.0 AND 4.0 OF THE TECHNICAL SPECIFICATIONS
(TAC NO. 69184)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 69 to Facility Operating License No. NPF-29 for the Grand Gulf Nuclear Station, Unit 1. This amendment consists of changes to the Technical Specifications (TS) in response to your application dated August 19, 1988, as supplemented November 9, 1988, December 14, 1988, March 28, 1989, July 27, 1989, April 6, 1990, May 23, 1990, and August 10, 1990.

The amendment changes the Technical Specifications (TS) in accordance with the guidance provided in Generic Letter (GL) 87-09, "Section 3.0 and 4.0 of the Standard Technical Specifications (STS) on the Applicability of Limiting Conditions for Operation and Surveillance Requirements." The general requirements in TS 3.0.4 applicable to each Limiting Condition for Operation (LCO) within Section 3.0 are changed to allow operational condition changes without meeting the LCO requirements provided the remedial actions in the associated action statements do not require reactor shutdown if the LCO is not met in a specified time. For those TSs which previously had an exception to TS 3.0.4, the exception has been deleted because the change in TS 3.0.4 achieves the same effect by itself. For applicable TS which did not previously have an exception to TS 3.0.4, the change in TS 3.0.4 provides increased operational flexibility. TS 4.0.3 was changed to allow up to 24 hours additional time to run missed surveillance tests. TS 4.0.4 was changed to clarify that it does not prevent changing operational conditions to comply with action requirements. The Bases for TS 3.0 and 4.0 were changed to reflect the changes in the TS.

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August 14, 1990

A copy of the Safety Evaluation and Notice of Issuance are also enclosed.

Sincerely,



Lester L. Kintner, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 69 to NPF-29
2. Safety Evaluation
3. Notice

cc w/enclosures:

See next page

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Sincerely,

Lester L. Kintner, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

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FC	:PD4-1/LA	:PD4-1/PM	:OTSB/BC	OGC	:PD4-1/D(A)	:	:
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Document Name: GG AMENDMENT 69184

A copy of the Safety Evaluation and Notice of Issuance are also enclosed.

Sincerely,

ORIGINAL SIGNED BY:

Lester L. Kintner, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

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NAME	: LBerry:	: LKintner:	: JCalvo <i>raz</i>	: <i>bins</i>	: TQuay <i>TK</i>	:
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Grand Gulf Nuclear Station

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Jackson, Mississippi 39286-1995



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

ENTERGY OPERATIONS, INC.

SYSTEM ENERGY RESOURCES, INC.

SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION

MISSISSIPPI POWER AND LIGHT COMPANY

DOCKET NO. 50-416

GRAND GULF NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 69
License No. NPF-29

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the licensee dated August 19, 1988, as supplemented November 9, 1988, December 14, 1988, March 28, 1989, July 27, 1989, April 6, 1990, May 23, 1990, and August 10, 1990, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, 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;
 - 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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2. Accordingly, the license is amended by changes to the Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Facility Operating License No. NPF-29 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 69, are hereby incorporated into this license. Entergy Operations, Inc., 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

Theodore R. Quay

Theodore R. Quay, Acting Director
Project Directorate IV-1
Division of Reactor Projects - III
IV, V, and Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 14, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 69

FACILITY OPERATING LICENSE NO. NPF-29

DOCKET NO. 50-416

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised areas are indicated by marginal lines.

Remove

3/4 0-1
3/4 0-2
3/4 0-3
3/4 1-4
3/4 1-7
3/4 1-8a
3/4 1-10
3/4 1-12
3/4 3-1
3/4 3-9
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3/4 3-54
3/4 3-58
3/4 3-63
3/4 3-66
3/4 3-78
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3/4 3-91
3/4 3-107
3/4 4-13
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3/4 5-6
3/4 5-8
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3/4 6-15
3/4 6-28
3/4 6-49
3/4 7-1
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Insert

3/4 0-1
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3/4 1-7
3/4 1-8a
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3/4 1-12
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3/4 6-15
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Attachment to License Amendment No. 69 (continued).

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3/4 7-20	3/4 7-20
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3/4 7-28	3/4 7-28
3/4 7-30	3/4 7-30
3/4 8-10	3/4 8-10
3/4 8-14	3/4 8-14
3/4 8-18	3/4 8-18
3/4 8-19	3/4 8-19
3/4 9-14	3/4 9-14
3/4 9-18	3/4 9-18
3/4 9-19	3/4 9-19
3/4 11-5	3/4 11-5
3/4 11-6	3/4 11-6
3/4 11-7	3/4 11-7
3/4 11-12	3/4 11-12
3/4 11-13	3/4 11-13
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3/4 11-15	3/4 11-15
3/4 11-16	3/4 11-16
3/4 11-18	3/4 11-18
3/4 11-19	3/4 11-19
3/4 12-1	3/4 12-1
3/4 12-11	3/4 12-11
3/4 12-12	3/4 12-12
B 3/4 0-1	B 3/4 0-1
B 3/4 0-2	B 3/4 0-2
B 3/4 0-3	B 3/4 0-3
	B 3/4 0-4
	B 3/4 0-5
	B 3/4 0-6

SECTIONS 3.0 and 4.0
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 CONDITIONS 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 one hour action shall be initiated to place the unit in an OPERATIONAL CONDITION in which the Specification does not apply by placing it, as applicable, in:

1. At least STARTUP within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. 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 OPERATIONAL CONDITION 4 or 5.

3.0.4 Entry into an OPERATIONAL CONDITION 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 CONDITION or other specified condition may be made in accordance with the 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 CONDITIONS as required to comply with ACTION requirements. Exceptions to these requirements are stated in the individual Specifications.

APPLICABILITY

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be met during the OPERATIONAL CONDITIONS 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 3 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 CONDITION or other specified applicable condition shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation have been performed within the applicable surveillance interval or as otherwise specified. This provision shall not prevent passage through or to OPERATIONAL CONDITIONS as required to comply with ACTION requirements.

4.0.5 Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2, & 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).
- b. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

APPLICABILITY

SURVEILLANCE REQUIREMENTS (Continued)

ASME Boiler and Pressure Vessel
Code and applicable Addenda
terminology for inservice
inspection and testing activities

Required frequencies
for performing inservice
inspection and testing
activities

Weekly
Monthly
Quarterly or every 3 months
Semiannually or every 6 months
Every 9 months
Yearly or annually

At least once per 7 days
At least once per 31 days
At least once per 92 days
At least once per 184 days
At least once per 276 days
At least once per 366 days

- c. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice inspection and testing activities.
- d. Performance of the above inservice inspection and testing activities shall be in addition to other specified Surveillance Requirements.
- e. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

REACTIVITY CONTROL SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION (Continued)

2. If the inoperable control rod(s) is inserted, within one hour disarm the associated directional control valves** either:
 - a) Electrically, or
 - b) Hydraulically by closing the drive water and exhaust water isolation valves.

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.

- c. With more than 8 control rods inoperable, be in at least HOT SHUTDOWN within 12 hours.
- d. With one scram discharge volume vent valve and/or one scram discharge volume drain valve inoperable and open, restore the inoperable valve(s) to OPERABLE status within 24 hours or be in at least HOT SHUTDOWN within the next 12 hours.
- e. With two scram discharge volume vent valves and/or two scram discharge volume drain valves inoperable and open, restore one valve in the vent line and one valve in the drain line to OPERABLE status within 8 hours and restore all valves to OPERABLE status within the next 16 hours or close at least one vent valve and one drain valve and be in a least HOT SHUTDOWN within the next 12 hours.
- f. With any scram discharge volume vent valve(s) and/or any scram discharge volume drain valve(s) inoperable and closed except when required by ACTION statement e. above, restore all valves to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The scram discharge volume drain and vent valves shall be demonstrated OPERABLE by:

- a. At least once per 31 days verifying each valve to be open,* and
- b. At least once per 92 days cycling each valve through at least one complete cycle of full travel.

*These valves may be closed intermittently for testing under administrative controls.

**May be rearmed intermittently, under administrative control, to permit testing associated with restoring the control rod to OPERABLE status.

REACTIVITY CONTROL SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

- b. With a "slow" control rod(s) not satisfying ACTION a.1, above:
1. Declare the "slow" control rod(s) inoperable, and
 2. Perform the Surveillance Requirements of Specification 4.1.3.2.c at least once per 60 days when operation is continued with three or more "slow" control rods declared inoperable.
- Otherwise, be in at least HOT SHUTDOWN within 12 hours.
- c. With the maximum scram insertion time of one or more control rods exceeding the maximum scram insertion time limits of Specification 3.1.3.2 as determined by Specification 4.1.3.2.c, operation may continue provided that:
1. "Slow" control rods, i.e., those which exceed the limits of Specification 3.1.3.2, do not make up more than 20% of the 10% sample of control rods tested.
 2. Each of these "slow" control rods satisfies the limits of ACTION a.1.
 3. The eight adjacent control rods surrounding each "slow" control rod are:
 - a) Demonstrated through measurement within 12 hours to satisfy the maximum scram insertion time limits of Specification 3.1.3.2, and
 - b) OPERABLE.
 4. The total number of "slow" control rods, as determined by Specification 4.1.3.2.c, when added to the sum of ACTION a.3, as determined by Specification 4.1.3.2.a and b, does not exceed 7.
- Otherwise, be in at least HOT SHUTDOWN within 12 hours.

SURVEILLANCE REQUIREMENTS

- 4.1.3.2 The maximum insertion time of the control rods shall be demonstrated through measurement with reactor coolant pressure greater than or equal to 950 psig and, during single control rod scram time tests, the control rod drive pumps isolated from the accumulators:
- a. For all control rods prior to THERMAL POWER exceeding 40% of RATED THERMAL POWER following CORE ALTERATIONS* or after a reactor shutdown that is greater than 120 days,
 - b. For specifically affected individual control rods** following maintenance on or modification to the control rod or control rod drive system which could affect the scram insertion time of those specific control rods, and
 - c. For at least 10% of the control rods, on a rotating basis, at least once per 120 days of POWER OPERATION.

*Except normal control rod movement.

**The provisions of Specification 4.0.4 are not applicable for entry into OPERATIONAL CONDITION 2 provided this surveillance is completed prior to entry into OPERATIONAL CONDITION 1.

REACTIVITY CONTROL SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

- c. With one or more accumulator pressure detector or alarm inoperable, verify accumulator pressure to be \geq 1520 psig at least once per 24 hours, or declare the associated accumulator inoperable.
- d. With one or more accumulator leak detector or alarm inoperable, verify accumulator water drained at least once per 48 hours and within 24 hours prior to startup, or declare the associated accumulator inoperable.

REACTIVITY CONTROL SYSTEMS

CONTROL ROD DRIVE COUPLING

LIMITING CONDITION FOR OPERATION

3.1.3.4 All control rods shall be coupled to their drive mechanisms.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 5*.

ACTION:

- a. In OPERATIONAL CONDITION 1 and 2 with one control rod not coupled to its associated drive mechanism, within 2 hours:
 1. If permitted by the RPCS, insert the control rod drive mechanism to accomplish recoupling and verify recoupling by withdrawing the control rod, and:
 - a) Observing any indicated response of the nuclear instrumentation, and
 - b) Demonstrating that the control rod will not go to the overtravel position.
 2. If recoupling is not accomplished on the first attempt or, if not permitted by the RPCS, then until permitted by the RPCS, declare the control rod inoperable, insert the control rod, and disarm the associated directional control valves** either:
 - a) Electrically, or
 - b) Hydraulically by closing the drive water and exhaust water isolation valves.

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.
- b. In OPERATIONAL CONDITION 5* with a withdrawn control rod not coupled to its associated drive mechanism, within 2 hours either:
 1. Insert the control rod to accomplish recoupling and verify recoupling by withdrawing the control rod and demonstrating that the control rod will not go to the overtravel position, or
 2. If recoupling is not accomplished, insert the control rod and disarm the associated directional control valves** either:
 - a) Electrically, or
 - b) Hydraulically by closing the drive water and exhaust water isolation valves.

* At least each withdrawn control rod. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

** May be rearmed intermittently, under administrative control, to permit testing associated with restoring the control rod to OPERABLE status.

REACTIVITY CONTROL SYSTEMS

CONTROL ROD POSITION INDICATION

LIMITING CONDITION FOR OPERATION

3.1.3.5 At least one control rod position indication system shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 5*.

ACTION:

- a. In OPERATIONAL CONDITION 1 or 2 with one or more control rod position indicators inoperable, within one hour:
 1. Determine the position of the control rod by the alternate control rod position indicator, or
 2. Move the control rod to a position with an OPERABLE position indicator, or
 3. When THERMAL POWER is:
 - a) Within the low power setpoint of the RPCS:
 - 1) Declare the control rod inoperable, and
 - 2) Verify the position and bypassing of control rods with inoperable "Full-in" and/or "Full-out" position indicators by a second licensed operator or other technically qualified members of the unit technical staff.
 - b) Greater than the low power setpoint of the RPCS, declare the control rod inoperable, insert the control rod, and disarm the associated directional control valves** either:
 - 1) Electrically, or
 - 2) Hydraulically by closing the drive water and exhaust water isolation valves.
- b. In OPERATIONAL CONDITION 5* with both control rod position indicators for a withdrawn control rod inoperable, move the control rod to a position with an OPERABLE position indicator or insert the control rod.

*At least each withdrawn control rod. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

**May be rearmed intermittently, under administrative control, to permit testing associated with restoring the control rod to OPERABLE status.

3/4.3 INSTRUMENTATION

3/4.3.1 REACTOR PROTECTION SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.1 As a minimum, the reactor protection system instrumentation channels shown in Table 3.3.1-1 shall be OPERABLE with the REACTOR PROTECTION SYSTEM RESPONSE TIME as shown in Table 3.3.1-2.

APPLICABILITY: As shown in Table 3.3.1-1.

ACTION:

- a. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for one trip system, place the inoperable channel and/or that trip system in the tripped condition* within twelve hours.
- b. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for both trip systems, place at least one trip system** in the tripped condition within one hour and take the ACTION required by Table 3.3.1-1.

SURVEILLANCE REQUIREMENTS

4.3.1.1 Each reactor protection system instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.1.1-1.

4.3.1.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

4.3.1.3 The REACTOR PROTECTION SYSTEM RESPONSE TIME of each reactor trip functional unit shown in Table 3.3.1-2 shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least one channel per trip system 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 system.

*An inoperable channel need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, the inoperable channel shall be restored to OPERABLE status within 6 hours or the ACTION required by Table 3.3.1-1 for that Trip Function shall be taken.

**The trip system need not be placed in the tripped condition if this would cause the Trip Function to occur. When a trip system can be placed in the tripped condition without causing the Trip Function to occur, place the trip system with the most inoperable channels in the tripped condition; if both systems have the same number of inoperable channels, place either trip system in the tripped condition.

INSTRUMENTATION

3/4.3.2 ISOLATION ACTUATION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.2 The isolation actuation instrumentation channels shown in Table 3.3.2-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.2-2 and with ISOLATION SYSTEM RESPONSE TIME as shown in Table 3.3.2-3.

APPLICABILITY: As shown in Table 3.3.2-1.

ACTION:

- a. With an isolation actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.2-2, declare the channel inoperable until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value.
- b. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for one trip system, place the inoperable channel(s) and/or that trip system in the tripped condition* within one hour.
- c. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for both trip systems, place at least one trip system** in the tripped condition within one hour and take the ACTION required by Table 3.3.2-1.

SURVEILLANCE REQUIREMENTS

4.3.2.1 Each isolation actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.2.1-1.

4.3.2.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

4.3.2.3 The ISOLATION SYSTEM RESPONSE TIME of each isolation trip function shown in Table 3.3.2-3 shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least one channel per trip system 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 isolation trip system.

*An inoperable channel need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, the inoperable channel shall be restored to OPERABLE status within 2 hours or the ACTION required by Table 3.3.2-1 for that Trip Function shall be taken.

**The trip system need not be placed in the tripped condition if this would cause the Trip Function to occur. When a trip system can be placed in the tripped condition without causing the Trip Function to occur, place the trip system with the most inoperable channels in the tripped condition; if both systems have the same number of inoperable channels, place either trip system in the tripped condition.

TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

ACTION

- ACTION 30 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement:
- a. With one channel inoperable, place the inoperable channel in the tripped condition within one hour or declare the associated system(s) inoperable.
 - b. With more than one channel inoperable, declare the associated system(s) inoperable.
- ACTION 31 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, declare the associated ADS trip system or ECCS inoperable.
- ACTION 32 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, restore the inoperable channel to OPERABLE status within 8 hours or declare the associated ADS trip system or ECCS inoperable.
- ACTION 33 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, place the inoperable channel(s) in the tripped condition within one hour or declare the HPCS system inoperable.
- ACTION 34 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, place at least one inoperable channel in the tripped condition within one hour or declare the HPCS system inoperable.
- ACTION 35 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, place the inoperable channel(s) in the tripped condition within one hour or declare the associated system(s) inoperable.

TABLE 3.3.6-1

CONTROL ROD BLOCK INSTRUMENTATION

<u>TRIP FUNCTION</u>	<u>MINIMUM OPERABLE CHANNELS PER TRIP FUNCTION</u>	<u>APPLICABLE OPERATIONAL CONDITIONS</u>	<u>ACTION</u>
1. <u>ROD PATTERN CONTROL SYSTEM</u>			
a. Low Power Setpoint	2	1, 2	60
b. High Power Setpoint	2	1#	60
2. <u>APRM</u>			
a. Flow Biased Neutron Flux- Upscale	6	1	61
b. Inoperative	6	1, 2, 5	61
c. Downscale	6	1	61
d. Neutron Flux - Upscale, Startup	6	2, 5	61
3. <u>SOURCE RANGE MONITORS</u>			
a. Detector not full in ^(a)	4	2	61
	2**	5	62
b. Upscale ^(b)	4	2	61
	2**	5	62
c. Inoperative ^(b)	4	2	61
	2**	5	62
d. Downscale ^(c)	4	2	61
	2**	5	62
4. <u>INTERMEDIATE RANGE MONITORS</u>			
a. Detector not full in	6	2, 5	61
b. Upscale	6	2, 5	61
c. Inoperative ^(d)	6	2, 5	61
d. Downscale ^(d)	6	2, 5	61
5. <u>SCRAM DISCHARGE VOLUME</u>			
a. Water Level-High	2	1, 2, 5*	62
6. <u>REACTOR COOLANT SYSTEM RECIRCULATION FLOW</u>			
a. Upscale	3	1	62
7. <u>REACTOR MODE SWITCH SHUTDOWN POSITION</u>	2	3, 4	63

INSTRUMENTATION

TABLE 3.3.6-1 (Continued)

CONTROL ROD BLOCK INSTRUMENTATION

ACTION

- ACTION 60 - Declare the RPCS inoperable and take the ACTION required by Specification 3.1.4.2.
- ACTION 61 - With the number of OPERABLE Channels:
- a. One less than required by the Minimum OPERABLE Channels per Trip Function requirement, restore the inoperable channel to OPERABLE status within 7 days or place the inoperable channel in the tripped condition within the next hour.
 - b. Two or more less than required by the Minimum OPERABLE Channels per Trip Function requirement, place at least one inoperable channel in the tripped condition within one hour.
- ACTION 62 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, place the inoperable channel in the tripped condition within one hour.
- ACTION 63 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, initiate a rod block.

NOTES

- * With more than one control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.
- ** OPERABLE channels must be associated with SRMs required OPERABLE per Specification 3.9.2.
- # With THERMAL POWER greater than the Low Power Setpoint.
- (a) This function shall be automatically bypassed if detector count rate is > 100 cps or the IRM channels are on range 3 or higher.
 - (b) This function shall be automatically bypassed when the associated IRM channels are on range 8 or higher.
 - (c) This function shall be automatically bypassed when the IRM channels are on range 3 or higher.
 - (d) This function shall be automatically bypassed when the IRM channels are on range 1.

INSTRUMENTATION

3/4.3.7 MONITORING INSTRUMENTATION

RADIATION MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.7.1 The radiation monitoring instrumentation channels shown in Table 3.3.7.1-1 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3.7.1-1.

ACTION:

- a. With a radiation monitoring instrumentation channel alarm/trip setpoint exceeding the value shown in Table 3.3.7.1-1, 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 required by Table 3.3.7.1-1.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.7.1 Each of the above required radiation monitoring instrumentation channels shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations for the conditions and at the frequencies shown in Table 4.3.7.1-1.

INSTRUMENTATION

SEISMIC MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.7.2 The seismic monitoring instrumentation shown in Table 3.3.7.2-1 shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

- a. With one or more of the above required 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

4.3.7.2.1 Each of the above required seismic monitoring instruments shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3.7.2-1.

4.3.7.2.2 Each of the above required 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 and a CHANNEL CALIBRATION performed within 5 days following the seismic event. Data shall be retrieved from actuated instruments and analyzed to determine the magnitude of the vibratory ground motion. A Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 10 days describing the magnitude, frequency spectrum and resultant effect upon unit features important to safety.

INSTRUMENTATION

METEOROLOGICAL MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.7.3 The meteorological monitoring instrumentation channels shown in Table 3.3.7.3-1 shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

- a. With one or more required meteorological monitoring instrumentation 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 instrumentation to OPERABLE status.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.7.3 Each of the above required 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 4.3.7.3-1.

INSTRUMENTATION

TRAVERSING IN-CORE PROBE SYSTEM

LIMITING CONDITION FOR OPERATION

- 3.3.7.7. The traversing in-core probe system shall be OPERABLE with:
- a. Five movable detectors, drives and readout equipment to map the core, and
 - b. Indexing equipment to allow all five detectors to be calibrated in a common location.

APPLICABILITY: When the traversing in-core probe is used for:

- a. Recalibration of the LPRM detectors, and
- b.* Monitoring the APLHGR, LHGR, MCPR, or MFLPD.

ACTION:

With the traversing in-core probe 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

4.3.7.7 The traversing in-core probe system shall be demonstrated OPERABLE by normalizing each of the above required detector outputs within 72 hours prior to use when required for the LPRM calibration function.

*Only the detector(s) in the location(s) of interest are required to be OPERABLE.

INSTRUMENTATION

FIRE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.7.9 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3.7.9-1 shall be OPERABLE.

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

ACTION:

With the number of OPERABLE Function A or Function B fire detection instruments less than the Minimum Instruments OPERABLE requirement of Table 3.3.7.9-1:

- a. Within 1 hour, establish a fire watch patrol to inspect the zone(s) with the Function A or room(s) with Function B inoperable instrument(s) at least once per hour, unless the instrument(s) is located inside the containment, steam tunnel or drywell, then inspect the primary containment at least once per 8 hours or monitor the containment, steam tunnel and/or drywell air temperature at least once per hour at the locations listed in Specification 3.7.8, 4.6.1.8 and 4.6.2.6.
- b. Restore the minimum number of instruments to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the instrument(s) to OPERABLE status.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

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

4.3.7.9.2 The NFPA Standard 72D supervised circuits supervision associated with the detector alarms of each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months.

INSTRUMENTATION

LOOSE-PART DETECTION SYSTEM

LIMITING CONDITION FOR OPERATION

3.3.7.10 The loose-part detection system shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 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

4.3.7.10 Each channel of the loose-part detection system shall be demonstrated OPERABLE by performance of a:

- a. CHANNEL CHECK at least once per 24 hours,
- b. CHANNEL FUNCTIONAL TEST at least once per 31 days, and
- c. CHANNEL CALIBRATION at least once per 18 months.

INSTRUMENTATION

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.7.11 The radioactive liquid effluent monitoring instrumentation channels shown in Table 3.3.7.11-1 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 in accordance with 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 3.3.7.11-1. Restore the inoperable instrumentation to OPERABLE status within the time specified in the ACTION and, if unsuccessful, explain why this inoperability was not corrected in a timely manner in the next Semiannual Radioactive Effluent Release Report.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.7.11 Each radioactive liquid effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 4.3.7.11-1.

TABLE 3.3.8-1 (Continued)

PLANT SYSTEMS ACTUATION INSTRUMENTATION

ACTION

- ACTION 130 - a. With the number of OPERABLE channels one less than required by the Minimum OPERABLE Channels per Trip System requirement, place the inoperable channel in the tripped condition within one hour; otherwise, declare the associated containment spray system inoperable and take the action required by Technical Specification 3.6.3.2.
- b. With the number of OPERABLE channels two less than required by the Minimum OPERABLE channels per Trip System requirement, declare the associated containment spray system inoperable and take the action required by Technical Specification 3.6.3.2.
- ACTION 131 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, restore the inoperable channels to OPERABLE status within one hour; otherwise, declare the associated containment spray system inoperable and take the action required by Technical Specification 3.6.3.2.
- ACTION 132 - For the feedwater system/main turbine trip system:
- a. With the number of OPERABLE channels one less than required by the Minimum OPERABLE Channels requirement, restore the inoperable channel to OPERABLE status within 7 days or be in at least STARTUP within the next 6 hours.
- b. With the number of OPERABLE channels two less than required by the Minimum OPERABLE Channels per Trip System requirement, restore at least one of the inoperable channels to OPERABLE status within 72 hours or be in at least STARTUP within the next 6 hours.
- ACTION 133 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, declare the associated suppression pool makeup system inoperable and take the action required by Specification 3.6.3.4.
- ACTION 134 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, restore the inoperable channels to OPERABLE status within 8 hours; otherwise, declare the associated suppression pool makeup system inoperable and take the action required by Specification 3.6.3.4.
- ACTION 135 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement:
- a. With one channel inoperable, place the inoperable channel in the tripped condition within one hour or declare the associated system(s) inoperable.
- b. With more than one channel inoperable, declare the associated system(s) inoperable.

3/4.4.4 CHEMISTRY

LIMITING CONDITION FOR OPERATION

3.4.4 The chemistry of the reactor coolant system shall be maintained within the limits specified in Table 3.4.4-1.

APPLICABILITY: At all times.

ACTION:

a. In OPERATIONAL CONDITION 1:

1. With the conductivity, chloride concentration or pH exceeding the limit specified in Table 3.4.4-1 for less than 72 hours during one continuous time interval and, for conductivity and chloride concentration, for less than 336 hours per year, but with the conductivity less than 10 $\mu\text{mho/cm}$ at 25°C and with the chloride concentration less than 0.5 ppm, this need not be reported to the Commission.
2. With the conductivity, chloride concentration or pH exceeding the limit specified in Table 3.4.4-1 for more than 72 hours during one continuous time interval or, for conductivity and chloride concentration, for more than 336 hours per year, be in at least STARTUP within the next 6 hours.
3. With the conductivity exceeding 10 $\mu\text{mho/cm}$ at 25°C or chloride concentration exceeding 0.5 ppm, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN as rapidly as practical within the cooldown rate limit.

b. In OPERATIONAL CONDITION 2 and 3 with the conductivity, chloride concentration or pH exceeding the limit specified in Table 3.4.4-1 for more than 48 hours during one continuous time interval, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

c. At all other times:

1. With the conductivity or pH exceeding the limit specified in Table 3.4.4-1, restore the conductivity and pH to within the limit within 72 hours.
2. With the chloride concentration exceeding the limit specified in Table 3.4.4-1 for more than 24 hours, perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the reactor coolant system. Determine that the structural integrity of the reactor coolant system remains acceptable for continued operation prior to proceeding to OPERATIONAL CONDITION 2 or 3.
3. The provisions of Specification 3.0.3 are not applicable.

REACTOR COOLANT SYSTEM

3/4.4.7 MAIN STEAM LINE ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.4.7 Two main steam line isolation valves (MSIVs) per main steam line shall be OPERABLE with closing times greater than or equal to 3 and less than or equal to 5 seconds.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

- a. With one or more MSIVs inoperable:
 1. Maintain at least one MSIV OPERABLE in each affected main steam line that is open and within 8 hours, either:
 - a) Restore the inoperable valve(s) to OPERABLE status, or
 - b) Isolate the affected main steam line by use of a deactivated MSIV in the closed position.
 2. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.4.7 Each of the above required MSIVs shall be demonstrated OPERABLE by verifying full closure between 3 and 5 seconds* when tested pursuant to Specification 4.0.5. The provisions of Specification 4.0.4 are not applicable for entry into OPERATIONAL CONDITIONS 2 or 3 provided the surveillance is performed within 12 hours after reaching a reactor steam pressure of 600 psig and prior to entry into OPERATIONAL CONDITION 1.

*The 3 seconds is the time measured from start of valve motion to complete valve closure. The 5 seconds is the time measured from initiation of the actuating signal to complete valve closure.

REACTOR COOLANT SYSTEM

3/4.4.8 STRUCTURAL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.4.8 The structural integrity of ASME Code Class 1, 2 and 3 components shall be maintained in accordance with Specification 4.4.8.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, 4 and 5.

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

4.4.8 No requirements other than Specification 4.0.5.

REACTOR COOLANT SYSTEM

COLD SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.9.2 Two[#] shutdown cooling mode loops of the residual heat removal (RHR) system shall be OPERABLE and, unless at least one recirculation pump is in operation, at least one shutdown cooling mode loop shall be in operation*,^{##} with each loop consisting of at least:

- a. One OPERABLE RHR pump, and
- b. One OPERABLE RHR heat exchanger.

APPLICABILITY: OPERATIONAL CONDITION 4.

ACTION:

- a. With less than the above required RHR shutdown cooling mode loops OPERABLE, within one hour and at least once per 24 hours thereafter, demonstrate the OPERABILITY of at least one alternate method*** capable of decay heat removal for each inoperable RHR shutdown cooling mode loop.
- b. With no RHR shutdown cooling mode loop in operation, within one hour establish reactor coolant circulation by an alternate method and monitor reactor coolant temperature and pressure at least once per hour.

SURVEILLANCE REQUIREMENTS

4.4.9.2 At least one shutdown cooling mode loop of the residual heat removal system or alternate method shall be determined to be in operation and circulating reactor coolant at least once per 12 hours.

[#]One RHR shutdown cooling mode loop may be inoperable for up to 2 hours for surveillance testing provided the other loop is OPERABLE and in operation.

*The shutdown cooling pump may be removed from operation for up to 2 hours per 8 hour period provided the other loop is OPERABLE.

^{##}The shutdown cooling mode loop may be removed from operation during hydrostatic testing.

^{***}The alternate decay heat removal system (ADHRS) may be used as the alternate decay heat removal method for the third refueling outage only.

EMERGENCY CORE COOLING SYSTEMS

3/4 5.2 ECCS - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.5.2 At least two of the following shall be OPERABLE:

- a. The low pressure core spray (LPCS) system with a flow path capable of taking suction from the suppression pool and transferring the water through the spray sparger to the reactor vessel.
- b. Low pressure coolant injection (LPCI) subsystem "A" of the RHR system with a flow path capable of taking suction from the suppression pool upon being manually realigned and transferring the water to the reactor vessel.
- c. Low pressure coolant injection (LPCI) subsystem "B" of the RHR system with a flow path capable of taking suction from the suppression pool upon being manually realigned and transferring the water to the reactor vessel.
- d. Low pressure coolant injection (LPCI) subsystem "C" of the RHR system with a flow path capable of taking suction from the suppression pool upon being manually realigned and transferring the water to the reactor vessel.
- e. The high pressure core spray (HPCS) system with a flow path capable of taking suction from one of the following water sources and transferring the water through the spray sparger to the reactor vessel:
 1. From the suppression pool, or
 2. When the suppression pool level is less than the limit or is drained, from the condensate storage tank containing at least 170,000 available gallons of water, equivalent to a level of 18 feet.

APPLICABILITY: OPERATIONAL CONDITION 4 and 5*.

ACTION:

- a. With one of the above required subsystems/systems inoperable, restore at least two subsystems/systems to OPERABLE status within 4 hours or suspend all operations that have a potential for draining the reactor vessel.
- b. With both of the above required subsystems/systems inoperable, suspend CORE ALTERATIONS and all operations that have a potential for draining the reactor vessel. Restore at least one subsystem/system to OPERABLE status within 4 hours or establish SECONDARY CONTAINMENT INTEGRITY within the next 8 hours. OPERATIONAL CONDITION changes per Specification 3.0.4 are not permitted.

* The ECCS is not required to be OPERABLE provided that the reactor vessel head is removed, the cavity is flooded, the reactor cavity and transfer canal gates in the upper containment pool are removed, and water level is maintained within the limits of Specifications 3.9.8 and 3.9.9.

EMERGENCY CORE COOLING SYSTEMS

3/4.5.3 SUPPRESSION POOL[#]

LIMITING CONDITION FOR OPERATION

3.5.3 The suppression pool shall be OPERABLE:

- a. In OPERATIONAL CONDITION 1, 2 or 3 with a contained water volume of at least 135,291 ft³, equivalent to a level of 18'4-1/12."
- b. In OPERATIONAL CONDITION 4 or 5* with a contained water volume of at least 93,600 ft³, equivalent to a level of 12'8", except that the suppression pool level may be less than the limit or may be drained provided that:
 1. No operations are performed that have a potential for draining the reactor vessel,
 2. The reactor mode switch is locked in the Shutdown or Refuel position,
 3. The condensate storage tank contains at least 170,000 available gallons of water, equivalent to a level of 18', and
 4. The HPCS system is OPERABLE per Specification 3.5.2 with an OPERABLE flow path capable of taking suction from the condensate storage tank and transferring the water through the spray sparger to the reactor vessel.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, 4 and 5*.

ACTION:

- a. In OPERATIONAL CONDITION 1, 2 or 3 with the suppression pool water level less than the above limit, restore the water level to within the limit within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. In OPERATIONAL CONDITION 4 or 5* with the suppression pool water level less than the above limit or drained and the above required conditions not satisfied, suspend CORE ALTERATIONS and all operations that have a potential for draining the reactor vessel and lock the reactor mode switch in the Shutdown position. Establish SECONDARY CONTAINMENT INTEGRITY within 8 hours. OPERATIONAL CONDITION changes per Specification 3.0.4 are not permitted.

[#] See Specification 3.6.3.1 for pressure suppression requirements.

^{*} The suppression pool is not required to be OPERABLE provided that the reactor vessel head is removed, the cavity is flooded or being flooded from the suppression pool, the reactor cavity and transfer canal gates in the upper containment pool are removed when the cavity is flooded, and the water level is maintained within the limits of Specification 3.9.8 and 3.9.9.

EMERGENCY CORE COOLING SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

- c. With one suppression pool water level instrumentation division inoperable, restore the inoperable division to OPERABLE status within 7 days or verify the suppression pool water level to be greater than or equal to 18'4-1/12" or 12'8", as applicable, at least once per 12 hours by an alternate indicator.
- d. With both suppression pool water level instrumentation divisions inoperable, restore at least one inoperable division to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours and verify the suppression pool water level to be greater than or equal to 18'4-1/12" or 12'8", as applicable, at least once per 12 hours by at least one alternate indicator.

SURVEILLANCE REQUIREMENTS

- 4.5.3.1 The suppression pool shall be determined OPERABLE by verifying:
 - a. The water level to be greater than or equal to, as applicable:
 - 1. 18'4-1/12" at least once per 24 hours.
 - 2. 12'8" at least once per 12 hours.
 - b. Two suppression pool water level instrumentation divisions, with 1 channel per division, OPERABLE with the low water level alarm setpoint \geq 18'5 $\frac{1}{2}$ " or 12'8", as applicable, by performance of a:
 - 1. CHANNEL CHECK at least once per 24 hours,
 - 2. CHANNEL FUNCTIONAL TEST at least once per 31 days, and
 - 3. CHANNEL CALIBRATION at least once per 18 months.
- 4.5.3.2 With the suppression pool level less than the above limit or drained in OPERATIONAL CONDITION 4 or 5*, at least once per 12 hours:
 - a. Verify the required conditions of Specification 3.5.3.b to be satisfied, or
 - b. Verify footnote conditions * to be satisfied.

CONTAINMENT SYSTEMS

DRYWELL AIR LOCK

LIMITING CONDITION FOR OPERATION

3.6.2.3 The drywell air lock shall be OPERABLE with:

- a. Both doors closed except when the air lock is being used for normal transit entry and exit through the drywell, then at least one air lock door shall be closed, and
- b. An overall air lock leakage rate of less than or equal to 2 scf per hour at P_a , 11.5 psig.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2* and 3.

ACTION:

- a. With one drywell air lock door inoperable:
 1. Maintain at least the OPERABLE air lock door closed and either restore the inoperable air lock door to OPERABLE status within 24 hours or lock the OPERABLE air lock door closed. Operation may then continue provided that the OPERABLE air lock door is verified to be locked closed at least once per 31 days. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. With the drywell air lock inoperable, except as a result of an inoperable air lock door, maintain at least one air lock door closed; restore the inoperable air lock to OPERABLE status within 24 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- c. With one drywell air lock door inflatable seal system seal pressure instrumentation channel inoperable, restore the inoperable channel to OPERABLE status within 7 days or verify the associated inflatable seal pressure to be ≥ 60 psig at least once per 12 hours.

*See Special Test Exception 3.10.1.

CONTAINMENT SYSTEMS

3/4.6.4 CONTAINMENT AND DRYWELL ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.4 The containment and drywell isolation valves shown in Table 3.6.4-1 shall be OPERABLE with isolation times less than or equal to those shown in Table 3.6.4-1.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, and #.

ACTION:

With one or more of the containment or drywell isolation valves shown in Table 3.6.4-1 inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and within 4 hours either:

- a. Restore the inoperable valve(s) to OPERABLE status, or
- b. Isolate each affected penetration by use of at least one deactivated automatic valve secured in the isolated position,* or
- c. Isolate each affected penetration by use of at least one closed manual valve or blind flange*.

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

*Isolation valves, except MSIVs, closed to satisfy these requirements may be reopened on an intermittent basis under administrative controls. OPERATIONAL CONDITION changes, as provided by Specification 3.0.4, are not allowed while isolation valves are open under these administrative controls.

#Isolation valves shown in Table 3.6.4-1 are also required to be OPERABLE when their associated actuation instrumentation is required to be OPERABLE per Table 3.3.2-1.

CONTAINMENT SYSTEMS

SECONDARY CONTAINMENT AUTOMATIC ISOLATION DAMPERS/VALVES

LIMITING CONDITION FOR OPERATION

3.6.6.2 The secondary containment ventilation system automatic isolation dampers/valves shown in Table 3.6.6.2-1 shall be OPERABLE with isolation times less than or equal to the times shown in Table 3.6.6.2-1.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3 and *.

ACTION:

With one or more of the secondary containment ventilation system automatic isolation dampers/valves shown in Table 3.6.6.2-1 inoperable, maintain at least one isolation damper/valve OPERABLE in each affected penetration that is open, and within 8 hours either:

- a. Restore the inoperable damper/valve(s) to OPERABLE status, or
- b. Isolate each affected penetration by use of at least one deactivated automatic damper/valve secured in the isolation position, or
- c. Isolate each affected penetration by use of at least one closed manual valve or blind flange.

Otherwise, in OPERATIONAL CONDITION 1, 2 or 3, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

Otherwise, in Operational Condition *, suspend handling of irradiated fuel in the primary or secondary containment, CORE ALTERATIONS and operations with a potential for draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.6.2 Each secondary containment ventilation system automatic isolation damper/valve shown in Table 3.6.6.2-1 shall be demonstrated OPERABLE:

- a. Prior to returning the damper/valve to service after maintenance, repair or replacement work is performed on the damper/valve or its associated actuator, control or power circuit by cycling the damper/valve through at least one complete cycle of full travel and verifying the specified isolation time.
- b. During COLD SHUTDOWN or REFUELING at least once per 18 months by verifying that on a containment isolation test signal each isolation damper/valve actuates to its isolation position.
- c. By verifying the isolation time to be within its limit when tested pursuant to Specification 4.0.5.

*When irradiated fuel is being handled in the primary or secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

3/4.7 PLANT SYSTEMS

3/4.7.1 SERVICE WATER SYSTEMS

STANDBY SERVICE WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.1 Each of the following independent standby service water (SSW) system subsystems shall be OPERABLE with each subsystem comprised of:

- a. One OPERABLE SSW pump, and
- b. An OPERABLE flow path capable of taking suction from the associated SSW cooling tower basin and transferring the water through the RHR heat exchangers and to associated plant equipment, as required, shall be OPERABLE as follows:
 1. In OPERATIONAL CONDITIONS 1, 2, and 3: two subsystems; and
 2. In OPERATIONAL CONDITIONS 4, 5, and *: the subsystems associated with the systems and components required to be OPERABLE by Specifications 3.4.9.2, 3.5.2, 3.8.1.2, 3.9.11.1 or 3.9.11.2.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, 4, 5 and *.

ACTION:

- a. In OPERATIONAL CONDITION 1, 2 or 3:
 1. With one SSW subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
 2. With both SSW subsystems inoperable, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN** within the following 24 hours.
- b. In OPERATIONAL CONDITION 3 or 4 with the SSW subsystem, which is associated with an RHR loop required OPERABLE by Specification 3.4.9.1 or 3.4.9.2, inoperable, declare the associated RHR loop inoperable and take the ACTION required by Specification 3.4.9.1 or 3.4.9.2, as applicable.
- c. In OPERATIONAL CONDITION 4 or 5 with the SSW subsystem, which is associated with an ECCS pump required OPERABLE by Specification 3.5.2, inoperable, declare the associated ECCS pump inoperable and take the ACTION required by Specification 3.5.2.

* When handling irradiated fuel in the primary or secondary containment.

** Whenever both SSW subsystems are inoperable, if unable to attain COLD SHUTDOWN as required by this ACTION, maintain reactor coolant temperature as low as practical by use of alternate heat removal methods.

PLANT SYSTEMS

LIMITING CONDITION FOR OPERATION

ACTION: (Continued)

- d. In OPERATIONAL CONDITION 5 with the SSW subsystem, which is associated with an RHR system required OPERABLE by Specification 3.9.11.1 or 3.9.11.2, inoperable, declare the associated RHR system inoperable and take the ACTION required by Specification 3.9.11.1 or 3.9.11.2, as applicable.
- e. In OPERATIONAL CONDITION *, with the SSW subsystem, which is associated with a diesel generator required OPERABLE by Specification 3.8.1.2, inoperable, declare the associated diesel generator inoperable and take the ACTION required by Specification 3.8.1.2. The provisions of Specification 3.0.3 are not applicable.
- f. In OPERATIONAL CONDITIONS 1, 2, 3, 4, or 5 with the SSW subsystem, which is associated with a diesel generator required OPERABLE by Specification 3.8.1.1 or 3.8.1.2, inoperable, declare the associated diesel generator inoperable and take the ACTION required by Specification 3.8.1.1 or 3.8.1.2 as applicable.

SURVEILLANCE REQUIREMENTS

- 4.7.1.1 At least the above required standby service water system subsystem(s) shall be demonstrated OPERABLE:
- a. At least once per 31 days by verifying that each valve in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.
 - b. At least once per 18 months during shutdown by verifying that each automatic valve servicing safety related equipment actuates to its correct position on an actuation test signal.

PLANT SYSTEMS

ULTIMATE HEAT SINK

LIMITING CONDITION FOR OPERATION

3.7.1.3 At least the following independent SSW cooling tower basins, each with:

- a. A minimum basin water level at or above elevation 130'3" Mean Sea Level, USGS datum, equivalent to an indicated level of >87".
- b. Two OPERABLE cooling tower fans,#

shall be OPERABLE:

- a. In OPERATIONAL Condition 1, 2 and 3, two basins,##
- b. In OPERATIONAL Condition 4, 5 and *, the basins## associated with systems and components required OPERABLE by Specifications 3.7.1.1 and 3.7.1.2.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, 4, 5 and *.

ACTION:

- a. In OPERATIONAL CONDITION 1, 2, 3, 4, 5 and * with one SSW cooling tower basin inoperable, declare the associated SSW subsystem inoperable and, if applicable, declare the HPCS service water system inoperable, and take the ACTION required by Specifications 3.7.1.1 and 3.7.1.2, as applicable.
- b. In OPERATIONAL CONDITION 1, 2, 3, 4 or 5 with both SSW cooling tower basins inoperable, declare the SSW system and the HPCS service water system inoperable and take the ACTION required by Specifications 3.7.1.1 and 3.7.1.2.
- c. In Operational Condition * with both SSW cooling tower basins inoperable, declare the SSW system inoperable and take the ACTION required by Specification 3.7.1.1. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.3 At least the above required SSW cooling tower basins shall be determined OPERABLE at least once per:

- a. 24 hours by verifying basin water level to be greater than or equal to 87".
- b. 31 days by starting from the control room each SSW cooling tower fan not already in operation and operating each fan for at least 15 minutes.
- c. 18 months by verifying that each SSW cooling tower fan starts automatically when the associated SSW subsystem is started.

* When handling irradiated fuel in the primary or secondary containment.

The basin cooling tower fans are not required to be OPERABLE for HPCS service water system OPERABILITY.

An OPERABLE basin shall have a 30 day supply of water either self-contained or by means of an OPERABLE siphon.

PLANT SYSTEMS

3/4.7.2 CONTROL ROOM EMERGENCY FILTRATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.2 Two independent control room emergency filtration system subsystems shall be OPERABLE.

APPLICABILITY: All OPERATIONAL CONDITIONS and *.

ACTION:

- a. In OPERATIONAL CONDITION 1, 2 or 3 with one control room emergency filtration subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. In OPERATIONAL CONDITION 4, 5 or *:
 1. With one control room emergency filtration subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 7 days or initiate and maintain operation of the OPERABLE subsystem in the isolation mode of operation.
 2. With both control room emergency filtration subsystems inoperable, suspend CORE ALTERATIONS, handling of irradiated fuel in the primary or secondary containment and operations with a potential for draining the reactor vessel.
- c. The provisions of Specification 3.0.3 are not applicable in Operational Condition *.

SURVEILLANCE REQUIREMENTS

4.7.2 Each control room emergency filtration subsystem shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the subsystem operates for at least 10 continuous hours with the heaters OPERABLE.
- b. 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 subsystem by:
 1. [DELETED]

* When irradiated fuel is being handled in the primary or secondary containment.

PLANT SYSTEMS

3/4.7.5 SEALED SOURCE CONTAMINATION

LIMITING CONDITION FOR OPERATION

3.7.5 Each sealed source containing radioactive material either in excess of 100 microcuries of beta and/or gamma emitting material or 10 microcuries of alpha emitting material shall be free of greater than or equal to 0.005 microcuries of removable contamination.

APPLICABILITY: At all times.

ACTION:

- a. With a sealed source having removable contamination in excess of the above limit, 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

4.7.5.1 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 microcuries per test sample.

4.7.5.2 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 six months for all sealed sources containing radioactive material:
 1. With a half-life greater than 30 days, excluding Hydrogen 3, and
 2. In any form other than gas.

PLANT SYSTEMS

3/4.7.6 FIRE SUPPRESSION SYSTEMS

FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.6.1 The fire suppression water system shall be OPERABLE with:

- a. At least two OPERABLE fire suppression fire pumps, each with a capacity of 1500 gpm, with their discharge aligned to the fire suppression header,
- b. Separate fire water storage tanks, each with a minimum contained volume of 210,000 gallons, and
- c. An OPERABLE flow path capable of taking suction from the "A" fire water storage tank and the "B" fire water storage tank 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 3.7.6.2, 3.7.6.5, and 3.7.6.6.

APPLICABILITY: At all times.

ACTION:

- a. With one of the above required fire pumps and/or one fire water storage tank 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.

SURVEILLANCE REQUIREMENTS

4.7.6.1.1 The fire suppression water system shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying the minimum contained water supply volume.
- b. At least once per 31 days by starting the electric motor driven fire suppression pump and operating it for at least 15 minutes.
- c. 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.
- d. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

PLANT SYSTEMS

SPRAY AND/OR SPRINKLER SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.6.2 The following spray/sprinkler systems shall be OPERABLE:

a. Diesel Generator Building

- | | |
|---|------------|
| 1. Diesel Generator A pre-action sprinkler system | N1P64D142A |
| 2. Diesel Generator B pre-action sprinkler system | N1P64D142B |
| 3. Diesel Generator C pre-action sprinkler system | N1P64D142C |

b. Auxiliary Building*

- | | |
|--|-----------|
| 1. Elevation 93'/103' Northeast Corridor | N1P64D150 |
| 2. Elevation 119' Northeast Corridor | N1P64D151 |
| 3. Elevation 139' Northeast Corridor | N1P64D152 |
| 4. Elevation 166' Northeast Corridor | N1P64D153 |
| 5. Elevation 119' West Corridor | N1P64D158 |
| 6. Elevation 139' West Corridor | N1P64D159 |
| 7. Elevation 166' Northwest Corridor | N1P64D162 |

c. Control Building*

- | | |
|------------------------------------|-----------|
| 1. Elevation 148' Lower Cable Room | N1P64D154 |
| 2. Elevation 189' Upper Cable Room | N1P64D155 |
| 3. Elevation 93' | NSP64D140 |

d. Fire Pump House*

NSP64D136A/B

APPLICABILITY: Whenever equipment protected by the spray/sprinkler systems is required to be OPERABLE.

ACTION:

- a. With one or more of the above required spray and/or sprinkler systems inoperable, within one 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

4.7.6.2 The above required spray and 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 is in its correct position.

*Wet pipe sprinkler system.

PLANT SYSTEMS

CO₂ SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.6.3 The following low pressure CO₂ systems shall be OPERABLE:

<u>Area</u>	<u>Location</u>	<u>System Number</u>
Electrical Penetration Room	Auxiliary Bldg. El. 139'0"	N1P64D201A, B, C, D
Electrical Penetration Room	Auxiliary Bldg. El. 119'0"	N1P64D200A, B, C, D
Control Cabinet Room	Control Bldg. El. 189'0"	N1P64D216
Division I Switchgear Room	Control Bldg. El. 111'0"	N1P64D207
Division III Switchgear Room	Control Bldg. El. 111'0"	N1P64D209
Division II Switchgear Room	Control Bldg. El. 111'0"	N1P64D208
Emergency Shutdown Panel Rm	Control Bldg. El. 111'0"	N1P64D212
Motor Generator Room	Control Bldg. El. 148'0"	N1P64D214B
Electrical Switchgear Room	Auxiliary Bldg. El. 166'0"	N1P64D217A, B
Lower Cable Spreading Room	Control Bldg. El. 148'0"	N1P64D213
Upper Cable Spreading Room	Control Bldg. El. 189'0"	N1P64D215

APPLICABILITY: Whenever equipment protected by the CO₂ systems is required to be OPERABLE.

ACTION:

- a. With one or more of the above required CO₂ systems inoperable, within one 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.

PLANT SYSTEMS

HALON SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.6.4 The following Halon systems shall be OPERABLE with the storage tanks having at least 95% of full charge weight and 90% of full charge pressure:

- a. Control Building, elev. 148'0", Computer and Control Panel Room
- b. Control Building, elev. 166'0", PGCC Under Floor Area
- c. Control Cabinet Room, elev. 189'0", PGCC Under Floor Area

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

ACTION:

- a. With one or more of the above required Halon systems inoperable, within one 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

4.7.6.4 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, except for hazard area selector valves F497G and F497H, in the flow path is in its correct position.
- b. At least once per 6 months by verifying Halon storage tank weight and pressure.
- c. At least once per 18 months by:
 1. Verifying that the system, including associated ventilation system fire damper logic, actuates automatically upon receipt of a simulated actuation signal (Actual Halon release, Halon bottle initiator valve actuation, and electro-thermal link burning may be excluded from the test), and
 2. Performance of a flow test through headers and nozzles to assure no blockage, and
 3. Exercising each ventilation system fire damper to the closed position and verifying the dampers move freely.

PLANT SYSTEMS

FIRE HOSE STATIONS

LIMITING CONDITION FOR OPERATION

3.7.6.5 The fire hose stations shown in Table 3.7.6.5-1 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 3.7.6.5-1 inoperable, route an additional fire hose of equal or greater diameter to the unprotected area(s) from an OPERABLE hose station 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

4.7.6.5 Each of the fire hose stations shown in Table 3.7.6.5-1 shall be demonstrated OPERABLE:

- a. At least once per 31 days by a visual inspection of the fire hose stations accessible during plant operation to assure all required equipment is at the station.
- b. At least once per 18 months by:
 1. Visual inspection of the fire hose stations not accessible during plant operation 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.
 2. Conducting a hose hydrostatic test at a pressure of 150 psig or at least 50 psig above the maximum fire main operating pressure, whichever is greater.

PLANT SYSTEMS

YARD FIRE HYDRANTS AND HYDRANT HOSE HOUSES

LIMITING CONDITION FOR OPERATION

3.7.6.6 The yard fire hydrants and associated hydrant hose houses shown in Table 3.7.6.6-1 shall be OPERABLE.

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

ACTION:

- a. With one or more of the yard fire hydrants or associated hydrant hose houses shown in Table 3.7.6.6-1 inoperable, route sufficient additional lengths of fire hose of equal or greater diameter located in an adjacent OPERABLE hydrant hose house to provide service to the unprotected area(s) within 24 hours.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.6.6 Each of the yard fire hydrants and associated hydrant hose houses shown in Table 3.7.6.6-1 shall be demonstrated OPERABLE:

- a. At least once per 31 days by visual inspection of the hydrant hose house to assure all required equipment is at the hose house.
- b. At least once per 6 months, during March, April or May and during September, October or November, by visually inspecting each yard fire hydrant and verifying that the hydrant barrel is dry and that the hydrant is not damaged.
- c. At least once per 12 months by:
 1. Conducting a hose hydrostatic test at a pressure of 150 psig or at least 50 psig above the maximum fire main operating pressure whichever is greater.
 2. Replacement of all degraded gaskets in couplings.
 3. Performing a flow check of each hydrant.

PLANT SYSTEMS

3/4.7.7 FIRE RATED ASSEMBLIES

LIMITING CONDITION FOR OPERATION

3.7.7 All fire rated assemblies (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 and piping penetration seals and ventilation seals) shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

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

SURVEILLANCE REQUIREMENTS

4.7.7.1 Each of the above required fire rated assemblies and sealing devices shall be verified OPERABLE at least once per 18 months by performing a visual inspection of:

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

ELECTRICAL POWER SYSTEMS

3/4.8.2 D.C. SOURCES

D.C. SOURCES - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 As a minimum, the following D.C. electrical power sources shall be OPERABLE:

- a. Division 1, consisting of:
 1. 125 volt battery 1A3.
 2. 125 volt full capacity charger 1A4 or 1A5.
- b. Division 2, consisting of:
 1. 125 volt battery 1B3.
 2. 125 volt full capacity charger 1B4 or 1B5.
- c. Division 3, consisting of:
 1. 125 volt battery 1C3.
 2. 125 volt full capacity charger 1C4.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

- a. With either Division 1 battery or Division 2 battery of the above required D.C. electrical power sources inoperable, restore the inoperable division battery to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. With Division 3 battery of the above required D.C. electrical power sources inoperable, declare the HPCS system inoperable and take the ACTION required by Specification 3.5.1.
- c. With one of the above required full capacity chargers inoperable, demonstrate the OPERABILITY of its associated battery bank by performing Surveillance Requirement 4.8.2.1.a.1 within one hour and at least once per 8 hours thereafter. If any Category A limit in Table 4.8.2.1-1 is not met, declare the battery inoperable. OPERATIONAL CONDITION changes per Specification 3.0.4 are not permitted.

ELECTRICAL POWER SYSTEMS

D.C. SOURCES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.2 As a minimum, Division 1 or Division 2, and, when the HPCS system is required to be OPERABLE, Division 3, of the D.C. electrical power sources shall be OPERABLE with:

- a. Division 1 consisting of:
 1. 125 volt battery 1A3.
 2. 125 volt full capacity charger 1A4 or 1A5.
- b. Division 2 consisting of:
 1. 125 volt battery 1B3.
 2. 125 volt full capacity charger 1B4 or 1B5.
- c. Division 3 consisting of:
 1. 125 volt battery 1C3.
 2. 125 volt full capacity charger 1C4.

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5 and *.

ACTION:

- a. With both Division 1 battery and Division 2 battery of the above required D.C. electrical power sources inoperable, suspend CORE ALTERATIONS, handling of irradiated fuel in the primary or secondary containment and operations with a potential for draining the reactor vessel.
- b. With Division 3 battery of the above required D.C. electrical power sources inoperable, declare the HPCS system inoperable and take the ACTION required by Specification 3.5.2 and 3.5.3.
- c. With any of the above required full capacity chargers inoperable, demonstrate the OPERABILITY of its associated battery bank by performing Surveillance Requirement 4.8.2.1.a.1 within one hour and at least once per 8 hours thereafter. If any Category A limit in Table 4.8.2.1-1 is not met, declare the battery inoperable. OPERATIONAL CONDITION changes per Specification 3.0.4 are not permitted.
- d. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.8.2.2 At least the above required battery and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.1.

*
When handling irradiated fuel in the primary or secondary containment.

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION:

- a. For A.C. power distribution:
 1. With both Division 1 and Division 2 of the above required A.C. distribution system not energized and/or with the load shedding and sequencing panel associated with the division(s) required to be energized inoperable, suspend CORE ALTERATIONS, handling of irradiated fuel in the primary or secondary containment and operations with a potential for draining the reactor vessel. OPERATIONAL CONDITION changes per Specification 3.0.4 are not permitted.
 2. With Division 3 of the above required A.C. distribution system not energized, declare the HPCS system inoperable and take the ACTION required by Specification 3.5.2 and 3.5.3.
- b. For D.C. power distribution:
 1. With both Division 1 and Division 2 of the above required D.C. distribution system not energized, suspend CORE ALTERATIONS, handling of irradiated fuel in the primary or secondary containment and operations with a potential for draining the reactor vessel. OPERATIONAL CONDITION changes per Specification 3.0.4 are not permitted.
 2. With Division 3 of the above required D.C. distribution system not energized, declare the HPCS system inoperable and take the ACTION required by Specification 3.5.2 and 3.5.3.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.8.3.2.1 At least the above required power distribution system divisions shall be determined energized at least once per 7 days by verifying correct breaker alignment on the busses/LCs/MCCs/panels and voltage on the busses/LCs.

4.8.3.2.2 The above required load shedding and sequencing panel(s) shall be demonstrated OPERABLE:

- a. At least once per 12 hours by determining that the auto-test system is operating and is not indicating a faulted condition.
- b. At least once per 31 days by performance of a manual test and verifying response within the design criteria to the following test inputs:
 - a) LOCA.
 - b) Bus undervoltage.
 - c) Bus undervoltage followed by LOCA.
 - d) LOCA followed by bus undervoltage.

ELECTRICAL POWER SYSTEMS

3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

LIMITING CONDITION FOR OPERATION

3.8.4.1 All primary containment penetration conductor overcurrent protective devices shown in Table 3.8.4.1-1 shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

- a. With one or more of the primary containment penetration conductor overcurrent protective devices shown in Table 3.8.4.1-1 inoperable, declare the affected system or component inoperable and apply the appropriate ACTION statement for the affected system, and:
 1. For 6.9 kV circuit breakers, de-energize the 6.9 kV circuit(s) by tripping the associated redundant circuit breaker(s) within 72 hours and verify the redundant circuit breaker to be tripped at least once per 7 days thereafter.
 2. For 480 volt circuit breakers, remove the inoperable circuit breaker(s) from service by racking out the breaker within 72 hours and verify the inoperable breaker(s) to be racked out at least once per 7 days thereafter.

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.8.4.1 Each of the primary containment penetration conductor overcurrent protective devices shown in Table 3.8.4.1-1 shall be demonstrated OPERABLE:

- a. At least once per 18 months:
 1. By verifying that the medium voltage 6.9 kV circuit breakers are OPERABLE by selecting, on a rotating basis, at least 10% of the circuit breakers and performing:
 - a) A CHANNEL CALIBRATION of the associated protective relays, and
 - b) An integrated system functional test which includes simulated automatic actuation of the system and verifying that each relay and associated circuit breakers and overcurrent control circuits function as designed and as specified in Table 3.8.4.1-1.

REFUELING OPERATIONS

3/4.9.10 CONTROL ROD REMOVAL

SINGLE CONTROL ROD REMOVAL

LIMITING CONDITION FOR OPERATION

3.9.10.1 One control rod and/or the associated control rod drive mechanism may be removed from the core and/or reactor pressure vessel provided that at least the following requirements are satisfied until a control rod and associated control rod drive mechanism are reinstalled and the control rod is fully inserted in the core.

- a. The reactor mode switch is OPERABLE and locked in the Shutdown position or in the Refuel position per Table 1.2 and Specification 3.9.1.
- b. The source range monitors (SRM) are OPERABLE per Specification 3.9.2.
- c. The SHUTDOWN MARGIN requirements of Specification 3.1.1 are satisfied, except that the control rod selected to be removed;
 1. May be assumed to be the highest worth control rod required to be assumed to be fully withdrawn by the SHUTDOWN MARGIN test, and
 2. Need not be assumed to be immovable or untrippable.
- d. All other control rods in a five-by-five array centered on the control rod being removed are inserted and electrically or hydraulically disarmed or the four fuel assemblies surrounding the control rod or control rod drive mechanism to be removed from the core and/or reactor vessel are removed from the core cell.
- e. All other control rods are inserted.

APPLICABILITY: OPERATIONAL CONDITION 4 and 5.

ACTION:

With the requirements of the above specification not satisfied, suspend removal of the control rod and/or associated control rod drive mechanism from the core and/or reactor pressure vessel and initiate action to satisfy the above requirements. OPERATIONAL CONDITION changes per Specification 3.0.4 are not permitted.

REFUELING OPERATIONS

3/4.9.11 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

HIGH WATER LEVEL

LIMITING CONDITION FOR OPERATION

3.9.11.1 At least one shutdown cooling mode train of the residual heat removal (RHR) system shall be OPERABLE and in operation* with at least:

- a. One OPERABLE RHR pump, and
- b. One OPERABLE RHR heat exchanger train.

APPLICABILITY: OPERATIONAL CONDITION 5, when irradiated fuel is in the reactor vessel and the water level is greater than or equal to 22 feet 8 inches above the top of the reactor pressure vessel flange.

ACTION:

- a. With no RHR shutdown cooling mode train OPERABLE, within one hour and at least once per 24 hours thereafter, demonstrate the OPERABILITY of at least one alternate method** capable of decay heat removal. Otherwise, suspend all operations involving an increase in the reactor decay heat load and establish SECONDARY CONTAINMENT INTEGRITY within 4 hours.
- b. With no RHR shutdown cooling mode train in operation, within one hour establish reactor coolant circulation by an alternate method and monitor reactor coolant temperature at least once per hour.

SURVEILLANCE REQUIREMENTS

4.9.11.1 At least one shutdown cooling mode train of the residual heat removal system or alternate method shall be verified to be in operation and circulating reactor coolant at least once per 12 hours.

*The shutdown cooling pump may be removed from operation for up to 2 hours per 8-hour period.

**The alternate decay heat removal system (ADHRS) may be used as the alternate decay heat removal method for the third refueling outage only.

REFUELING OPERATIONS

LOW WATER LEVEL

LIMITING CONDITION FOR OPERATION

3.9.11.2 Two shutdown cooling mode trains of the residual heat removal (RHR) system shall be OPERABLE and at least one train shall be in operation,* with each train consisting of at least:

- a. One OPERABLE RHR pump, and
- b. One OPERABLE RHR heat exchanger train.

APPLICABILITY: OPERATIONAL CONDITION 5, when irradiated fuel is in the reactor vessel and the water level is less than 22 feet 8 inches above the top of the reactor pressure vessel flange.

ACTION:

- a. With less than the above required shutdown cooling mode trains of the RHR system OPERABLE, within one hour and at least once per 24 hours thereafter, demonstrate the OPERABILITY of at least one alternate method** capable of decay heat removal for each inoperable RHR shutdown cooling mode train.
- b. With no RHR shutdown cooling mode train in operation, within one hour establish reactor coolant circulation by an alternate method and monitor reactor coolant temperature at least once per hour.

SURVEILLANCE REQUIREMENTS

4.9.11.2 At least one shutdown cooling mode train of the residual heat removal system or alternate method shall be verified to be in operation and circulating reactor coolant at least once per 12 hours.

* The shutdown cooling pump may be removed from operation for up to 2 hours per 8-hour period.

**The alternate decay heat removal system (ADHRS) may be used as the alternate decay heat removal method for the third refueling outage only.

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 reactor unit, to UNRESTRICTED AREAS (see Figure 5.1.3-1) shall be limited:

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

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, 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 that have been taken to reduce the releases and the corrective actions to be taken to ensure that future 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 Part 141.*
- b. The provisions of Specification 3.0.3 are not applicable. |

SURVEILLANCE REQUIREMENTS

4.11.1.2 Dose Calculations. 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 of the ODCM at least once per 31 days.

*Applicable only if drinking water supply is taken from the receiving water body within 3 miles downstream of the plant discharge.

RADIOACTIVE EFFLUENTS

LIQUID WASTE TREATMENT

LIMITING CONDITION FOR OPERATION

3.11.1.3 The liquid radwaste system shall be used to reduce the radioactive materials in liquid wastes prior to their discharge when the projected doses due to the liquid effluent from each reactor unit to UNRESTRICTED AREAS (see Figure 5.1.3-1) 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, prepare and submit to the Commission, within 30 days pursuant to Specification 6.9.2, a Special Report which includes the following information:
 1. Explanation of why liquid radwaste was being discharged without treatment, identification of any inoperable equipment or subsystems, which resulted in liquid radwaste being discharged without treatment, and the reason for the inoperability, and
 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 reactor unit to UNRESTRICTED AREAS shall be projected at least once per 31 days, in accordance with methodology and parameters in the ODCM.

4.11.1.3.2 The installed liquid radwaste 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 any outside temporary tank, not including liners for shipping radwaste, 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 specified tanks exceeding the above limit, immediately suspend all additions of radioactive material to the tanks and within 48 hours reduce the tank contents to within the limit, and describe the events leading to the 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 specified 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.

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 reactor unit, from the site to areas at and beyond the SITE BOUNDARY (see Figure 5.1.3-1) 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 the radioactive noble gases in gaseous effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be taken to ensure that future releases will be in compliance with Specification 3.11.2.2.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.2 Dose Calculations. Cumulative dose contributions for noble gases 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, IODINE-133, TRITIUM AND RADIONUCLIDES IN PARTICULATE FORM

LIMITING CONDITION FOR OPERATION

3.11.2.3 The dose to a MEMBER OF THE PUBLIC from iodine-131, iodine-133, tritium and radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released, from each reactor unit, from the site to areas at and beyond the SITE BOUNDARY (see Figure 5.1.3-1) 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, iodine-133, tritium and radionuclides in particulate form, with half-lives greater than 8 days, in gaseous effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit and defines the corrective actions that have been taken to reduce releases and the proposed corrective actions to be taken to ensure that future releases will be in compliance with Specification 3.11.2.3.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.3 Dose Calculations. Cumulative dose contributions from iodine-131, iodine-133, tritium and radionuclides in particulate form with half-lives greater than 8 days 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

GASEOUS RADWASTE TREATMENT

LIMITING CONDITION FOR OPERATION

3.11.2.4 The GASEOUS RADWASTE TREATMENT (OFFGAS) SYSTEM shall be in operation.

APPLICABILITY: Whenever the main condenser air ejector system is in operation.

ACTION:

- a. With gaseous radwaste from the main condenser air ejector system being discharged without treatment for more than 7 consecutive days, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which includes the following information:
 1. Explanation of why gaseous radwaste was being discharged without treatment, identification of the inoperable equipment or subsystems which resulted in gaseous radwaste being discharged without treatment, and the reason for 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

4.11.2.4 The instruments specified in the ODCM shall be checked every 12 hours whenever the main condenser air ejector system is in operation to ensure that the GASEOUS RADWASTE TREATMENT (OFFGAS) SYSTEM is functioning.

RADIOACTIVE EFFLUENTS

VENTILATION EXHAUST TREATMENT

LIMITING CONDITION FOR OPERATION

3.11.2.5 The VENTILATION EXHAUST TREATMENT SYSTEM shall be used to reduce radioactive materials in gaseous waste prior to their discharge when the projected dose due to gaseous effluent releases from each reactor unit to areas at and beyond the SITE BOUNDARY (see Figure 5.1.3-1) in a 31 day period would exceed 0.3 mrem to any organ.

APPLICABILITY: At all times other than when the VENTILATION EXHAUST TREATMENT SYSTEM is undergoing routine maintenance.*

ACTION:

- a. With gaseous waste being discharged without treatment and in excess of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which includes the following information:
 1. Explanation of why gaseous radwaste was being discharged without treatment, identification of any inoperable equipment or subsystems which resulted in gaseous radwaste being discharged without treatment, 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

4.11.2.5.1 Doses due to gaseous releases from each reactor 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.

4.11.2.5.2 The installed VENTILATION EXHAUST TREATMENT SYSTEM shall be demonstrated OPERABLE by meeting Specifications 3.11.2.1 and 3.11.2.2 or 3.11.2.3.

* Not applicable to Turbine Building ventilation exhaust unless filtration media is installed.

RADIOACTIVE EFFLUENTS

EXPLOSIVE GAS MIXTURE

LIMITING CONDITION FOR OPERATION

3.11.2.6 The concentration of hydrogen in the main condenser offgas treatment system shall be limited to less than or equal to 4% by volume.

APPLICABILITY: Whenever the main condenser offgas treatment system is in operation.

ACTION:

- a. With the concentration of hydrogen in the main condenser offgas treatment system exceeding the limit, restore the concentration to within the limit within 48 hours.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.6 The concentration of hydrogen in the main condenser offgas treatment system shall be determined to be within the above limits by monitoring the waste gas in the main condenser off-gas treatment system with the hydrogen monitor OPERABLE as required by Table 3.3.7.12-1 of Specification 3.3.7.12.

RADIOACTIVE EFFLUENTS

3/4.11.3 SOLID RADIOACTIVE WASTE

LIMITING CONDITION FOR OPERATION

3.11.3 The solid radwaste system shall be used in accordance with a PROCESS CONTROL PROGRAM to process wet radioactive wastes to meet shipping and burial ground requirements.

APPLICABILITY: At all times.

ACTION:

- a. With the provisions of the PROCESS CONTROL PROGRAM not satisfied, suspend shipments of defectively processed or defectively packaged solid radioactive wastes from the site.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.3 The PROCESS CONTROL PROGRAM shall be used to verify the SOLIDIFICATION* of at least one representative test specimen from at least every tenth batch of each type of wet radioactive waste.

- 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.
- b. If the initial test specimen from a batch of the waste fails to verify SOLIDIFICATION,* the PROCESS CONTROL PROGRAM shall provide for the collection and testing of representative test specimens from each consecutive batch of the same type of wet waste until at least 3 consecutive initial test specimens demonstrate SOLIDIFICATION.* The PROCESS CONTROL PROGRAM shall be modified as required, as provided in Specification 6.13, to assure SOLIDIFICATION* of subsequent batches of waste.

*Except dewatering.

RADIOACTIVE EFFLUENTS

3/4.11.4 TOTAL DOSE

LIMITING CONDITION FOR OPERATION

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

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 Specifications 3.11.1.2.a, 3.11.1.2.b, 3.11.2.2.a, 3.11.2.2.b, 3.11.2.3.a, or 3.11.2.3.b, calculations should be made including direct radiation contributions from the reactor 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, 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 reactor 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 Specification 3.11.4.a.

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 3.12.1-1.

APPLICABILITY: At all times.

ACTION:

- a. With the radiological environmental monitoring program not being conducted as specified in Table 3.12.1-1, prepare and submit to the Commission, in the Annual Radiological Environmental Operating Report per Specification 6.9.1.7, 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 as the result of plant effluent in an environmental sampling medium at a specified location exceeding the reporting levels of Table 3.12.1-2 when averaged over any calendar quarter, prepare and submit to the Commission within 30 days pursuant to Specification 6.9.2 a Special Report that identifies the cause(s) for exceeding the limit(s) and 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 3.12.1-2 are detected in the sampling medium, this report shall be submitted if:

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

When radionuclides other than those in Table 3.12.1-2 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.

- c. If milk or broad leaf vegetation sampling is relocated from one or more of the sample locations required by Table 3.12.1-1, identify new locations for obtaining replacement samples and add them to the radiological environmental monitoring program within 30 days. In addition, report the cause(s) of the unavailability of samples and the new locations for obtaining replacement samples in the next Semi-annual Radioactive Effluent Release Report. Include in this report the revised ODCM figure(s) and table(s) reflecting the new locations. The specific locations from which samples were unavailable may then be deleted from the radiological environmental monitoring program and the table(s) in the ODCM, provided the locations from which the replacement samples were obtained are added to the table(s) as replacement locations.
- d. The provisions of Specification 3.0.3 are not applicable.

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. 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 3.12.1-1 shall be followed, including analysis of control samples.

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, identify the new location(s) in the next Semiannual Radioactive Effluent Release Report, pursuant to Specification 6.9.1.9.
- b. With a land use census identifying a location(s) which yields a calculated dose or dose commitment (via the same exposure pathway) 20 percent greater than at a location from which samples are currently being obtained in accordance with Specification 3.12.1, add the new location(s) to the radiological environmental monitoring program within 30 days. The sampling location(s), excluding the control station location, having the lowest calculated dose or dose commitment(s), 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. Identify the new location(s) in the next Semiannual Radioactive Effluent Release Report and also include in the report a revised figure(s) and table(s) for the ODCM reflecting the new location(s).
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.12.2 The land use census shall be conducted during the growing season at least once per 12 months using that information that will provide the best results, such as by a door-to-door survey, aerial survey, or by consulting local agriculture authorities. The results of the land use census shall be included in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.7.

RADIOLOGICAL ENVIRONMENTAL MONITORING

3/4.12.3 INTERLABORATORY COMPARISON PROGRAM

LIMITING CONDITION FOR OPERATION

3.12.3 Analyses shall be performed on radioactive materials that correspond to samples required by Table 3.12.1-1. These materials are supplied as part of an Interlaboratory Comparison Program which has been approved by the Commission.

APPLICABILITY: At all times.

ACITON:

- 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 6.9.1.7.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.12.3 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 6.9.1.7.

BASES

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

"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 specifications until the condition can be met."

3.0.1 This specification establishes the Applicability statement within each individual specification as the requirement for when (i.e., in which OPERATIONAL CONDITIONS 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. 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.

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 an OPERATIONAL CONDITION or other specified condition in which the specification no longer applies.

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 an OPERATIONAL CONDITION 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.

BASES (Con't)

3.0.2 This specification 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 the 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.

3.0.3 This specification 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 condition 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 OPERATIONAL CONDITIONS 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 it is identified 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 COLD SHUTDOWN when a shutdown is required during POWER operation. If the plant is in a lower OPERATIONAL CONDITION when a shutdown is required, the time limit for reaching the next lower OPERATIONAL CONDITION applies. However, if a lower OPERATIONAL CONDITION is reached in less time than allowed, the total allowable time to reach COLD SHUTDOWN, or other OPERATIONAL CONDITION, is not reduced. For example, if STARTUP 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 POWER operation,

BASES (Con't)

a penalty is not incurred by having to reach a lower OPERATIONAL CONDITION in less than the total time allowed.

The shutdown requirements of Specification 3.0.3 do not apply in CONDITIONS 4 and 5, because the ACTION requirements of individual specifications define the remedial measures to be taken.

3.0.4 This specification establishes limitations on a change in OPERATIONAL CONDITIONS when a Limiting Condition for Operation is not met. It precludes placing the facility in a higher OPERATIONAL CONDITION 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 conditions were permitted. The purpose of this specification is to ensure that facility operation is not initiated or that higher OPERATIONAL CONDITIONS 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 change in OPERATIONAL CONDITIONS. Therefore, in this case, entry into an OPERATIONAL CONDITION 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 OPERATIONAL CONDITION.

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

"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."

BASES (Con't)

4.0.1 This specification establishes the requirement that surveillances must be performed during the OPERATIONAL CONDITIONS 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 an OPERATIONAL CONDITION or other specified condition for which the individual Limiting Conditions for Operation are applicable. Surveillance Requirements do not have to be performed when the facility is in an OPERATIONAL CONDITION 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.

4.0.2 This specification 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 obtained through surveillance activities is not significantly degraded beyond that obtained from the specified surveillance interval.

4.0.3 This specification 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 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

BASES (Con't)

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 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 would be required to comply with ACTION requirements or before other remedial measures would be required that may preclude the 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 OPERATIONAL CONDITION 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.

4.0.4 This specification establishes the requirement that all applicable surveillances must be met before entry into an OPERATIONAL CONDITION 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 an OPERATIONAL CONDITION or other specified condition for which these systems and components ensure safe operation of the facility. This provision applies to changes in OPERATIONAL CONDITIONS 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 assure that the Limiting Conditions for Operation are met during initial plant startup or following a plant outage.

BASES (Con't)

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

4.0.5 This specification 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 CONDITION or other specified condition takes precedence over the ASME Boiler and Pressure Vessel Code provision that allows pumps 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, which is not capable of performing its specified function, is declared inoperable and takes precedence over the ASME Boiler and Pressure Vessel Code provision that allows a valve to be incapable of performing its specified function for up to 24 hours before being declared inoperable.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 69 TO FACILITY OPERATING LICENSE NO. NPF-29

ENERGY OPERATIONS, INC.

GRAND GULF NUCLEAR STATION, UNIT 1

DOCKET NO. 50-416

1.0 INTRODUCTION

By letter dated August 19, 1988, the licensee (System Energy Resources, Inc., before June 6, 1990, and Entergy Operations, Inc., on or after June 6, 1990), requested an amendment to Facility Operating License No. NPF-29 for the Grand Gulf Nuclear Station, Unit 1. The proposed amendment would change the Technical Specifications (TS) in accordance with the guidance provided in Generic Letter (GL) 87-09, "Section 3.0 and 4.0 of the Standard Technical Specifications (STS) on the Applicability of Limiting Conditions for Operation and Surveillance Requirements." The general requirements in TS 3.0.4 applicable to each Limiting Condition for Operation (LCO) within Section 3.0 are changed to allow operational condition changes without meeting the LCO requirements provided the remedial actions in the associated action statements do not require reactor shutdown if the LCO is not met in a specified time. For those TSs which previously had an exception to TS 3.0.4, the exception has been deleted because the change in TS 3.0.4 achieves the same effect by itself. For applicable TS which did not previously have an exception to TS 3.0.4, the change in TS 3.0.4 provides increased operational flexibility. TS 4.0.3 was changed to allow up to 24 hours additional time to run missed surveillance tests. TS 4.0.4 was changed to clarify that it does not prevent changing operational conditions to comply with action requirements. The Bases for TS 3.0 and 4.0 were changed to reflect the changes in the TS.

Generic Letter 87-09 provides an acceptable solution for three operational problems encountered with the general requirements in the Technical Specifications (TS) for reactors: (1) Change TS 3.0.4 to allow entry into an Operational Condition (OC) when the Limiting Condition for Operation (LCO) requirements are not met, provided the associated Action does not require reactor shutdown; (2) Change TS 4.0.3 to allow an additional time of 24 hours for performing a Surveillance Requirement (SR) when a surveillance interval is inadvertently exceeded; and (3) Clarify TS 4.0.4 by explicitly stating that entry into an OC to comply with action requirements shall not be prevented even though SR test intervals are exceeded. The staff has provided certain positions and acceptable changes to the TSs and Bases in Generic Letter 87-09.

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By letters dated October 6, 1988, November 25, 1988 and January 17, 1989, the staff requested that a safety analysis be provided for each TS that would provide new operating flexibility as a result of the change to TS 3.0.4. The staff also requested a description of administrative controls or maintenance to assure that plant outage activities and plant starting would usually be conducted when all equipment required by LCOs in the TS is operable. In response to these requests, the licensee provided supplemental information by letters dated November 9, 1988, December 14, 1988 and March 28, 1989. These letters also clarified that the requested changes to TS 3.0.4, TS 4.0.3 and TS 4.0.4 were intended to be identical to those recommended in Generic Letter 87-09.

During its review of the licensee's submittals, it became evident that a large number of new reliefs from TS 3.0.4 were possible from the change of the general requirements in TS 3.0.4. The intent of Generic Letter 87-09 is that such reliefs be used sparingly. Furthermore, preparation and review of a safety analysis for each relief possible under the new TS 3.0.4 would require an extensive and unnecessary effort by the licensee and staff. As an alternative, a written safety analysis could be prepared by the licensee prior to each use of a relief made possible under the proposed TS 3.0.4, using administrative controls similar to those used for safety analysis pursuant to 10 CFR 50.59.

By letters dated May 22, 1989, and February 14, 1990, the staff advised the licensee that it would not review the safety analysis submitted for each TS 3.0.4 relief made possible by the proposed license amendment implementing Generic Letter 87-09. The staff requested the licensee to provide a description of the administrative controls that would be used to require safety analyses for each TS 3.0.4 relief prior to its use.

By letters dated July 27, 1989, April 6, 1990, and May 23, 1990, the licensee provided information regarding its administrative program for implementing the proposed amendment. The staff's review of this program is described in this safety evaluation. The staff has not reviewed the safety analysis for each possible relief contained in the licensee's submittals. Safety analyses for each TS 3.0.4 relief used should be retained by the licensee for possible NRC audit.

By letter dated August 10, 1990, the licensee requested deletion of a paragraph in the previously proposed Bases for TS 3.0.3 to clarify this section of the Bases.

The licensee's revised application provided additional information regarding implementation of the proposed amendment but did not significantly alter the action previously noticed or affect the description of the action published in the Federal Register on October 19, 1988 (53 FR 40980).

2.0 EVALUATION

The present TS 3.0.4 specifies, in part, that "Entry into an Operational Condition or other specified condition shall not be made unless the conditions for the Limiting Condition for Operation 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 condition or other specified condition of operation should be permitted in accordance with those Action requirements. The restriction on a change in operational condition or other specified 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 the 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 CONDITION 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 CONDITION or other specified condition may be made in accordance with the 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.

The revised TS 3.0.4 eliminated the need for exceptions to it in TS 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.

The basis for accepting the proposed change to TS 3.0.4 is that the licensee will have administrative controls to assure: (1) that for each TS 3.0.4 relief to be used, remedial measures prescribed by the TS Action statement provide a sufficient level of protection to permit entry into the Operational Condition and safe long term operation consistent with the Updated Final Safety Analysis Report (UFSAR), and (2) that plant startup with inoperable equipment required by the LCO will be the exception rather than the rule. In its submittals, the licensee stated that prior to the use of the new TS 3.0.4 relief, written 10 CFR 50.59 safety evaluations will be performed in accordance with current administrative procedures, and reviewed by the Plant Safety Division Committee. Present administrative procedures require documentation of the time when an Action statement is entered and when it is left. This requirement will continue for all Action statements, including those which do not require reactor shutdown after an allowed outage time. Administrative procedures are used to control the priority of maintenance.

Work orders to repair inoperable equipment required by an LCO receive a Priority 1 or 2. Priority 1 is reserved for equipment needed for plant safety or availability and requires immediate continuous action on a 24 hour basis. Priority 1 maintenance work orders are rare. Priority 2 is the highest priority for most maintenance and includes work orders for inoperable equipment required by LCOs unless assigned Priority 1. Priority 3, 4, and 5 are assigned to routine work or long term scheduled modifications. Present administrative procedures require that all equipment required by LCOs are operable prior to startup. The proposed change to TS 3.0.4 will permit startup with some inoperable equipment. However, maintenance work priority assignments will remain the same with the goal of having all equipment required by LCOs to be operable prior to startup.

If any LCOs are not met and startup is not prohibited by the new TS 3.0.4, startup will require a written safety evaluation, concurrence of the Plant Safety Review Committee, and continuous effort to return the equipment to operability. The Entergy Operations Vice President, Operations - Grand Gulf has certified that the administrative controls described above are implemented and that the necessary training of operations personnel has been conducted.

The staff concludes that the proposed change to TS 3.0.4 is acceptable because it conforms to GL 87-09. Administrative controls are in place to assure that for each TS 3.0.4 relief used, remedial measures in Action statements will provide a level of safety consistent with the UFSAR and administrative controls are in place to ensure that plant startup with inoperable equipment required by LCOs will be the exception rather than routine.

Technical Specification 4.0.3

The present TS 4.0.3 states that failure to perform a Surveillance Requirement within the specified surveillance interval shall constitute a failure to meet the operability requirements for a Limiting Condition for Operation. Thus, the TS requires the immediate implementation of the shutdown actions of TS 3.0.3. In GL 87-09, the staff finds that it is overly conservative to assume that systems or components are inoperable when a surveillance requirement has not been performed. The majority of surveillances performed demonstrate that systems or components are operable. When a surveillance is missed, operability has not been verified by the performance of the required surveillance but it is likely that the equipment is operable. 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 should be based on considerations of plant conditions, adequate planning, availability of personnel, and the time required to perform the surveillance, as well as the safety significance delay in completion of the surveillance. The staff concluded that 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.

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 for 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."

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 staff recommendation and is, therefore, acceptable.

Technical Specifications 4.0.4

The present TS 4.0.4 requires that before a new Operational Condition is entered, Surveillance Requirements pertaining to the new Operational Condition are to be performed within time limits specified by TS 4.0.3. A conflict arises when Action requirements require an Operational Condition change, but the Surveillance Requirements which become applicable in the Operational Condition have not been performed within the specified interval so that TS 4.0.4 does not permit a 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 Operational Condition 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 position that 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 TS 4.0.4 to prevent passage through or to operational conditions to comply with Action requirements and it should not apply when changes are imposed by Action requirements. Accordingly, TS 4.0.4 should be modified to note that its provisions shall not prevent passage through or to operational conditions as required to comply with Action requirements. A similar provision is presently included in TS 3.0.4.

It is not the intent of TS 4.0.3 that the Action requirements should preclude the performance of surveillances when an exception to TS 4.0.4 is allowed. However, since TS 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 TS 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 through or to OPERATIONAL CONDITIONS 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 proposed Bases for TS 3.0 and TS 4.0 are essentially the same as those recommended by the staff in GL 87-09, except for editorial changes to clarify their proper interpretation by licensee's operational personnel and deletion of an ambiguous paragraph in the Bases for TS 3.0.3. The staff has reviewed these differences from GL 87-09 and concludes they are acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact was prepared and published in the Federal Register on August 10, 1990 (55 FR 32712).

Accordingly, based upon the environmental assessment, the Commission has determined that the issuance of this amendment will not have a significant impact on the quality of the human environment.

4.0 CONCLUSION

The Commission has issued a Notice of Consideration of Issuance of Amendment to Facility Operating License and Opportunity for Hearing which was published in the Federal Register on October 19, 1988 (53 FR 40980). No petition to intervene or request for hearing has been filed on this action.

The staff has 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 this amendment will not be inimical to the common defense and the security, or to the health and safety of the public.

Dated: August 14, 1990

Principal Contributor: Lester L. Kintner