

August 31, 1990

[Handwritten signature]

Docket No. 50-458

Gulf States Utilities
ATTN: Mr. James C. Deddens
Senior Vice President (RBNG)
Post Office Box 220
St. Francisville, Louisiana 70775

Dear Mr. Deddens:

DISTRIBUTION:

Docket File	EJordan
NRC PDR	GHill (4)
Local PDR	Wanda Jones
PDIV-2 Reading	JCalvo
BBoger	PDIV-2 Plant File
CGrimes	ACRS (10)
EPeyton	GPA/PA
CAbbate (2)	ARM/LFMB
OGC	LConstable, Region IV
DHagan	

SUBJECT: RIVER BEND STATION, UNIT 1 - AMENDMENT NO. 47 TO FACILITY
OPERATING LICENSE NO. NPF-47 (TAC NO. 69579)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 47 to Facility Operating License No. NPF-47 for the River Bend Station, Unit 1. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated September 30, 1988 and supplemented by two letters dated June 6, 1990, and letters dated June 26, 1990, and August 22, 1990.

The amendment modifies TSs 3.0.4, 4.0.3, and 4.0.4 based on recommendations provided in Generic Letter 87-09. Additionally, the amendment makes editorial corrections to three TSs.

A copy of our Safety Evaluation regarding the TS changes is enclosed. The Safety Evaluation also addresses the preplanned use of operating flexibility allowed by the change to TS 3.0.4 as provided in your letter dated June 6, 1990. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Original Signed By

Claudia M. Abbate, Project Engineer
Project Directorate IV-2
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 47 to NPF-47
2. Safety Evaluation

cc w/enclosures:
See next page

*For previous concurrences see attached ORC

CP-1

OFC	: PDIV-2/LA*	: PDIV-2/PE	: OGC*	: PDIV-2/D	:	:	:
NAME	: EPeyton	: CAbbate	: MYoung	: CGrimes	:	:	:
DATE	: 08/13/90	: 08/31/90	: 08/20/90	: 8/31/90:	:	:	:

OFFICIAL RECORD COPY

9009110197 900831
PDR ADOCK 05000458
PDC

DF01
11

Mr. James C. Deddens

- 2 -

August 31, 1990

cc w/enclosures:

Mark Wetterhahn, Esq.
Bishop, Cook, Purcell & Reynolds
1401 L Street, N.W.
Washington, D.C. 20005

Ms. H. Anne Plettinger
3456 Villa Rose Drive
Baton Rouge, Louisiana 70806

Mr. Les England
Director - Nuclear Licensing
Gulf States Utilities Company
P. O. Box 220
St. Francisville, Louisiana 70775

Mr. Philip G. Harris
Cajun Electric Power Coop. Inc.
10719 Airline Highway
P. O. Box 15540
Baton Rouge, Louisiana 70895

Senior Resident Inspector
P. O. Box 1051
St. Francisville, Louisiana 70775

President of West Feliciana
Police Jury
P. O. Box 1921
St. Francisville, Louisiana 70775

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Mr. J. E. Booker
Manager-Nuclear Industry Relations
P. O. Box 2951
Beaumont, Texas 77704

Mr. William H. Spell, Administrator
Radiation Protection Division
Office of Environmental Affairs
P. O. Box 14690
Baton Rouge, Louisiana 70898

Mr. J. David McNeill, III
William G. Davis, Esq.
Department of Justice
Attorney General's Office
P. O. Box 94095
Baton Rouge, Louisiana 70804-9095



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

GULF STATES UTILITIES COMPANY

DOCKET NO. 50-458

RIVER BEND STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 47
License No. NPF-47

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Gulf States Utilities Company (the licensee) dated September 30, 1988, and supplemented by two letters dated June 6, 1990, and letters dated June 26, 1990, and August 22, 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, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license 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.

9009110198 900831
PDR ADDCK 05000458
P PDC

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-47 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 47 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. GSU shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective immediately and is to be implemented no later than September 29, 1990.

FOR THE NUCLEAR REGULATORY COMMISSION

Christopher I. Grimes

Christopher I. Grimes, Director
Project Directorate IV-2
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 31, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 47

FACILITY OPERATING LICENSE NO. NPF-47

DOCKET NO. 50-458

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains a vertical line indicating the area of change. The overleaf pages are provided to maintain document completeness.

REMOVE

3/4 0-1
3/4 0-2
3/4 1-4
3/4 1-7
3/4 1-10
3/4 1-11
3/4 1-12
3/4 1-13
3/4 3-1
3/4 3-10
3/4 3-61
3/4 3-65
3/4 3-68
3/4 3-70
3/4 3-73
3/4 3-87
3/4 3-93
3/4 3-94
3/4 3-99
3/4 3-109
3/4 4-26
3/4 4-27
3/4 4-29
3/4 5-9
3/4 6-8
3/4 6-9
3/4 6-20
3/4 6-31
3/4 6-51
3/4 7-21
3/4 7-23
3/4 7-25
3/4 7-28
3/4 7-30
3/4 7-35
3/4 8-25
3/4 8-33
3/4 9-18

INSERT

3/4 0-1
3/4 0-2
3/4 1-4
3/4 1-7
3/4 1-10
3/4 1-11
3/4 1-12
3/4 1-13
3/4 3-1
3/4 3-10
3/4 3-61
3/4 3-65
3/4 3-68
3/4 3-70
3/4 3-73
3/4 3-87
3/4 3-93
3/4 3-94
3/4 3-99
3/4 3-109
3/4 4-26
3/4 4-27
3/4 4-29
3/4 5-9
3/4 6-8
3/4 6-9
3/4 6-20
3/4 6-31
3/4 6-51
3/4 7-21
3/4 7-23
3/4 7-25
3/4 7-28
3/4 7-30
3/4 7-35
3/4 8-25
3/4 8-33
3/4 9-18

REMOVE

3/4 11-4
3/4 11-5
3/4 11-11
3/4 11-12
3/4 11-13
3/4 11-14
3/4 11-17
3/4 11-18
3/4 12-2
3/4 12-13
3/4 12-14
B3/4 0-1
B3/4 0-2
B3/4 0-3

INSERT

3/4 11-4
3/4 11-5
3/4 11-11
3/4 11-12
3/4 11-13
3/4 11-14
3/4 11-17
3/4 11-18
3/4 12-2
3/4 12-13
3/4 12-14
B3/4 0-1
B3/4 0-2
B3/4 0-3
B3/4 0-4
B3/4 0-5
B3/4 0-6

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, action shall be initiated within 1 hour 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 CONDITIONS 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 surveillance interval with a maximum allowable extension not to exceed 25 percent of the specified surveillance interval.

4.0.3 Failure to perform a Surveillance Requirement within allowed surveillance interval, defined by Specification 4.0.2, shall constitute non-compliance 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:

REACTIVITY CONTROL SYSTEMS

3/4.1.3 CONTROL RODS

CONTROL ROD OPERABILITY

LIMITING CONDITION FOR OPERATION

3.1.3.1 All control rods shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

- a. With one control rod inoperable, due to being immovable as a result of excessive friction or mechanical interference, or known to be untrippable:
 1. Within one hour:
 - a) Verify that the inoperable control rod, if withdrawn, is separated from all other inoperable control rods by at least two control cells in all directions.
 - b) Disarm the associated directional control valves* either:
 - 1) Electrically, or
 - 2) Hydraulically by closing the drive water and exhaust water isolation valves.

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.
 2. Restore the inoperable control rod to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.
- b. With one or more control rods trippable but inoperable for causes other than addressed in ACTION a, above:
 1. If the inoperable control rod(s) is withdrawn, within one hour:
 - a) Verify that the inoperable withdrawn control rod(s) is separated from all other inoperable withdrawn control rods by at least two control cells in all directions, and
 - b) Demonstrate the insertion capability of the inoperable withdrawn control rod(s) by inserting the control rod(s) at least one notch by drive water pressure within the normal operating range**.

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

**The inoperable control rod may then be withdrawn to a position no further withdrawn than its position when found to be inoperable.

REACTIVITY CONTROL SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION (Continued)

Otherwise, insert the inoperable withdrawn control rod(s) and disarm the associated directional control valves* either:

- a) Electrically, or
 - b) Hydraulically by closing the drive water and exhaust water isolation valves.
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 at 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

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

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

REACTIVITY CONTROL SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

4. No "slow" control rod, "fast" control rod with individual scram insertion time in excess of the limits of ACTION a.2, or otherwise inoperable control rod occupies an adjacent location in any direction, including the diagonal, to another such control rod.

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

- 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 5.

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

REACTIVITY CONTROL SYSTEMS

SURVEILLANCE REQUIREMENTS

4.1.3.2 The maximum scram 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.

*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

CONTROL ROD SCRAM ACCUMULATORS

LIMITING CONDITION FOR OPERATION

3.1.3.3 All control rod scram accumulators shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 5*.

ACTION:

a. In OPERATIONAL CONDITIONS 1 or 2:

1. With one control rod scram accumulator inoperable, within 8 hours:

- a) Restore the inoperable accumulator to OPERABLE status, or
- b) Declare the control rod associated with the inoperable accumulator inoperable.

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

2. With more than one control rod scram accumulator inoperable, declare the associated control rods inoperable and:

- a) If the control rod associated with any inoperable scram accumulator is withdrawn, immediately verify that at least one control rod drive pump is operating by inserting at least one withdrawn control rod at least one notch or place the reactor mode switch in the Shutdown position.
- b) Insert the inoperable control rods and disarm the associated directional control valves either:
 - 1) Electrically, or
 - 2) Hydraulically by closing the drive water and exhaust water isolation valves.

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

b. In OPERATIONAL CONDITION 5*:

- 1. With one withdrawn control rod with its associated scram accumulator inoperable, insert the affected control rod and disarm the associated directional control valves within one hour, either:

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

REACTIVITY CONTROL SYSTEMS

CONTROL ROD SCRAM ACCUMULATORS

LIMITING CONDITION FOR OPERATION

ACTION: (Continued)

- a) Electrically, or
 - b) Hydraulically by closing the drive water and exhaust water isolation valves.
2. With more than one withdrawn control rod with the associated scram accumulator inoperable and with no control rod drive pump operating, immediately place the reactor mode switch in the Shutdown position.
 3. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.1.3.3 Each control rod scram accumulator shall be determined OPERABLE:

- a. At least once per 7 days by verifying that the indicated pressure is greater than or equal to 1520 psig unless the control rod is inserted and disarmed or scrambled.
- b. At least once per 18 months by:
 1. Performance of a:
 - a) CHANNEL FUNCTIONAL TEST of the leak detectors, and
 - b) CHANNEL CALIBRATION of the pressure detectors, and verifying an alarm setpoint of \geq 1520 psig on decreasing pressure.
 2. Measuring and recording the time for up to 10 minutes that each individual accumulator check valve maintains the associated accumulator pressure above the alarm set point with no control rod drive pump operating.

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.
 - c) The provisions of Specification 3.0.4 are not applicable.
 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

*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 DRIVE COUPLING

LIMITING CONDITION FOR OPERATION

ACTION: (Continued)

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.

SURVEILLANCE REQUIREMENTS

4.1.3.4 Each affected control rod shall be demonstrated to be coupled to its drive mechanism by observing any indicated response of the nuclear instrumentation while withdrawing the control rod to the fully withdrawn position and then verifying that the control rod drive does not go to the overtravel position:

- a. Prior to reactor criticality after completing CORE ALTERATIONS that could have affected the control rod drive coupling integrity,
- b. Anytime the control rod is withdrawn to the "Full out" position in subsequent operation, and
- c. Following maintenance on or modification to the control rod or control rod drive system which could have affected the control rod drive coupling integrity.

*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 The 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 an 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.
- Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.
- b. In OPERATIONAL CONDITION 5* with no position indicators of a withdrawn control rod OPERABLE, 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.

REACTIVITY CONTROL SYSTEMS

SURVEILLANCE REQUIREMENTS

4.1.3.5 The control rod position indication system shall be determined OPERABLE by verifying:

- a. At least once per 24 hours that the position of each control rod is indicated, and
- b. That the indicated control rod position changes during the movement of the control rod drive when performing Surveillance Requirement 4.1.3.1.2.

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(s) and/or that trip system in the tripped condition* within one hour.
- 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 2 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. The requirement to place a trip system in the tripped condition does not apply to Functional Units 6 and 10 of Table 3.3.1-1.

***Logic System Functional Test period may be extended as identified by note 'p' on Table 4.3.1.1-1.

TABLE 3.3.1-1
REACTOR PROTECTION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>APPLICABLE OPERATIONAL CONDITIONS</u>	<u>MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a)</u>	<u>ACTION</u>
1. Intermediate Range Monitors:			
a. Neutron Flux - High	2 3 5(b) ⁴	3 3 3	1 2 3
b. Inoperative	2 3, 4 5	3 3 3	1 2 3
2. Average Power Range Monitor (c):			
a. Neutron Flux - High, Setdown	2 3 5(b) ⁴	3 3 3	1 2 3
b. Flow Biased Simulated Thermal Power - High	1	3	4
c. Neutron Flux - High	1	3	4
d. Inoperative	1, 2 3, 4 5	3 3 3	1 2 3
3. Reactor Vessel Steam Dome Pressure - High	1, 2 ^(d)	2	1
4. Reactor Vessel Water Level - Low, Level 3	1, 2	2	1
5. Reactor Vessel Water Level-High, Level 8	1(e)	2	4
6. Main Steam Line Isolation Valve - Closure	1(e)	4	10
7. Main Steam Line Radiation - High	1, 2 ^(d)	2	5
8. Drywell Pressure - High	1, 2 ^(f)	2	1

TABLE 4.3.1.1-1 (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

- (f) The LPRMs shall be calibrated at least once per 1000 effective full power hours (EFPH) using the TIP system.
- (g) Calibrate Rosemount trip unit setpoint at least once per 31 days.
- (h) Verify measured drive flow to be less than or equal to established drive flow at the existing flow control valve position.
- (i) This calibration shall consist of verifying the simulated thermal power time constant is within the limits specified in the COLR.
- (j) This function is not required to be OPERABLE when the reactor pressure vessel head is removed per Specification 3.10.1.
- (k) With any control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.
- (l) This function is not required to be OPERABLE when DRYWELL INTEGRITY is not required per Specification 3.10.1.
- (m) Verify the Turbine Bypass Valves are closed when THERMAL POWER is greater than or equal to 40% RATED THERMAL POWER.
- (n) The CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION shall include the turbine first stage pressure instruments.
- (o) The CHANNEL CALIBRATION shall exclude the flow reference transmitters; these transmitters shall be calibrated at least once per 18 months.
- (p) This period may be extended to the first refueling outage, not to exceed 9-15-87.

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.

*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 3.3.6-1 (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.

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 SRM required OPERABLE per Specification 3.9.2.
- (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.

TABLE 3.3.6-2
CONTROL BLOCK INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
1. <u>ROD PATTERN CONTROL SYSTEM</u>		
a. Low Power Setpoint	$27.5 \pm 3\%$ of RATED THERMAL POWER	$27.5 \pm 7.5\%$ of RATED THERMAL POWER
b. High Power Setpoint	$\leq 67.9\%$ of RATED THERMAL POWER	$\leq 68.2\%$ of RATED THERMAL POWER
2. <u>APRM</u>		
a. Flow Biased Neutron Flux Upscale		
1) Two Recirculation Loop Operation	$\leq 0.66W + 42\%^*$	$\leq 0.66W + 45\%^*$
2) Single Recirculation Loop Operation	$\leq 0.66W + 36.7\%^*$	$\leq 0.66W + 39.7\%^*$
b. Inoperative	NA	NA
c. Downscale	$\geq 5\%$ of RATED THERMAL POWER	$\geq 3\%$ of RATED THERMAL POWER
d. Neutron Flux - Upscale Startup	$\leq 12\%$ of RATED THERMAL POWER	$\leq 14\%$ of RATED THERMAL POWER
3. <u>SOURCE RANGE MONITORS</u>		
a. Detector not full in	NA	NA
b. Upscale	$< 1 \times 10^5$ cps	$< 1.6 \times 10^5$ cps
c. Inoperative	NA	NA
d. Downscale	≥ 0.7 cps	≥ 0.5 cps**
4. <u>INTERMEDIATE RANGE MONITORS</u>		
a. Detector not full in	NA	NA
b. Upscale	$\leq 108/125$ division of full scale	$\leq 110/125$ division of full scale
c. Inoperative	NA	NA
d. Downscale	$\geq 5/125$ division of full scale	$\geq 3/125$ division of full scale
5. <u>SCRAM DISCHARGE VOLUME</u>		
a. Water Level-High - LISN602A	$< 18.00''$	$< 21.12''$
LISN602B	$\leq 18.00''$	$\leq 21.60''$
6. <u>REACTOR COOLANT SYSTEM RECIRCULATION FLOW</u>		
a. Upscale	$\leq 108\%$ of rated flow	$\leq 111\%$ of rated flow

*The Average Power Range Monitor rod block function is varied as a function of recirculation loop flow (W).

The trip setting of this function must be maintained in accordance with Specification 3.2.2.

**Provided signal to noise ratio is ≥ 2 , otherwise setpoint of 3 cps and allowable 1.8 cps.

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.

TABLE 3.3.7.1-1

RADIATION MONITORING INSTRUMENTATION

<u>INSTRUMENTATION</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE CONDITIONS</u>	<u>ALARM/TRIP SETPOINT</u>	<u>ACTION</u>
1. Main Control Room Ventilation Radiation Monitor				
a. Local Intake	2	1,2,3,5 and *	$< 0.97 \times 10^{-5} \mu\text{Ci/cc}$ (a)	70
b. Remote Intake	1	1,2,3,5 and *	$\leq 0.97 \times 10^{-5} \mu\text{Ci/cc}$ (a)	71
2. Area Monitor				
a. Fuel Building Spent Fuel Storage Pool	1	#	$\leq 15 \text{ mR/hr}$ (a)	71
3. Main Condenser Offgas Post-Treatment System Effluent Monitoring System				
a. Noble Gas Activity Monitor - (Providing Alarm and Automatic Termination of Release)	1	**	$\leq 5.08 \times 10^5 \text{ cpm}$	72
4. Condenser Air Ejector Pretreatment Radioactivity Monitor (Prior to Input to Holdup System)				
a. Noble Gas Activity Monitor	1	**	$\leq 2.48 \times 10^4 \text{ mR/hr}$ (a)	73

TABLE 3.3.7.1-1 (Continued)
RADIATION MONITORING INSTRUMENTATION

TABLE NOTATION

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

**During operation of the main condenser air ejector.

(a) Alarm only.

#With fuel in the spent fuel storage pool.

TABLE 3.3.7.1-1 (Continued)

RADIATION MONITORING INSTRUMENTATION

ACTION

ACTION 70 -

- a. With one of the required monitors inoperable, restore the inoperable channel to OPERABLE status within 7 days*, or, within the next 6 hours, initiate and maintain operation of the control room air conditioning system in the emergency mode of operation.
- b. With both of the required monitors inoperable, initiate and maintain operation of the control room air conditioning system in the emergency mode of operation within one hour.

ACTION 71 - With the required monitor inoperable, perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours.

ACTION 72 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided grab samples are taken at least once per 12 hours and these samples are analyzed for gross activity within 24 hours.*

ACTION 73 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, releases may continue to the environment for up to 72 hours* provided:

- a. The offgas system is not bypassed, and
- b. At least one post treatment noble gas activity effluent monitor is OPERABLE;

Otherwise, be in at least STARTUP within 12 hours.

*The provisions of Specification 3.0.4 are not applicable.

TABLE 4.3.7.1-1

MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENTATION</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>CONDITIONS IN WHICH SURVEILLANCE REQUIRED</u>
1. Main Control Room Ventilation Radiation Monitor				
a. Local Intake	S	M	R	1, 2, 3, 5 and *
b. Remote Intake	S	M	R	1, 2, 3, 5 and *
2. Area Monitor				
a. Fuel Building Spent Fuel Storage Pool	S	M	R	#
3. Main Condenser Offgas Post-Treatment System Effluent Monitoring System				
a. Noble Gas Activity Monitor - (Providing Alarm and Auto- matic Termination of Release)	D	Q	R	**
4. Condenser Air Ejector Pretreatment Radioactivity Monitor				
a. Noble Gas Activity Monitor	D	Q	R	**

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

**During operation of the main condenser air ejector.

#With fuel in the spent fuel storage pool.

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 within the next 10 days a Special Report to the Commission, pursuant to Specification 6.9.2, 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 0.01g 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. Within 10 days, a Special Report shall be prepared and submitted to the Commission, pursuant to Specification 6.9.2, 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 meteorological monitoring instrumentation channels inoperable for more than 7 days, prepare and submit within the next 10 days a Special Report to the Commission, pursuant to Specification 6.9.2, 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.

TABLE 3.3.7.3-1

METEOROLOGICAL MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM INSTRUMENTS OPERABLE</u>
a. Wind Speed	
1. Elev. 30 ft.	1
2. Elev. 150 ft.	1
b. Wind Direction	
1. Elev. 30 ft.	1
2. Elev. 150 ft.	1
c. Air Temperature Difference	
1. Elev. 30/150 ft.	1

INSTRUMENTATION

FIRE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.7.8 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3.7.8-1 shall be OPERABLE.

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

ACTION:

- a. With any, but no more than one-half the total in any fire zone, Function A fire detection instruments shown in Table 3.3.7.8-1 inoperable, restore the inoperable Function A instrument(s) to OPERABLE status within 14 days or, within the next hour, establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour. If the instrument(s) is located inside the containment, inspect that containment zone at least once per 8 hours or monitor the containment air temperature at least once per hour at the locations listed in Specification 4.6.1.8 and 4.6.2.6.
- b. With more than one-half of the Function A fire detection instruments in any fire zone shown in Table 3.3.7.8-1 inoperable, or with any Function B fire detection instruments shown in Table 3.3.7.8-1 inoperable, or with any two or more adjacent instruments shown in Table 3.3.7.8-1 inoperable, within 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour. If the instrument(s) is located inside the containment, inspect that containment zone at least once per 8 hours or monitor the containment air temperature at least once per hour at the locations listed in Specification 4.6.1.8 and 4.6.2.6.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.7.8.1 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.

4.3.7.8.2 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.

TABLE 3.3.7.8-1

FIRE DETECTION INSTRUMENTATION

<u>INSTRUMENT LOCATION</u>		<u>TOTAL INSTRUMENTS OPERABLE*</u>		
		<u>HEAT</u> (x/y)	<u>FLAME</u> (x/y)	<u>SMOKE</u> (x/y)
I. <u>CONTROL BUILDING</u>				
<u>ZONE</u>				
SD-1	HVAC ROOM, EL 115'0" & 116'0"			6/0
SD-2	HPCS SWGR, EL 115'0" & 116'0"			3/0
SD-3	BATTERY ROOMS (3) & DC EQUIP RMS, EL 115'0" & 116'0"			8/0
SD-4	HVAC ROOM, EL 98'0"			6/0
SD-5	STBY SWGR ROOM B, EL 98'0"			3/0
SD-6	STBY SWGR ROOM A, EL 98'0"			3/0
SD-15	HVAC ROOM 1A, EL 70'0"			2/0
SD-16	HVAC ROOM 1B, EL 70'0"			2/0
SD-17	CABLE VAULT, EL 70'0"			0/3
SD-18	CABLE VAULT, EL 70'0"			0/4
SD-19	CABLE VAULT, EL 70'0"			0/9
SD-20	CABLE CHASES, EL 70'0"			17/0
SD-50	CABLE CHASES, EL 98'0"			9/0
SD-54	CABLE CHASES, EL 116'0"			10/0
SD-60	125 VDC SWGR & BATT CHGR, EL 115'0" & 116'0"			10/0
SD-61	GENERAL AREA, EL 98'0"			8/0
SD-125	PGCC PANEL MODULE, EL 136'0"	0/8		10/0
SD-126	PGCC PANEL MODULE, EL 136'0"	0/8		13/0
SD-127	PGCC PANEL MODULE, EL 136'0"	0/8		11/0
SD-128	PGCC PANEL MODULE, EL 136'0"	0/8		9/0
SD-129	PGCC PANEL MODULE, EL 136'0"	0/9		12/0
SD-130	PGCC PANEL MODULE, EL 136'0"	0/8		11/0
SD-131	PGCC PANEL MODULE, EL 136'0"	0/9		17/0
SD-132	PGCC PANEL MODULE, EL 136'0"	0/8		17/0
SD-133	PGCC PANEL MODULE, EL 136'0"	0/8		13/0
SD-134	PGCC PANEL MODULE, EL 136'0"	0/8		12/0
SD-135	PGCC PANEL MODULE, EL 136'0"	0/8		9/0
SD-136	PGCC PANEL MODULE, EL 136'0"	0/9		9/0
SD-137	PGCC PANEL MODULE, EL 136'0"	0/8		8/0
SD-138	PGCC PANEL MODULE, EL 136'0"	0/8		10/0
SD-139	PGCC PANEL MODULE, EL 136'0"	0/12		12/0
SD-140	PGCC PANEL MODULE, EL 136'0"	0/8		14/0
SD-141	PGCC PANEL MODULE, EL 136'0"	0/8		13/0
SD-142	PGCC PANEL MODULE, EL 136'0"	0/9		16/0

* (x/y): x is number of Function A (early warning fire detection and notification only) instruments.
y is number of Function B (actuation of fire suppression systems and early warning fire detection).

INSTRUMENTATION

LOOSE-PART DETECTION SYSTEM

LIMITING CONDITION FOR OPERATION

3.3.7.9 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 within the next 10 days a Special Report to the Commission, pursuant to Specification 6.9.2, 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

4.3.7.9 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

3.3.7.10 The radioactive liquid effluent monitoring instrumentation channels shown in Table 3.3.7.10-1 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 and adjusted in accordance with the methodology and parameters in the OFFSITE DOSE CALCULATION MANUAL (ODCM).

APPLICABILITY: At all times.

ACTION:

- a. With a radioactive liquid effluent monitoring instrumentation channel alarm/trip setpoint less conservative than required by the above Specification, immediately suspend the release of radioactive liquid effluents monitored by the affected channel, or declare the channel inoperable.
- b. With less than the minimum number of radioactive liquid effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3.7.10-1. Restore the inoperable instrumentation to OPERABLE status within the time specified in ACTION or explain in the next Semiannual Radioactive Effluent Release Report why this inoperability was not corrected within the time specified. The provisions of Specification 3.0.4 are not applicable.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.7.10 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 4.3.7.10-1.

INSTRUMENTATION

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.7.11 The radioactive gaseous 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 3.11.2.1 are not exceeded. The alarm/trip setpoints of these channels shall be determined and adjusted in accordance with the methodology and parameters in the ODCM.

APPLICABILITY: As shown in Table 3.3.7.11-1.

ACTION:

- a. With a radioactive gaseous effluent monitoring instrumentation channel alarm/trip* setpoint less conservative than required by the above Specification, immediately suspend the release of radioactive gaseous effluents monitored by the affected channel, or declare the channel inoperable.
- b. With less than the minimum number of radioactive gaseous effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3.7.11-1. Restore the inoperable instrumentation to OPERABLE status within the time specified in the ACTION or explain in the next Semiannual Radioactive Effluent Release Report why this inoperability was not corrected within the time specified. The provisions of Specification 3.0.4 are not applicable.
- c. The provisions of Specification 3.0.3 are not applicable.

SUREVEILLANCE REQUIREMENTS

4.3.7.11 Each radioactive gaseous 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.

*The alarm/trip setpoints for the Explosive Gas Mixture in the Main Condenser Offgas Treatment System are set in accordance with Specification 3.11.2.6.

TABLE 3.3.7.11-1RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
1. Main Condenser Offgas Treatment System Explosive Gas Monitoring System (for systems designed to withstand the effects of a hydrogen explosion)			
a. Hydrogen Analyzers (downstream of the recombiner)	1	**	123
2. Main Plant Exhaust Duct Monitoring System			
a. Noble Gas Activity Monitor	1	*	122
b. Iodine Sampler	1	*	124
c. Particulate Sampler	1	*	124
d. Effluent System Flow Rate Monitor	1	*	121
e. Sampler Flow Rate Monitor	1	*	121

TABLE 3.3.9-1 (Continued)

- ACTION 150 - a. With one channel inoperable, place the inoperable channel in the tripped condition# within one hour or declare the associated system inoperable.
- b. With more than one channel inoperable, declare the associated system inoperable.
- ACTION 151 - 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 HOT SHUTDOWN within 12 hours and COLD SHUTDOWN within the following 24 hours.
- b. With the number of OPERABLE channels two less than required by the Minimum OPERABLE Channels requirement, restore at least one of the inoperable channels to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within 12 hours and COLD SHUTDOWN within the following 24 hours.
- ACTION 152 - Declare the associated Containment Ventilation System inoperable.
- ACTION 153 - 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 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.

#Provided this does not actuate the system.

TABLE 3.3.9-2PLANT SYSTEMS ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
1. <u>PRIMARY CONTAINMENT VENTILATION SYSTEM - UNIT COOLER A AND B</u>		
a. Drywell Pressure-High	≤ 1.68 psig	≤ 1.88 psig
b. Containment-to-Annulus ΔP -High	-11.98 ± 0.22 " H ₂ O	$-11.98 \pm 0.27, - 0.31$ " H ₂ O
c. Reactor Vessel Water Level-Low Low Low Level 1	>-143 inches*	>-147 inches
d. Timer	600 ± 35 seconds	600 ± 45 seconds
2. <u>FEEDWATER SYSTEM/MAIN TURBINE TRIP SYSTEM</u>		
a. Reactor Vessel Water Level-High Level 8	≤ 51 inches*	≤ 52.5 inches

*See Bases Figure B 3/4 3-1.

REACTOR COOLANT SYSTEM

REACTOR STEAM DOME

LIMITING CONDITION FOR OPERATION

3.4.6.2 The pressure in the reactor steam dome shall be less than 1045 psig.

APPLICABILITY: OPERATIONAL CONDITIONS 1* and 2*.

ACTION:

With the reactor steam dome pressure exceeding 1045 psig, reduce the pressure to less than 1045 psig within 15 minutes or be in at least HOT SHUTDOWN within 12 hours.

SURVEILLANCE REQUIREMENTS

4.4.6.2 At least once per 12 hours, the reactor steam dome pressure shall be verified to be less than 1045 psig.

*Not applicable during anticipated transients.

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 seconds and less than or equal to 5 seconds.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

With one or more MSIVs inoperable, 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.

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 At least once per 18 months, 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.

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 not conforming to the above requirements, restore the structural integrity of the affected component to within its limit or isolate the affected component 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 not conforming to the above requirements, restore the structural integrity of the affected component to within its limit or isolate the affected component prior to increasing the Reactor Coolant System temperature above 200°F.
- c. With the structural integrity of any ASME Code Class 3 component not conforming to the above requirements, restore the structural integrity of the affected component to within its limit or isolate the affected component from service.

SURVEILLANCE REQUIREMENTS

4.4.8 No requirements other than Specification 4.0.5.

REACTOR COOLANT SYSTEM

3/4.4.9 RESIDUAL HEAT REMOVAL

HOT SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.9.1 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. Two OPERABLE RHR heat exchangers.

APPLICABILITY: OPERATIONAL CONDITION 3, with reactor vessel pressure less than the RHR Cut-in permissive setpoint.

ACTION:

- a. With less than the above required RHR shutdown cooling mode loops OPERABLE, immediately initiate corrective action to return the required loops to OPERABLE status as soon as possible. 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. Be in at least COLD SHUTDOWN within 24 hours.**
- b. With no RHR shutdown cooling mode loop or recirculation pump in operation, immediately initiate corrective action to return at least one RHR shutdown cooling loop or recirculation pump to operation as soon as possible. Within one hour establish reactor coolant circulation by an alternate method and monitor reactor coolant temperature and pressure at least once per hour.
- c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

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

#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 or at least one recirculation pump is 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 RHR shutdown cooling mode loop may be removed from operation during hydrostatic testing.

**Whenever two or more RHR 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.

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. Two OPERABLE RHR heat exchangers.

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

#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 or at least one recirculation pump is 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.

EMERGENCY CORE COOLING SYSTEMS

ACTION (Continued)

- c. With one SPPS subsystem inoperable, restore the SPPS subsystem to OPERABLE status within 31 days or demonstrate the OPERABILITY of the remaining SPPS subsystem at least once per 31 days by:
 1. A functional test of the crescent area sump pump, and
 2. Demonstrating that the associated flow path can be aligned to the suppression pool.
- d. With both SPPS subsystems inoperable, restore one SPPS subsystem to OPERABLE status within 7 days or:
 1. In OPERATIONAL CONDITION 1, 2, or 3 be in at least HOT SHUTDOWN within the next 12 hours and COLD SHUTDOWN within the following 24 hours.
 2. In OPERATIONAL CONDITION 4 or 5* provide at least one alternate pumpback method and demonstrate the OPERABILITY of an alternate method within 24 hours and at least once per 24 hours thereafter, otherwise 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 PRIMARY CONTAINMENT INTEGRITY - FUEL HANDLING within 8 hours.

SURVEILLANCE REQUIREMENTS

4.5.3.1 The suppression pool shall be determined OPERABLE by verifying the water level to be greater than or equal to, as applicable:

- a. 19'6", at least once per 24 hours, in OPERATIONAL CONDITION 1, 2 and 3.
- b. 13'3", at least once per 12 hours, in OPERATIONAL CONDITION 4 and 5.

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.

4.5.3.3 At least once per 92 days, the SPPS shall be demonstrated OPERABLE by:

- a. Verifying each crescent area sump pump develops 50gpm, and
- b. Verifying the flow path can be aligned to the suppression pool.

*The suppression pool is not required to be OPERABLE in OPERATIONAL CONDITION 5 provided that the reactor vessel head is removed, the cavity is flooded, the upper containment fuel pool gate is open, and the water level is maintained within the limits of Specifications 3.9.8 and 3.9.9.

TABLE 3.6.1.3-1

ANNULUS BYPASS LEAKAGE PATHS

1. LEAKAGE PATHS TO THE FUEL BUILDING (6750 cc/hr limit)

PENETRATION

Containment air lock 1JRB*DRA2

2. LEAKAGE PATHS TO THE AUXILIARY BUILDING (6750 cc/hr limit)

<u>PENETRATION</u>	<u>VALVE NO. (DIV. I)</u>	<u>VALVE NO. (DIV. II)</u>
1KJB*Z31	1HVR*A0V165	1HVR*A0V123
1KJB*605E	1CMS*S0V31A	1CMS*S0V35C
1KJB*605F	1CMS*S0V31C	1CMS*S0V35A
1KJB*601B	1SSR*S0V131	1SSR*S0V130
Containment air lock	1JRB*DRA1	
CRD removal hatch	--	

CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION

3.6.1.4 Each primary containment air lock shall be OPERABLE with:

- a. Both doors closed, except at least one air lock door shall be closed when the air lock is being used for normal transit entry and exit through the containment, and
- b. An overall air lock leakage rate in compliance with the limits of Specification 3.6.1.3.d when pressurized to Pa, 7.6 psig, and
- c. The inflatable seal system air flask pressure \geq 90 psig.

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

ACTION:

- a. With one primary containment air lock door in one or both air locks 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 except as provided in a.3.
 2. With an air lock door in only one air lock inoperable, operation may then continue until performance of the next required overall air lock leakage test** provided that the OPERABLE air lock door is verified to be locked closed at least once per 31 days.
 3. With one air lock door in each air lock inoperable, operation may then continue with entry and exit permitted for up to 7 days** provided that an OPERABLE air lock door is verified to be locked closed after each entry or exit and an individual is dedicated to assure that two doors in an air lock are not opened simultaneously.
 4. Otherwise, in OPERATIONAL CONDITIONS 1, 2, or 3 be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
 5. Otherwise, in Operational Condition #, suspend all operations involving handling of irradiated fuel in the containment, CORE ALTERATIONS, and operations with a potential for draining the reactor vessel.

*See Special Test Exception 3.10.1.

**The provisions of Specification 3.0.4 are not applicable.

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

CONTAINMENT SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

- b. With the interlock mechanism inoperable:
 - 1. Maintain at least one OPERABLE air lock door closed and either return the interlock to service within 24 hours or lock one OPERABLE air lock door closed.
 - 2. Personnel entry and exit through the air lock is permitted provided one OPERABLE air lock door remains locked at all times and an individual is dedicated to assure that two doors are not open simultaneously.
- c. With a primary containment air lock inoperable, except as a result of an inoperable air lock door or an inoperable interlock mechanism, maintain at least one air lock door closed; restore the inoperable air lock to OPERABLE status within 24 hours or:
 - 1. In OPERATIONAL CONDITIONS 1, 2, or 3, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
 - 2. In Operational Condition #, suspend all operations involving handling of irradiated fuel in the containment, CORE ALTERATIONS, and operations with a potential for draining the reactor vessel.
- d. With one primary containment air lock door inflatable seal system air flash pressure instrumentation channel inoperable, restore the inoperable channel to OPERABLE status within 7 days or verify, at least once per 12 hours, air flask pressure to be ≥ 90 psig.

SURVEILLANCE REQUIREMENTS

- 4.6.1.4 Each primary containment air lock shall be demonstrated OPERABLE:
- a. Within 72 hours** following each closing, except at least once per 72 hours** when the air lock is being used for multiple entries, by verifying seal leakage rate is in compliance with the limits in Specification 3.6.1.3.d when the gap between the door seals is pressurized to Pa, 7.6 psig.
 - b. By conducting an overall air lock leakage test at Pa, 7.6 psig, and verifying that the overall air lock leakage rate is within its limit:
 - 1. At least once per 6 months,**

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

**The provisions of Specification 4.0.2 are not applicable.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

2. Prior to establishing PRIMARY CONTAINMENT INTEGRITY - OPERATING when the air lock has been used or when maintenance has been performed on the air lock that could affect the air lock sealing capability.
- c. At least once per 6 months by verifying that only one door in each air lock can be opened at a time.
- d. By verifying the door inflatable seal system OPERABLE by:
 1. At least once per 7 days, verifying seal air flask pressure to be greater than or equal to 90 psig.
 2. At least once per 18 months, conducting a seal pneumatic system leak test and verifying that system pressure does not decay more than 1.28 psig from 90 psig within 24 hours.

CONTAINMENT SYSTEMS

DRYWELL BYPASS LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.2.2 Drywell bypass leakage shall be less than or equal to 10% of the acceptable A/\sqrt{k} design value of 1.0 ft².

APPLICABILITY: When DRYWELL INTEGRITY is required per Specification 3.6.2.1.

ACTION:

With the drywell bypass leakage greater than 10% of the acceptable A/\sqrt{k} design value of 1.0 ft², restore the drywell bypass leakage to within the limit prior to increasing reactor coolant system temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.2.2 At least once per 18 months*, the drywell bypass leakage rate test shall be conducted at an initial differential pressure of 3.0 psid and the A/\sqrt{k} shall be calculated from the measured leakage. One drywell airlock door shall remain open during the drywell leakage test such that each drywell door is leak tested during at least every other leakage rate test.

- a. If any drywell bypass leakage test fails to meet the specified limit, the schedule for subsequent tests shall be reviewed and approved by the Commission. If two consecutive tests fail to meet the limit, a test shall be performed at least every 9 months until two consecutive tests meet the limit, at which time the 18 month test schedule may be resumed.

*For the first cycle only, this may be extended to coincide with the refueling outage, scheduled to begin September 15, 1987.

CONTAINMENT SYSTEMS

DRYWELL AIR LOCKS

LIMITING CONDITION FOR OPERATION

3.6.2.3 The drywell air lock shall be OPERABLE with:

- a. Both doors closed except that, when the air lock is being used for normal transit entry and exit through the drywell, at least one air lock door shall be closed, and
- b. An overall air lock leakage rate of less than or equal to 11.85 scf per hour at 3.0 psid, and
- c. The inflatable seal system air flask pressure \geq 75 psig.

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

ACTION:

- a. With one drywell air lock door inoperable, 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 inoperable drywell air lock door inflatable seal system air flask pressure instrumentation channel, restore the inoperable channel to OPERABLE status within 7 days or verify air flask pressure to be \geq 75 psig at least once per 12 hours.

*See Special Test Exception 3.10.1.

CONTAINMENT SYSTEMS

3/4.6.4 PRIMARY CONTAINMENT AND DRYWELL ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.4 The primary containment and drywell isolation valves 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, and 3.

ACTION:

With one or more of the primary 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, and declare the associated system inoperable, if applicable, and perform the associated ACTION statements for that system,* or
- c. Isolate each affected penetration by use of at least one closed manual valve or blind flange and declare the associated system inoperable, if applicable, and perform the associated ACTION statements for that system.*

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

SURVEILLANCE REQUIREMENTS

4.6.4.1 Each isolation valve shown in Table 3.6.4-1 shall be demonstrated OPERABLE prior to returning the valve to service, after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit, by cycling the valve through at least one complete cycle of full travel and verifying the specified isolation time.

4.6.4.2 Each automatic isolation valve shown in Table 3.6.4-1 shall be demonstrated OPERABLE during COLD SHUTDOWN or REFUELING at least once per 18 months[#] by verifying that, on an isolation test signal, each automatic isolation valve actuates to its isolation position.

*Isolation valves closed to satisfy these requirements may be reopened on an intermittent basis under administrative controls.

[#]The specified 18 month interval during the first operating cycle may be extended to coincide with completion of the first refueling outage scheduled to begin 9-15-87 for those items noted on Table 3.6.4-1.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.6.4.3 The isolation time of each power operated or automatic valve shown in Table 3.6.4-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

CONTAINMENT SYSTEMS

SECONDARY CONTAINMENT AUTOMATIC ISOLATION DAMPERS

LIMITING CONDITION FOR OPERATION

3.6.5.3 The secondary containment ventilation system automatic isolation dampers shown in Table 3.6.5.3-1 shall be OPERABLE with isolation times less than or equal to the times shown in Table 3.6.5.3-1.

APPLICABILITY: As shown in Table 3.6.5.3-1.

ACTION:

With one or more of the secondary containment ventilation system automatic isolation dampers shown in Table 3.6.5.3-1 inoperable, maintain at least one isolation damper OPERABLE in each affected penetration that is open and, within 8 hours, either:

- a. Restore the inoperable damper(s) to OPERABLE status, or
- b. Isolate each affected penetration by use of at least one deactivated automatic damper secured in the isolation position and declare the associated system inoperable, if applicable, and perform the associated ACTION statements for that system, or
- c. Isolate each affected penetration by use of at least one closed manual valve or blind flange and declare the associated system inoperable, if applicable, and perform the associated ACTION statements for that system.

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 Fuel Building. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.5.3 Each secondary containment ventilation system automatic isolation damper shown in Table 3.6.5.3-1 shall be demonstrated OPERABLE:

- a. Prior to returning the damper to service after maintenance, repair or replacement work is performed on the damper or its associated actuator, control or power circuit, by cycling the damper through at least one complete cycle of full travel and verifying the specified isolation time.

##When irradiated fuel is being handled in the Fuel Building.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. At least once per 18 months^{###}, during COLD SHUTDOWN or REFUELING, by verifying that, on a containment isolation test signal, each isolation damper actuates to its isolation position.
- c. By verifying the isolation time to be within its limit when tested pursuant to Specification 4.0.5.

^{###} The specified 18 month interval during the first operating cycle may be extended to coincide with completion of the first refueling outage, scheduled to begin 9-15-87.

PLANT SYSTEMS

SPRAY AND/OR SPRINKLER SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.6.2 The following spray and sprinkler systems shall be OPERABLE:

<u>LOCATION</u>	<u>ELEVATION</u>	<u>SYSTEM IDENTITY</u>
a. Control Bldg. Cable Chases	116'0" 98'0" 70'0" 115'0"	AS-6A AS-6B AS-6C, WS-6A, WS-6B, WS-6C WS-7A, WS-7B
b. Cable Tunnels	67'6"/70'0" 67'6"/70'0" 67'6"/70'0"	WS-8D, WS-8E, WS-8F, WS-8G, WS-8H, WS-8K, WS-8L, WS-8M, WS-8N
c. Auxiliary Bldg., RCIC Pump Room	70'0" 141'0"	PS-1, WS-19 WS-4A, WS-4B, WS-20, AS-12
d. Diesel Generator Bldg.	98'0"	PS-2A, PS-2B, PS-2C
e. Fuel Bldg.	95'0" 148'0"	AS-5 WS-5A, WS-5B

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

ACTION:

- a. With one or more of the above required spray 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.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.6.2 Each of 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.
- b. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.
- c. At least once per 18 months:
 1. By performing a system functional test which includes simulated automatic actuation of the automatic systems, and:
 - a) Verifying that the automatic valves in the flow path actuate to their correct positions on a simulated actuation test signal, and
 - b) Cycling each valve in the flow path, that is not testable during plant operation, through at least one complete cycle of full travel.
 2. By a visual inspection of the dry pipe spray and sprinkler headers to verify their integrity.
 3. By a visual inspection of each deluge nozzle's spray area* to verify that the spray pattern is not obstructed.
- d. At least once per 3 years by performing an air or water flow test through each open head spray and sprinkler header system* and verifying that each open head spray nozzle and sprinkler header system is unobstructed.

*The charcoal filter system spray nozzles need only be visually inspected and verified to be unobstructed each time the charcoal is changed.

PLANT SYSTEMS

HALON SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.6.3 The following main control room Power Generation Control Complex (PGCC) Halon systems shall be OPERABLE with the storage tanks having at least 95% of full charge weight and 90% of full charge pressure:

PGCC Panel Module U701	PGCC Panel Module U730
PGCC Panel Module U702	PGCC Panel Module U731
PGCC Panel Module U703	PGCC Panel Module U732
PGCC Panel Module U704	PGCC Panel Module U740
PGCC Panel Module U710	PGCC Panel Module U741
PGCC Panel Module U711	PGCC Panel Module U742
PGCC Panel Module U712	PGCC Panel Module U743
PGCC Panel Module U713	PGCC Panel Module U744
PGCC Panel Module U714	PGCC Panel Module U745
PGCC Panel Module U715	PGCC Panel Module U746
PGCC Panel Module U717	PGCC Panel Module U747
PGCC Panel Module U720	PGCC Panel Module U748
PGCC Panel Module U721	PGCC Panel Module U799
PGCC Panel Module U723	PGCC Panel Module U750

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 1 hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas establish an hourly fire watch patrol.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.6.3 The above required Halon system shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each Halon system storage tank is pressurized to at least 280 psig.
- b. At least once per 6 months by verifying Halon storage tank weight and pressure.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- c. At least once per 18 months by:
 - 1. Verifying the system actuates, manually and 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.

PLANT SYSTEMS

FIRE HOSE STATIONS

LIMITING CONDITION FOR OPERATION

3.7.6.4 The fire hose stations shown in Table 3.7.6.4-1 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 3.7.6.4-1 inoperable, provide gated wye(s) on the nearest OPERABLE hose station(s). One outlet of the wye shall be connected to the standard length of hose provided for the hose station. The second outlet of the wye shall be connected to a length of hose sufficient to provide coverage for the area left unprotected by the inoperable hose station. Where it can be demonstrated that the physical routing of the fire hose would result in a recognizable hazard to operating technicians, plant equipment, or the hose itself, the fire hose shall be stored in a roll at the outlet of the OPERABLE hose station. Signs shall be mounted above the gated wye(s) to identify the proper hose to use. The above ACTION shall be accomplished within 1 hour if the inoperable fire hose is the primary means of fire suppression; otherwise route the additional hose within 24 hours.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.6.4 Each of the fire hose stations shown in Table 3.7.6.4-1 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.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 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.

TABLE 3.7.6.4-1FIRE HOSE STATIONS

<u>LOCATION</u>	<u>ELEVATION</u>	<u>HOSE RACK IDENTIFICATION</u>
a. Reactor Building	114'0"	HR - 16, 22
	141'0"	HR - 17, 23
	162'3"	HR - 18, 19, 24, 25
	186'3"	HR - 20, 21, 26
b. Auxiliary Building	70'0" (Stairwell)	HR - 84
	95'9"	HR - 6, 7, 8, 9
	114'0"	HR - 10, 11
	141'0"	HR - 12, 13, 14, 15
	170'0"	HR - 80
c. Control Building	70'0"	HR - 85, 86, 87
	98'0"	HR - 88, 89, 90
	115'0" and 116'0"	HR - 91, 92, 93, 94
	135'0" (Stairwell)	HR - 96
d. Fuel Building	70'0"	HR - 1, 2, 82
	95'0"	HR - 3, 4
	113'0"	HR - 81
	148'0"	HR - 5
e. Pipe Tunnel	67'6"	HR - 83
f. Turbine Building	95'0"	HR - 50, 51
	123'6"	HR - 53

PLANT SYSTEMS

YARD FIRE HYDRANTS AND HYDRANT HOSE HOUSES

LIMITING CONDITION FOR OPERATION

3.7.6.5 The yard fire hydrants and associated hydrant hose houses shown in Table 3.7.6.5-1 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 3.7.6.5-1 inoperable, within 1 hour have sufficient additional lengths of 2 1/2 inch diameter hose located in an adjacent OPERABLE hydrant hose house to provide service to the unprotected area(s) if the inoperable fire hydrant or associated hydrant hose house is the primary means of fire suppression; otherwise provide 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 yard fire hydrants and associated hydrant hose houses shown in Table 3.7.6.5-1 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, 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.

TABLE 3.7.6.5-1

YARD FIRE HYDRANTS AND ASSOCIATED HYDRANT HOSE HOUSES

<u>LOCATION</u>	<u>HYDRANT NUMBER</u>
a. Northeast of Fuel Bldg	FHY 11
b. East of Control Bldg	FHY 13
c. West of Standby Cooling Tower	FHY 9*
d. North of Fuel Bldg	FHY 10

*No associated hose house.

PLANT SYSTEMS

3/4.7.7 FIRE-RATED ASSEMBLIES

LIMITING CONDITION FOR OPERATION

3.7.7 All fire barrier assemblies shall be OPERABLE. Fire barrier assemblies include:

- a. Walls, floors/ceilings, cable tray enclosures, and other fire barriers that separate safety-related fire areas or that separate portions of redundant systems, important to safe shutdown, within a fire area, and
- b. All sealing devices in fire-rated assembly penetrations, including fire doors and fire dampers and cable, piping and ventilation duct penetration seals, and ventilation seals.

APPLICABILITY: At all times.

ACTION:

- a. With one or more of the above required fire-rated assemblies or sealing devices inoperable, within 1 hour establish a continuous fire watch on at least one side of the affected assembly and/or sealing device or verify the OPERABILITY of fire detectors on at least one side of the inoperable assembly or sealing device, 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 penetration 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 damper and associated hardware.
- c. At least 10 percent of each type of sealed penetration. If 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 is found with no apparent changes in appearance or abnormal degradation. Samples shall be selected such that each penetration seal will be inspected at least once per 15 years.

PLANT SYSTEMS

3/4.7.10 STRUCTURAL SETTLEMENT

LIMITING CONDITION FOR OPERATION

3.7.10 Structural settlement shall be within the predicted values as shown in Table 3.7.10-1 and calculated differential settlements shall be within the allowable ranges shown in Table 3.7.10-2 for the following structures:

- a. Reactor Building
- b. Auxiliary Building
- c. Fuel Building
- d. Control Building
- e. Diesel Generator Building
- f. Standby Cooling Tower, Basin and Pump House
- g. BF Tunnel
- h. Main Steam Tunnel
- i. E Tunnel
- j. G Tunnel

APPLICABILITY: At all times.

ACTION:

With the measured structural settlement of any of the above required structures outside of the limits of Tables 3.7.10-1 and 3.7.10-2, prepare and submit, within the next 30 days, a Special Report to the Commission, pursuant to Specification 6.9.2, providing a record of the settlement measurements and the predicted settlement, an analysis to demonstrate the continued structural integrity of the affected structure(s), and plans to monitor the settlement of the affected structure(s) in the future. The provisions of Specification 3.0.3 are not applicable to the limits established in Table 3.7.10-1.

SURVEILLANCE REQUIREMENTS

4.7.10 The structural settlement of the above required structures shall be demonstrated to be within the limits of Tables 3.7.10-1 and 3.7.10-2:

- a. At least once per 92 days, until there is essentially no movement during those 92 days.
- b. At least once per 24 months, for at least 10 years.
- c. Following any seismic event equal to or greater than an Operational Basis Earthquake (OBE).

TABLE 3.7.10-1TOTAL PREDICTED SETTLEMENTS OF MAJOR STRUCTURES

<u>STRUCTURE</u>	<u>SETTLEMENT MARKER NO.</u>	<u>PREDICTED SETTLEMENT (IN.)</u>
Reactor Building	15	4.0
	16	4.0
	17	4.0
Auxiliary Building	18	3.8
	19	3.6
	20	3.9
	21	3.7
Fuel Building	11	3.7
	12	4.0
	13	3.5
	14	3.8
Control Building	5	3.7
	6	3.3
	7	3.7
	8	3.7
Diesel Generator Building	1	3.4
	2	3.7
	3	3.6
	4	3.8
Standby Cooling Tower, Basin and Pump House	30	2.7
	31	3.2
	32	2.4
BF Tunnel	9	2.1
	10	2.5
Main Steam Tunnel	22	3.8
	23	3.8
E Tunnel	28	3.3
	29	2.8
G Tunnel	33	2.6
	34	1.3

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:

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:

- a. For 4.16 kV circuit breakers, de-energize the 4.16 kV circuit(s) by tripping the associated redundant circuit breaker(s) within 72 hours and verifying, at least once per 7 days thereafter, the redundant circuit breaker to be tripped.
- b. For 480 volt circuit breakers, remove the inoperable circuit breaker(s) from service by racking out the breaker within 72 hours and verifying, at least once per 7 days thereafter, the inoperable breaker(s) to be racked out.
- c. For 480 volt MCC circuit breaker/fuse combination starters, remove the inoperable starter(s) from service by locking the breakers open and removing the control power fuse within 72 hours and verifying, at least once per 7 days thereafter, the inoperable starter(s) circuit breaker to be locked open with the control power fuse removed.
- d. For 120/140 volt molded case circuit breakers, remove the inoperable circuit breaker(s) from service by tripping both 120/140 volt breakers open and locking the upstream 480 volt MCC breaker open within 72 hours and verifying, at least once per 7 days thereafter, the 480 volt MCC breaker(s) to be locked open.

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

ELECTRICAL POWER SYSTEMS

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 4.16 kv circuit breakers are OPERABLE by selecting, on a rotating basis, at least one of the four 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.
 - c) For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least one of the four circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.
 2. By selecting and functionally testing a representative sample of at least 10% of each type of lower voltage circuit breakers. Circuit breakers selected for functional testing shall be selected on a rotating basis. Testing of these circuit breakers shall consist of injecting currents in excess of the breaker's nominal setpoint and measuring the response time of the long time and short time delay elements and the setpoint of the instantaneous element, as appropriate. The measured data shall be compared to the manufacturer's data to ensure that it is less than or equal to a value specified by the manufacturer. Circuit breakers found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation. For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.

ELECTRICAL POWER SYSTEMS

OTHER OVERCURRENT PROTECTIVE DEVICES

LIMITING CONDITION FOR OPERATION

3.8.4.2 The overcurrent protection devices shown in Table 3.8.4.2-1 shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

With one or more of the overcurrent protective devices shown in Table 3.8.4.2-1 inoperable, remove the circuit breaker(s) feeding the control room lighting and/or alternate RPS supply as appropriate from service by opening the breaker(s) within 72 hours and return the overcurrent protection devices to OPERABLE status within 7 days, or verify the appropriate breakers open at least once per 24 hours.*

SURVEILLANCE REQUIREMENTS

4.8.4.2 The overcurrent protective devices shall be demonstrated OPERABLE at least once per 18 months by selecting and testing one-half of each type of circuit breaker on a rotating basis. Testing of these circuit breakers shall consist of injecting currents in excess of the breaker's nominal setpoint and measuring the response time of the long time and short time delay elements and the setpoint of the instantaneous element, as appropriate. The measured data shall be compared to the manufacturer's data to ensure that it is less than or equal to a value specified by the manufacturer.

*Except at least once per 31 days if locked, sealed, or otherwise secured in the open position.

TABLE 3.8.4.2-1

OTHER OVERCURRENT PROTECTIVE DEVICES

TYPE

1. Main Control Room Lighting

Protective Device

1EHS*MCC14A

1EHS*MCC14B

2. RPS Alternate Source of Power

Primary Protection

1EHS*MCC14A

1EHS*MCC14B

Secondary Protection

1RPS*XRC10A

1RPS*XRC10B

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 loop of the residual heat removal (RHR) system shall be OPERABLE and in operation* with at least:

- a. One OPERABLE RHR pump, and
- b. Two OPERABLE RHR heat exchangers.

APPLICABILITY: OPERATIONAL CONDITION 5, when irradiated fuel is in the reactor vessel and the water level is greater than or equal to 23 feet above the top of the reactor pressure vessel flange.

ACTION:

- a. With no RHR shutdown cooling mode 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 PRIMARY CONTAINMENT INTEGRITY - FUEL HANDLING within 4 hours.
- 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 at least once per hour.

SURVEILLANCE REQUIREMENTS

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

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

REFUELING OPERATIONS

LOW WATER LEVEL

LIMITING CONDITION FOR OPERATION

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

- a. One OPERABLE RHR pump, and
- b. Two OPERABLE RHR heat exchangers.

APPLICABILITY: OPERATIONAL CONDITION 5, when irradiated fuel is in the reactor vessel and the water level is less than 23 feet above the top of the reactor pressure vessel flange.

ACTION:

- a. With less than the above required shutdown cooling mode loops 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 loop 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 loop of the residual heat removal system or alternate method shall be verified, at least once per 12 hours, to be in operation and circulating reactor coolant.

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

TABLE 4.11.1.1.1-1 (continued)

TABLE NOTATION (continued)

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

E is the counting efficiency, as counts per disintegration,

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

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

Y is the fractional radiochemical yield, when applicable,

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

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

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

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

- b - A batch release is the discharge of liquid wastes of a discrete volume. Prior to sampling for analyses, each batch shall be isolated, and then thoroughly mixed to assure representative sampling.
- c - The principal gamma emitters for which the LLD specification applies exclusively are the following radionuclides: Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, Cs-134, Cs-137, Ce-141, and Ce-144. This list does not mean that only these nuclides are to be considered. Other gamma peaks that are identifiable, together with those of the above nuclides, shall also be analyzed and reported in the Semiannual Radioactive Effluent Release Report pursuant to Specification 6.9.1.8.
- d - A composite sample is one in which the quantity of liquid sampled is proportional to the quantity of liquid waste discharged and in which the method of sampling employed results in a specimen that is representative of the liquids released.

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 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 that identifies the cause(s) for exceeding the limit(s) and defines the corrective actions that have been taken to reduce the releases and the proposed corrective actions to be taken to assure that subsequent releases will be in compliance with the above limits.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.2 Cumulative dose contributions from liquid effluents for the current calendar quarter and the current calendar year shall be determined, at least once per 31 days, in accordance with the methodology and parameters in the ODCM.

RADIOACTIVE EFFLUENTS

LIQUID RADWASTE TREATMENT SYSTEM

LIMITING CONDITION FOR OPERATION

3.11.1.3 The liquid radwaste treatment 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, 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 that includes the following information:
 1. Explanation of why liquid radwaste was being discharged without treatment, identification of any inoperable equipment or subsystems, and the reason for the inoperability,
 2. Action(s) taken to restore the inoperable equipment to OPERABLE status, and
 3. Summary description of action(s) taken to prevent a recurrence.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.3 Doses due to liquid releases to UNRESTRICTED AREAS shall be projected at least once per 31 days in accordance with the methodology and parameters in the ODCM.

RADIOACTIVE EFFLUENTS

LIQUID HOLDUP TANKS

LIMITING CONDITION FOR OPERATION

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

APPLICABILITY: At all times.

ACTION:

- a. With the quantity of radioactive material in any of the above unprotected outdoor tanks exceeding the above limit, immediately suspend all additions of radioactive material to the tank; within 48 hours reduce the tank contents to within the limit; and describe the events leading to this condition in the next Semiannual Radioactive Effluent Release Report.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.4 The quantity of radioactive material contained in each of the above unprotected outdoor 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 to areas at and beyond the SITE BOUNDARY (see Figures 5.1.1-1 and 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 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 that identifies the cause(s) for exceeding the limit(s) and defines the corrective actions that have been taken to reduce the releases and the proposed corrective actions to be taken to assure that subsequent releases will be in compliance with the above limits.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.2 At least once per 31 days, cumulative dose contributions for the current calendar quarter and current calendar year for noble gases shall be determined in accordance with the methodology and parameters in the ODCM.

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 all radionuclides in particulate form with half-lives greater than 8 days, in gaseous effluents released to areas at and beyond the SITE BOUNDARY (see Figures 5.1.1-1 and 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, in gaseous effluents, of iodine-131, iodine-133, tritium, and radionuclides in particulate form with half lives greater than 8 days, exceeding any of the above limits, 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 and defines the corrective actions that have been taken to reduce the releases and the proposed corrective actions to be taken to assure that subsequent releases will be in compliance with the above limits.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

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

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 TREATMENT (OFFGAS) SYSTEM inoperable for more than 7 days, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that includes the following information:
 1. Identification of the inoperable equipment or subsystems 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 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 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 doses, due to gaseous effluent releases to areas at and beyond the SITE BOUNDARY (see Figures 5.1.1-1 and 5.1.3-1), would exceed 0.3 mrem to any organ in a 31 day period.

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

ACTION:

- a. With gaseous waste being discharged from the ventilation exhaust ducts 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 that includes the following information:
 1. Explanation of why gaseous radwaste was being discharged without treatment, identification of any inoperable equipment or subsystems, and the reason for the inoperability,
 2. Action(s) taken to restore the inoperable equipment to OPERABLE status, and
 3. Summary description of action(s) taken to prevent a recurrence.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.5 Doses due to gaseous releases from the site shall be projected at least once per 31 days in accordance with the methodology and parameters in the ODCM.

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 (e.g., filter sludges, spent resins, evaporator bottoms, sodium sulfate solutions).

- 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 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.

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 Specification 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 that 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 unit and from any unprotected outdoor 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, Action 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 required by 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 effluents, 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. With milk or broad leaf vegetation samples unavailable from one or more of the sample locations required by Table 3.12.1-1, identify locations for obtaining replacement samples and add them to the radiological environmental monitoring program within 30 days. The

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

RADIOLOGICAL ENVIRONMENTAL MONITORING

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

specific locations from which samples were unavailable may then be deleted from the monitoring program. Pursuant to Specification 6.9.1.8, identify the cause of the unavailability of samples and identify the new location(s) for obtaining replacement samples in the next Semi-annual Radioactive Effluent Release Report and include in the report a revised figure(s) and table for the ODCM reflecting the new location(s).

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

SURVEILLANCE REQUIREMENTS

4.12.1 The radiological environmental monitoring samples shall be collected pursuant to Table 3.12.1-1 from the specific locations given in the table and figure(s) in the ODCM, and shall be analyzed pursuant to the requirements of Table 3.12.1-1 and the detection capabilities required by Table 4.12.1-1.

RADIOLOGICAL ENVIRONMENTAL MONITORING

3/4.12.2 LAND USE CENSUS

LIMITING CONDITION FOR OPERATION

3.12.2 A land use census shall be conducted and shall identify within a distance of 8 km (5 miles) the location, in each of the 16 meteorological sectors, of the nearest milk animal, the nearest residence and the nearest garden* of greater than 50 m² (500 ft²) producing broad leaf vegetation.

APPLICABILITY: At all times.

ACTION:

- a. With a land use census identifying a location(s) that 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 6.9.1.8.
- b. With land use census identifying a location(s) that 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. Pursuant to Specification 6.9.1.8, identify the new location(s) in the next Semiannual Radioactive Effluent Release Report and include in the report a revised figure(s) and table for the ODCM reflecting the new location(s).
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.12.2 At least once per 12 months, the land use census shall be conducted during the growing season, using that information that will provide the best results, such as by a door-to-door survey or 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.

*In lieu of the garden census, 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. Specifications for broad leaf vegetation sampling in Table 3.12.1-1, 4c shall be followed, including analysis of control samples.

RADIOLOGICAL ENVIRONMENTAL MONITORING

3/4.12.3 INTERLABORATORY COMPARISON PROGRAM

LIMITING CONDITION FOR OPERATION

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

APPLICABILITY: At all times.

ACTION:

- a. With analyses not being performed as required above, report to the Commission, in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.7, the corrective actions taken to prevent a recurrence.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.12.3 The Interlaboratory Comparison Program shall be described in the ODCM. A summary of the results obtained as part of the above required Interlaboratory Comparison Program shall be included in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.7.

3/4.0 APPLICABILITY

BASES

Specifications 3.0.1 through 3.0.4 establish the general requirements applicable to Limiting Conditions for Operation. These requirements are based on the requirements for Limiting Conditions for Operation stated in the Code of Federal Regulations, 10CFR50.36(c)(2):

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

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

APPLICABILITY

BASES

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

Specification 3.0.3 establishes the shutdown ACTION requirements that must be implemented when a Limiting Condition for Operation is not met and the condition is not specifically addressed by the associated ACTION requirements. The purpose of this specification is to delineate the time limits for placing the unit in a safe shutdown 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 CONDITIONS of operation permit the shutdown to proceed in a controlled and orderly manner that is well within the specified maximum cooldown rate and within the cooldown capabilities of the facility assuming only the minimum required equipment is OPERABLE. This reduces thermal stresses on components of the primary coolant system and the potential for a plant upset that could challenge safety systems under conditions for which this specification applies.

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

The time limits of Specification 3.0.3 allow 37 hours for the plant to be in COLD SHUTDOWN when a shutdown is required during POWER OPERATION. If the plant is in a lower CONDITION of operation when a shutdown is required, the time limit for reaching the next lower CONDITION of operation applies. However, if a lower CONDITION of operation 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, a penalty is not incurred by having to reach a lower CONDITION of operation in less than the total time allowed.

APPLICABILITY

BASES

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

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.

Specification 3.0.4 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 CONDITION of operation when the requirements for a Limiting Condition for Operation are not met and continued noncompliance to these conditions would result in a shutdown to comply with the ACTION requirements if a change in CONDITIONS were permitted. The purpose of this specification is to ensure that facility operation is not initiated or that higher CONDITIONS of operation are not entered when corrective action is being taken to obtain compliance with a specification by restoring equipment to OPERABLE status or parameters to specified limits. Compliance with ACTION requirements that permit continued operation of the facility for an unlimited period of time provides an acceptable level of safety for continued operation without regard to the status of the plant before or after a change in OPERATIONAL CONDITIONS. Therefore, in this case, entry into an OPERATIONAL CONDITION or other specified condition may be made provided the ACTION requirements are being complied with exclusive of the allowable outage time limits. 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 CONDITION of operation.

Specifications 4.0.1 through 4.0.5 establish the general requirements applicable to Surveillance Requirements. These requirements are based on the Surveillance Requirements stated in the Code of Federal Regulations, 10CFR50.36(c)(3):

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

APPLICABILITY

BASES

Specification 4.0.1 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.

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

Specification 4.0.3 establishes the failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by the provisions of Specification 4.0.2, as a condition that constitutes a failure to meet the OPERABILITY requirements for a Limiting Condition for Operation. Under the provisions of this specification, systems and components are assumed to be OPERABLE when Surveillance Requirements have been satisfactorily performed within the specified time interval. However, nothing in this provision is to be construed as implying that systems or components are OPERABLE when they are found or known to be inoperable although still meeting the Surveillance Requirements. This specification also clarifies that the ACTION requirements are applicable when Surveillance Requirements have not been completed within the allowed surveillance interval and that the time limits of the ACTION requirements apply from the point in time it is identified that a surveillance has not been performed and not at the time that the allowed surveillance interval was exceeded. Completion of the Surveillance Requirement within the allowable outage time limits of the ACTION requirements restores compliance with the requirements of Specification 4.0.3. However, this does not negate the fact that the failure to have performed the surveillance within the allowed surveillance interval, defined by the provisions of Specification 4.0.2, was a violation of the OPERABILITY requirements of a Limiting Condition for

APPLICABILITY

BASES

Operation that is subject to enforcement action. Further, the failure to perform a surveillance within the provisions of Specification 4.0.2 is a violation of a Technical Specification requirement and is, therefore, a reportable event under the requirements of 10 CFR 50.73(a)(2)(i)(B) because it is a condition prohibited by the plant's Technical Specifications.

If the allowable outage time limits of the ACTION requirements are less than 24 hours or a shutdown is required to comply with ACTION requirements, e.g., Specification 3.0.3, a 24-hour allowance is provided to permit a delay in implementing the ACTION requirements. This provides an adequate time limit to complete Surveillance Requirements that have not been performed. The purpose of this allowance is to permit the completion of a surveillance before a shutdown 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 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.

Specification 4.0.4 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 assume that the Limiting Conditions for Operation are met during initial plant startup or following a plant outage.

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

APPLICABILITY

BASES

Specification 4.0.5 establishes the requirements 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 10CFR50.55a. 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 and valves to be tested up to one week after return to normal operation. The Technical Specification definition of OPERABLE does not allow a grace period before a component, 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. 47 TO FACILITY OPERATING LICENSE NO. NPF-47

GULF STATES UTILITIES COMPANY

RIVER BEND STATION, UNIT 1

DOCKET NO. 50-458

INTRODUCTION

By letter dated September 30, 1988 and supplemented by two letters dated June 6, 1990, and letters dated June 26, 1990, and August 22, 1990, Gulf States Utilities Company (GSU) (the licensee) requested an amendment to Facility Operating License No. NPF-47 for the River Bend Station, Unit 1. The proposed amendment would change the plant Technical Specifications (TSs) based on the recommendations provided by the staff in Generic Letter (GL) 87-09 related to the applicability of limiting conditions for operation (LCO) and the surveillance requirements of the TSs 3.0 and 4.0. Specifically, the licensee has requested the following revisions to TSs 3.0.4, 4.0.3 and 4.0.4 as follows:

Specification 3.0.4 is revised to define when its provisions apply; i.e., when the affected action statements permit continued operation for an unlimited period of time, instead of defining when the provisions of Specification 3.0.4 do not apply.

Specification 4.0.3 is revised to incorporate a 24-hour delay in implementing Action Requirements due to a missed surveillance when the Action Requirements provide a restoration time that is less than 24 hours.

Specification 4.0.4 is revised to clarify that "This provision shall not prevent passage through or to OPERATIONAL CONDITIONS as required to comply with Action Requirements."

EVALUATION

The changes proposed by the licensee have been reviewed considering the limitations set forth in GL 87-09 for TSs 3.0.4, 4.0.3 and 4.0.4 as follows.

Specification 3.0.4

GL 87-09 recognizes, in part, that Specification 3.0.4 unduly restricts facility operation when conformance to the Action Requirements provides an acceptable level of safety for continued operation in any mode. For an LCO that has Action Requirements permitting continued operation for an unlimited period of time, entry into an operational mode or other specified condition of operation

9009110200 900831
PDR ADDOC 05000458
P FDC

should be permitted in accordance with those Action Requirements. The restriction on change in operational modes 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 or where entry into that operational mode would result in entry into an Action Statement with such time constraints. However, nothing in the staff position stated in GL 87-09 should be interpreted as endorsing or encouraging plant startup with inoperable equipment. The GL 87-09 itself states that startup with inoperable equipment should be the exception rather than the rule.

The licensee has provided confirmation that the remedial measures prescribed by the ACTION STATEMENT for each change involving Specification 3.0.4 is consistent with the Updated Safety Analysis Report and its supporting safety analyses. Further, the licensee has provided confirmation and certification that appropriate administrative controls and procedures are in place for limiting the use of Specification 3.0.4 exceptions in conjunction with its proposed TS change submitted in response to GL 87-09. Additionally, no changes are proposed that affect plant configuration, setpoints, operating parameters, or the operator/equipment interface.

Based on review of the licensee's proposal, and confirmations related above, we conclude in granting the exceptions proposed in response to GL 87-09 that: (1) the remedial measures prescribed by the ACTION STATEMENT for each change involving the applicability of the Specification 3.0.4 exception should provide a sufficient level of protection to permit operational mode changes and safe long-term operation consistent with the plant's Updated Safety Analysis Report, and (2) the licensee has in place adequate administrative controls and procedures which will ensure that it will be the exception rather than the rule that startup of the plant with important safety features inoperable will occur.

We, therefore, find the following change to Specification 3.0.4 proposed by the licensee to be acceptable:

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

Additionally, in a letter dated June 6, 1990, GSU submitted justifications for preplanned use of the operating flexibility allowed by the change in TS 3.0.4. GSU proposed to apply the flexibility of TS 3.0.4 to TS 3.4.9.2, "Cold Shutdown" and TS 3.9.11.2, "Low Water Level".

TS 3.4.9.2 requires two shutdown cooling mode loops of the RHR system be operable and unless at least one recirculation pump is in operation, at least one

shutdown cooling mode loop be in operation in Operational Condition 4 (COLD SHUTDOWN). As stated in the Bases for TS 3.4.9.2, a single shutdown cooling mode loop provides sufficient heat removal capability for removing core decay heat and provides adequate cooling mixing.

The staff has reviewed GSU's justification for allowing a change in plant conditions to Operational Condition 4 while complying with the action requirements of TS 3.4.9.2. The justification was based on the fact that less decay heat is generated in Operational Condition 4, that the specific function of the required RHR shutdown cooling mode loop is completely replaced by the alternate method and that at least one ECCS is operable. The staff finds preplanned use of the operating flexibility allowed by TS 3.0.4 is applicable while complying with the action requirements of TS 3.4.9.2 and is acceptable.

TS 3.9.11.2 requires two shutdown cooling mode loops of the RHR system be operable with one in operation in Operational Condition 5 (REFUELING) and with reactor cavity water level less than 23 feet above the top of the reactor pressure vessel flange. The Bases for TS 3.9.11.2 states that with the reactor vessel head removed and 23 feet of water above the reactor pressure vessel flange a large heat sink is available for core cooling and in the event of a failure of the operating RHR loop, there is adequate time to initiate alternate methods of decay heat removal or emergency procedures to cool the core.

The staff has reviewed GSU's justification for allowing a change in plant conditions while complying with the requirements of TS 3.9.11.2. GSU's justification was based on the fact that less decay heat is generated in this condition and specific functions of the RHR shutdown cooling mode loops are replaced by alternate methods. The staff finds that the operating flexibility allowed by TS 3.0.4 is applicable while complying with the action requirements of TS 3.9.11.2 and is acceptable.

Specification 4.0.3

In GL 87-09, the staff stated that it is overly conservative to assume that systems or components are inoperable when a surveillance requirement has not been performed, because the vast majority of surveillances demonstrate the systems or components in fact are 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 apply, the TS should include a time limit that would allow a delay of the required actions to permit the performance of the missed surveillance.

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

completing the surveillance within this period against the risks associated with the potential for a plant upset and challenge to safety systems when the alternative is a shutdown to comply with Action Requirements before the surveillance can be completed.

This limit does not waive compliance with Specification 4.0.3. Under Specification 4.0.3, the failure to perform a surveillance requirement will continue to constitute noncompliance with the operability requirements of an LCO and to bring into play the applicable Action Requirements.

Based on the above, the following change to Specification 4.0.3 is acceptable:

"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. Compliance with 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."

Specification 4.0.4

TS 4.0.4 prohibits entry into an OPERATIONAL CONDITION or other specified condition until all required surveillances have been performed. This could cause an interpretation problem when OPERATIONAL CONDITION changes are required in order to comply with ACTION statements. Specifically, two possible conflicts between TSs 4.0.3 and 4.0.4 could exist. The first conflict arises because TS 4.0.4 prohibits entry into an operational mode or other specified condition when surveillance requirements have not been performed within the specified surveillance interval. The DECo proposed modification to resolve this conflict involves the revision to TS 4.0.3 to permit a delay of up to 24 hours in the application of the Action Requirements, as explained above, and a clarification of TS 4.0.4 to allow passage through or to operational modes as required to comply with Action Requirements. The second potential conflict between TSs 4.0.3 and 4.0.4 arises because an exception to the requirements of 4.0.4 is allowed when surveillance requirements can only be completed after entry into a mode or condition. However, after entry into this mode or condition, the requirements of TS 4.0.3 may not be met because the surveillance requirements may not have been performed within the allowable surveillance interval.

The licensee proposed to resolve these conflicts by providing the following clarifying statement to TS 4.0.4:

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

The NRC staff has provided in GL 87-09 a clarification that: (a) it is not the intent of 4.0.3 that the Action Requirements preclude the performance of surveillances allowed under any exception to TS 4.0.4, and (b) that the delay of up to 24 hours in TS 4.0.3 for the applicability of Action Requirements provides an appropriate time limit for the completion of surveillance requirements that become applicable as a consequence of any exception to TS 4.0.4.

Consequently, the NRC staff finds the proposed changes to TS 4.0.4 acceptable.

Editorial Changes

Editorial changes are being made to TS Table 3.3.7.1-1, TS 3.4.9.2 and TS 3.9.11.2. Action 73 of TS Table 3.3.7.1-1 currently specifies HOT STANDBY as an operational condition. The term STARTUP is consistent with the operational conditions defined in the TS and will replace the HOT STANDBY term. TSs 3.4.9.2 and 3.9.11.2 contain footnotes which were applicable until startup from the second refueling outage. The second refueling outage has been completed, therefore, the footnotes are no longer needed.

ENVIRONMENTAL CONSIDERATION

The amendment involves a change in a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes in surveillance requirements. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposures. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Section 51.22(c)(9). The amendment also involves changes in recordkeeping, reporting or administrative procedures or requirements. Accordingly, with respect to these items, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR §51.22(c)(10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

CONCLUSION

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 the amendment will not be inimical to the common defense and security or to the health and safety of the public. The staff therefore concludes that the proposed changes are acceptable.

Dated: August 31, 1990

Principal Contributor: C. M. Abbate