DAIRYLAND POWER COOPERATIVE

LACBWR PLANT

STATEMENT OF QUALITY ASSURANCE POLICY

The Quality Assurance Program described herein has been developed by the Dairyland Power Cooperative to assure safe and reliable operation of LACBWR. Tnis program is designed to meet the requirements of Title 10 of the Code of Federal Regulations, Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants".

The Quality Assurance Program applies to all activities affecting the safety related functions of the structures, systems, and components that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public. These activities include design, operations, maintenance, repair, refueling, and modifications.

The LACBWR Plant Superintendent is responsible for the establishment of a Quality Assurance Program which meets the requirements of 10CFR50, Appendix B. The LACBWR Quality Supervisor is resppnsible for implementing the program.

Frank Linder
General Manager

September 17, 1980
Date

DAIRYLAND POWER COOPERATIVE · P.O. BOX 817 · 2615 EAST AV. SOUTH · LA CROSSE, WISCONSIN 54601
(608) 788-4000

August 28, 1980

In reply, please refer to LAC-7107

DOCKET NO. 50-409

Director of Nuclear Reactor Regulation
ATTN: Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

SUBJECT: DAIRYLAND POWER COOPERATIVE
LA CROSSE BOILING WATER REACTOR (LACBWR)
PROVISIONAL OPERATING LICENSE NO. DPR-45
QUALITY ASSURANCE PROGRAM

Reference: (1) 10 CFR 50, Section 50.34
(2) 10 CFR 170, Section 170.22
(3) DPC Letter, Madgett to Giambusso, LAC-2788, dated October 9, 1974.

Gentlemen:

In accordance with the requirements of Reference (1), a revision to the description of the Quality Assurance Program under Provisional Operating License No. DPR-45 for the La Crosse Boiling Water Reactor is hereby filed with three (3) signed original applications, together with thirty-seven (37) copies.

This change has been determined to be a Class II Amendment being pro forma in nature as defined in Reference (2), and a check for $1,200.00 is enclosed to cover the fee.

The enclosure consists of a complete replacement of the Quality Assurance Program Section 4.4 contained in the full term license application submitted by Reference (3).

The information submitted in this application for license revision has been reviewed by the LACBWR Committees as presented in Technical Specifications.

If there are any questions concerning this submittal, please contact us.

Very truly yours,

DAIRYLAND POWER COOPERATIVE

Frank Linder

Frank Linder, General Manager

FL:HAT:af

cc: J. Keppler, Reg. Dir., NRC-DRO III
NRC Res. Insp.

Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5

LAC-7107
August 28, 1980

STATE OF WISCONSIN)
)
COUNTY OF LA CROSSE)

Personally came before me this 17th day of September, 1980, the above named Frank Linder, to me known to be the person who executed the foregoing instrument and acknowledged the same.

Ann J Malin
Notary Public, La Crosse County, Wisconsin.
My Commission Expires 2/26/84.

DAIRYLAND POWER COOPERATIVE

LACBWR PLANT

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Frank Linder, General Manager

FL:HAT:af

cc: J. Keppler, Reg. Dir., NRC-DRO III

Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5

LAC-7107
August 28, 1980

STATE OF WISCONSIN)
)
COUNTY OF LA CROSSE)

Personally came before me this _____day of _____, 1980, the above named Frank Linder, to me known to be the person who executed the foregoing instrument and acknowledged the same.

Notary Public, La Crosse County,
Wisconsin.
My Commission Expires 2/26/84.

DAIRYLAND POWER COOPERATIVE

LACBWR PLANT

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_____

General Manager

_____

Date

3.0 APPLICABILITY

LIMITING CONDITION FOR OPERATION

3.0.1 Limiting Conditions for Operation and ACTION requirements shall be applicable during the OPERATIONAL CONDITIONS or other specified applicable condition for each specification.

3.0.2 Adherence to the requirements of the Limiting Condition for Operation and/or associated ACTION within the specified time interval shall constitute compliance with the specification. In the event the Limiting Condition for Operation is restored prior to expiration of the specified time interval completion of the ACTION statement is not required.

3.0.3 In the event a Limiting Condition for Operation and/or associated ACTION requirements cannot be satisfied because of circumstances in excess of those addressed inthe specification, the unit shall be placed in at least HOT SHUTDOWN within 6 hours and in COLD SHUTDOWN within the following 30 hours unless corrective measures are completed that permit operation under the permissible ACTION statements for the specified time interval as measured from initial discovery or until the reactor is placed in an OPERATIONAL CONDITION in which the specification is not applicable. Exceptions to these requirements shall be stated in the individual specifications.

3.0.4 Entry into an OPERATIONAL CONDITION or other specified applicability state shall not be made unless the conditions of the Limiting Condition for Operation are met without reliance on provisions contained in the ACTION statements unless otherwise excepted. This provision shall not prevent passage through OPERATIONAL CONDITIONS required to comply with ACTION requirements.

3.0.5 When a system, subsystem, train component or device is determined to be inoperable soley because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation, provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), components(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification. Unless both conditions (1) and (2) are satisfied, the unit shall be placed in at least HOT SHUTDOWN within 6 hours, and in at least COLD SHUTDOWN within the following 30 hours. This specification is not applicable in Conditions 4 or 5.

SURVEILLANCE REQUIREMENTS

3.0.6 Surveillance Requirements shall be applicable during the OPERATIONAL CONDITIONS or other specified applicable conditions for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement.

SURVEILLANCE REQUIREMENTS - (Cont'd)

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

a. A maximum allowable extension not to exceed 25% of the surveillance interval.

b. A total maximum combined interval time for any 3 consecutive surveillance intervals not to exceed 3.25 times the specified surveillance interval.

3.0.8 Performance of a Surveillance Requirement within the specified time interval shall constitute compliance with OPERABILITY requirements for a Limiting Condition for Operation and associated ACTION statements unless otherwise required by the specification. Surveillance Requirements do not have to be performed on inoperable equipment or on equipment not required to be OPERABLE.

3.0.9 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 stated surveillance interval or as otherwise specified.

3.0.10 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:

ASME Boiler and Pressure Vessel Code and applicable Addenda terminology for inservice inspection and testing activities	Required frequencies for performing inservice inspection and testing activities
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days

SURVEILLANCE REQUIREMENTS - (Cont'd)

c. The provisions of Specification 3.0.7 are applicable to the above required frequencies for performing inservice inspection and testing activities.

d. Performance of the above inservice inspection and testing activities shall be in addition to other specified Surveillance Requirements.

e. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

BASES

The specifications of this section provide the general requirements applicable to each of the Limiting Conditions for Operation and Surveillance Requirements within Section 3.0.

3.0.1 This specification defines the applicability of each specification in terms of defined OPERATIONAL CONDITIONS or other specified applicability conditions and is provided to delineate specifically when each specification is applicable.

3.0.2 This specification defines those conditions necessary to constitute compliance with the terms of an individual Limiting Condition for Operation and associated ACTION requirement.

3.0.3 This specification delineates the ACTION to be taken for circumstances not directly provided for in the ACTION statements and whose occurrence would violate the intent of specification. For example, Specification 4.2.5.8, requires all three rod position indicator systems to be available for indication of individual rod positions, and provides for one of these systems to be removed for maintenance for a time period of up to 24 hours. Under the terms of Specification 3.0.3, if more than one rod position indication system is out of service, the unit is to be placed in HOT SHUTDOWN within six hours and in COLD SHUTDOWN within the next thirty hours. It is assumed that the unit is brought to the required OPERATIONAL CONDITION within the required times by promptly initiating and carrying out the appropriate ACTION statement.

3.0.4 This specification provides that entry into an OPERATIONAL CONDITION or other specified applicability condition must be made with (a) the full complement of required systems, equipment or components OPERABLE and (b) all other parameters as specified in the Limiting Conditions for Operation being met without regard for allowable deviations and out of service provisions contained in the ACTION statements.

The intent of this provision is to ensure that unit operation is not initiated with either required equipment or systems inoperable or other specified limits being exceeded.

Exceptions to this provision have been provided for a limited number of specifications when startup with inoperable equipment would not affect plant safety. These exceptions are stated in the ACTION statements of the appropriate specifications.

BASES - (Cont'd)

3.0.5 This specification delineates what additional conditions must be satisfied to permit operation to continue, consistent with the ACTION statements for power sources, when a normal or emergency power source is not OPERABLE. It specifically prohibits operation when one division is inoperable because its normal or emergency power source is inoperable and a system, subsystem, train, component or device in another division is inoperable for another reason.

The provisions of this specification permit the ACTION statements associated with individual systems, subsystems, trains, components or devices to be consistent with the ACTION statements of the associated electrical power source. It allows operation to be governed by the time limits of the ACTION statement associated with the Limiting Condition for Operation for the normal or emergency power source, not the individual ACTION statements for each system, subsystem, train, component or device that is determined to be inoperable solely because of the inoperability of its normal or emergency power source.

For example, Specification 3.8.1.1 requires in part that both emergency diesel generators be OPERABLE. The ACTION statement provides for a 72-hour out-of-service time when emergency diesel generator (1A) or (1B) is not OPERABLE. If the definition of OPERABLE were applied without consideration of Specification 3.0.5, all systems, subsystems, trains, components, and devices supplied by the inoperable emergency power source, deisel generator (1A) or (1B), would also be inoperable. This would dictate making the applicable ACTION statements for each of the applicable Limiting Conditions for Operation. However, the provisions of Specification 3.0.5 permit the time limits for continued operation to be consistent with the ACTION statement for the inoperable emergency diesel generator instead, provided the other specified conditions are satisfied. In this case, this would mean that the corresponding normal power source must be OPERABLE, and all redundant systems, subsystems, trains, components,and devices must be OPERABLE, or otherwise satisfy Specification 3.0.5 (i.e., be capable of performing their design function and have at least one normal or one emergency power source OPERABLE). If they are not satisfied, shutdown is required in accordance with this specification.

In Condition 4 or 5, Specification 3.0.5 is not applicable, and thus the individual ACTION statements for each applicable Limiting Condition for Operation in these Conditions must be adhered to.

3.0.6 This specification provides that surveillance activities necessary to ensure that the Limiting Conditions for Operation are met and will be performed during the OPERATIONAL CONDITIONS or other specified applicability conditions for which the Limiting Conditions for Operation are applicable. Provisions for additional surveillance activities to be performed without regard to the applicable OPERATIONAL CONDITIONS or other specified applicability conditions are provided in the individual Surveillance Requirements. Surveillance Requirements for Special Test Exceptions need only be performed when the Special Test Exception is being utilized as an exception to an individual specification.

BASES - (Cont'd)

3.0.7 The provisions of this specification provide allowable tolerances for performing surveillance activities beyond those specified in the nominal surveillance interval. These tolerances are necessary to provide operational flexibility because of scheduling and performance consideration. The phrase "at least" associated with a surveillance frequency requirement does not negate these allowable tolerances for performing surveillance activities; instead it permits more frequent performance of surveillance activities than required by the specification.

The tolerance values, taken either individually or consecutively over three test intervals, are sufficiently restrictive to ensure that the reliability associated with the surveillance activity is not significantly degraded beyond that obtained from the nominal specified interval.

3.0.8 The provisions of this specification set forth the criteria for determination of compliance with the OPERABILITY requirements of the Limiting Condition for Operation. Under this criteria, equipment, systems or components are assumed to be OPERABLE if the associated surveillance activities have been satisfactorily performed within the specified time interval. Nothing in this provision is to be construed as defining equipment, systems or components OPERABLE, when such items are found or known to be inoperable although still meeting the Surveillance Requirements.

3.0.9 This specification ensures that the surveillance activities associated with a Limiting Condition for Operation have been performed within the specified time interval prior to entry into an OPERATIONAL CONDITION or other specified applicablity condition. The intent of this provision is to ensure that surveillance activities have been satisfactorily demonstrated on a current basis as required to meet the OPERABILITY requirements of the Limiting Condition for Operation.

Under the terms of this specification, for example, following extended plant outages, the applicable surveillance activities must be performed within the stated surveillance interval prior to placing or returning the system or equipment into OPERABLE status.

3.0.10 This specification ensures 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 will be performed in accordance with a periodically updated version of Section XI of the ASME Boiler and Pressure Vessel Code and Addenda as required by 10 CFR 50, Section 50.55a. Relief from any of the above requirements has been provided in writing by the Commission and is not a part of these Technical Specifications.

4.1.3 During periods when the reactor is in Conditions 3, 4, or 5 either Channel 1 or 2 of the nuclear instrumentation system shall be in operation and shall be monitored by the operator.

4.1.4 DELETE.

4.1.5 If the plant is operational during a tornado warning, the shift supervisor on duty shall keep informed of the actual tornado activity which may approach the plant. In the event that reports indicate an imminent tornado strike at or near the LACBWR plant, the shift supervisor shall reduce reactor power to a level which permits prompt reduction of power generation to station load. However, the shift supervisor shall be instructed to discontinue plant operation if, in his judgment, this action is required to ensure plant safety.

4.1.6 DELETE.

4.2 OPERATIONS LIMITS

4.2.1 Reactor Building

4.2.1.1 CONTAINMENT INTEGRITY shall be maintained in Conditions 1, 2, 3, and during:

(a) CORE ALTERATIONS,

(b) handling of irradiated fuel, or

(c) moving a spent fuel shipping cask in the Containment Building.

BASES - (Cont'd)

This specification includes a clarification of the frequencies of 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 these Technical Sepcifications 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. For example, the requirements of Specification 3.0.9 to perform surveillance activities prior to entry into an OPERATIONAL CONDITION or other specified applicability condition takes precedence over the ASME Boiler and Pressure Vessel Code provision which allows pumps to be tested up to one week after return to normal operation. And for example, the Technical Specification definition of OPERABLE does not grant a grace period before a device that is not capable of performing its specified function is declared inoperable and takes precedence over the ASME Boiler and Pressure Vessel provision which allows a valve to be incapable of performing its specified function for up to 24 hours before being declared inoperable.

4.0 OPERATING LIMITATIONS

4.0.1 DEFINITIONS

For purposes of the Safety Limits and Limiting Safety Systems Settings, Section 4.0.2; Reactor Coolant Activity, Specification 4.2.2.22; Electrical Power Systems, Section 4.2.3; Power Distribution Limits, Section 4.2.4.2; Fire Detection Instrumentation, Section 4/5.2.17; Fire Suppression Systems, Section 4/5.2.18; and Penetration Fire Barriers, Section 4/5.2.19; Technical Specifications only, the following terms are defined and appear in capitalized type so that uniform interpretation may be achieved.

ACTION

ACTION shall be those additional requirements specified as corollary statements to each principle specification and shall be part of the specifications.

AVERAGE PLANAR EXPOSURE

The AVERAGE PLANAR EXPOSURE shall be applicable to a specific planar height and is equal to the sum of the exposure of all the fuel rods in the specified bundle at the specified height divided by the number of fuel rods in the fuel bundle.

AVERAGE PLANAR LINEAR HEAT GENERATION RATE

The AVERAGE PLANAR LINEAR HEAT GENERATION RATE (ALPHGR) shall be applicable to a specific planar height and is equal to the sum of the LINEAR HEAT GENERATION RATES for all the fuel rods in the specified bundle at the specified height divided by the number of fuel rods in the fuel bundle.

CHANNEL CALIBRATION

A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that is responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

CHANNEL CHECK

A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indicating and/or status derived from independent instrument channels measuring the same parameter.

CHANNEL FUNCTIONAL TEST

A CHANNEL FUNCTIONAL TEST shall be:

a. Analog channels - the injection of a simulated signal into the channel as close to the sensor as practicable to verify OPERABILITY including alarm and/or trip functions and channel failure trips.

b. Bistable channels - the injection of a simulated signal into the sensor to verify OPERABILITY including alarm and/or trip functions.

CONTAINMENT INTEGRITY

CONTAINMENT INTEGRITY shall exist when:

a. All penetrations required to be isolated during accident conditions are either:

   1. Capable of being closed by an OPERABLE containment automatic isolation valve system, or

   2. Closed by at least one manual valve, blind flange, or deactivated automatic valve secured in its closed position.

b. The freight door is closed,

c. Each air lock is OPERABLE,

d. The containment leakage rates are within the limit, and

e. The sealing mechanism associated with each penetration (e.g., welds, bellows, o-rings) is OPERABLE.

CORE ALTERATION

CORE ALTERATION shall be the addition, removal, relocation or movement of fuel, sources, incore instrumentation or reactivity controls within the reactor pressure vessel with the vessel head removed and fuel in the vessel. Suspension of CORE ALTERATIONS shall not preclude completion of movement of a component to a safe conservative position.

CRITICAL POWER RATIO

The CRITICAL POWER RATIO (CPR) shall be the ratio of that power in a fuel assembly which is calculated by application of the XN-2 correlation to cause some point in the assembly to experience boiling transition, divided by the actual assembly operating power.

DOSE EQUIVALENT I-131

DOSE EQUIVALENT I-131 shall be that concentration of I-131 μCi/gram, which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, "Calculation of Distance Factors for Power and Test Reactor Sites."

$\bar{E}$ - AVERAGE DISINTEGRATION ENERGY

$\bar{E}$ shall be the average, weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling, of the sum of the average beta and gamma energies per disintegration, in MeV, for isotopes other than iodines with half lives greater than 15 minutes, making up at least 95% of the total non-iodine activity in the coolant.

FREQUENCY NOTATION

The FREQUENCY NOTATION specified for the performance of Surveillance Requirements shall correspond to the intervals defined in Table of Surveillance Frequency Notation.

IDENTIFIED LEAKAGE

IDENTIFIED LEAKAGE shall be:

a. Leakage into collection systems, such as pump seal or valve packing leaks, that are captured and conducted to a sump or collecting tank, or

b. Leakage into the containment atmosphere from sources that are both specifically located and known either not to interfere with the operation of leakage detection systems or not to be PRESSURE BOUNDARY LEAKAGE.

LIMITING CONTROL ROD PATTERN

A LIMITING CONTROL ROD PATTERN shall be pattern which results in the core being on a thermal hydraulic limit, i.e., operating on a limiting value for APLHGR, LHGR, or MCPR.

LINEAR HEAT GENERATION RATE

LINEAR HEAT GENERATION RATE (LGHR) shall be the power generation in an arbitrary length of fuel rod, usually one foot. It is the integral of the heat flux over the heat transfer area associated with the unit length.

MINIMUM CRITICAL POWER RATIO

The MINIMUM CRITICAL POWER RATIO (MCPR) shall be the smallest CPR which exists in the core.

OPERABLE-OPERABILITY

A system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s). Implicit in this definition shall be the assumption that all necessary attendant instrumentation, controls, normal and emergency electrical power sources, cooling or seal water, lubrication, or other auxiliary equipment that are required for the system, subsystem, train, component or device to perform its function(s) are also capable of performing their related support function(s).

OPERATIONAL CONDITION - CONDITION

An OPERATIONAL CONDITION, i.e. CONDITION, shall correspond to any one inclusive combination of power level and average reactor coolant temperature specified in Table of OPERATIONAL CONDITIONS.

PARTIAL SCRAM

A PARTIAL SCRAM signal shall cause the electric and hydraulic scram motors for 13 preselected control rod drive mechanisms to be actuated for control rod insertion. Full insertion of PARTIAL SCRAM control rods during POWER OPERATION shall render the reactor subcritical.

PHYSICS TESTS

PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation and 1) described in Chapter 13 of the Safeguards Report, 2) authorized under the provisions of 10 CFR 50.59, or 3) otherwise approved by the Commission.

PRESSURE BOUNDARY LEAKAGE

PRESSURE BOUNDARY LEAKAGE shall be leakage through a non-isolable fault in a Reactor Coolant System component body, pipe wall or vessel wall.

RATED THERMAL POWER

RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant and reactor components of 165 MWt.

REACTOR SAFETY SYSTEM ISOLATION RESPONSE TIME

The REACTOR SAFETY SYSTEM ISOLATION RESPONSE TIME shall be that time interval from when the monitored parameter channel sensor trip contact actuates until the isolation valves travel to their required position.

REPORTABLE OCCURRENCE

A REPORTABLE OCCURRENCE shall be any of those conditions specified in Specification 6.9.1.7 of Technical Specifications.

SHUTDOWN MARGIN

SHUTDOWN MARGIN shall be the amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming all control rods are fully inserted, except for the single control rod of highest reactivity worth which is assumed to be fully withdrawn, and the reactor is in the shutdown condition, cold, i.e. $\leq$ 80°F, and Xenon free.

STAGGERED TEST BASIS

A STAGGERED TEST BASIS shall consist of:

a. A test schedule for n systems, subsystems, trains or other designated components obtained by dividing the specified test interval into n equal subintervals,

b. The testing of one system, subsystem, train or other designated component at the beginning of each subinterval.

THERMAL POWER

THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant and reactor components.

UNIDENTIFIED LEAKAGE

UNIDENTIFIED LEAKAGE shall be all leakage which is not IDENTIFIED LEAKAGE.

SURVEILLANCE FREQUENCY NOTATION

NOTATION	FREQUENCY
S	At least once per 12 hours.
D	At least once per 24 hours.
	At least once per 7 days.
M	At least once per 31 days.
Q	At least once per 92 days.
SA	At least once per 6 months.
A	At least once per 12 months.
R	At least once per 18 months.
S/U	Prior to each reactor startup.
N.A.	Not Applicable.

TABLE OF OPERATIONAL CONDITIONS

OPERATIONAL CONDITION	% RATED THERMAL POWER*	AVERAGE COOLANT TEMPERATURE
1. POWER OPERATION	> 3%	Any temperature
2. STARTUP	≤ 3%	Any temperature
3. HOT SHUTDOWN	0	> 212°F
4. COLD SHUTDOWN	0	≤ 212°F
5. REFUELING**	0	≤ 212°F

*Excluding decay heat.

**Reactor vessel head unbolted or removed and fuel in the vessel.

Next page is 27y.

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

A.C. SOURCES-OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. The physically independent circuit between the offsite transmission network and the onsite power distribution system, with a separate electrical feed from:

1. 2400-volt bus 1A to 480-volt essential switchgear bus 1A, and

2. 2400-volt bus 1B to the Diesel Building 480-volt essential switchgear bus 1B.

b. Two separate and independent diesel generators, 1A and 1B, each with:

1. A separate day tank containing a minimum of 80 gallons of fuel for diesel generator 1A and 170 gallons for diesel generator 1B.

2. A separate fuel storage tank containing a minimum of 200 gallons of fuel for diesel generator 1A and 2500 gallons for diesel generator 1B.

3. A separate fuel transfer pump.

APPLICABILITY: OPERATIONAL CONDITIONS 1 AND 2

ACTION:

a. With either one electrical feed from 2400-volt bus 1A or 1B to the associated essential switchgear bus inoperable or with diesel generator 1A or 1B inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirements 4.8.1.1.1.a and 4.8.1.1.2.a.4 within one hour and at least once per 8 hours thereafter; restore both electrical feeds and both diesel generators to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours.

LIMITING CONDITION FOR OPERATION - (Cont'd)

ACTION - (Cont'd)

b. With one electrical feed from 2400-volt bus 1A or 1B to the associated essential switchgear bus inoperable and with diesel generator 1A or 1B inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirements 4.8.1.1.1.a and 4.8.1.1.2.a.4 within one hour and at least once per 8 hours thereafter; restore at least one of the inoperable sources to OPERABLE status within 12 hours. Restore both electrical feeds and both diesel generators to OPERABLE status within 72 hours from the time of initial loss or be in at least HOT SHUTDOWN within the next 12 hours.

c. With the above required circuit between the offsite transmission network and the onsite power distribution system inoperable and/or with the electrical feeds from both 2400-volt buses 1A and 1B to the associated essential switchgear buses inoperable, demonstrate the OPERABILITY of diesel generators 1A and 1B by performing Surveillance Requirement 4.8.1.1.2.a.4 within one hour and at least once per 8 hours thereafter, unless the diesel generators are already operating; restore the required circuit between the offsite transmission network and the onsite power distribution system and at least one electrical feed from either 2400-volt bus to the associated essential switchgear bus to OPERABLE status within 24 hours or be in at least HOT SHUTDOWN within the next 12 hours. With only one electrical feed from a 2400-volt bus restored, restore the electrical feeds from both 2400-volt buses to the associated essential switchgear buses to OPERABLE stuats within 72 hours from time of initial loss or be in at least HOT SHUTDOWN within the next 12 hours.

d. With diesel generators 1A and 1B inoperable, demonstrate the OPERABILITY of the circuit between the offsite transmission network and the onsite power distribution system and the electrical feeds from 2400-volt buses 1A and 1B to the associated essential switchgear buses by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter; restore at least one of the inoperable diesel generators to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within thenext 12 hours. Restore both diesel generators to OPERABLE status within 72 hours from time of initial loss or be in at least HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 The physically independent circuit between the offsite transmission network and the onsite power distribution system and the electrical feeds from 2400-volt bus 1A and 1B to the associated essential switchgear bus shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months by transferring, manually, and automatically, unit power supply from the main feed to the reserve feed.

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:

a. In accordance with the frequency specified in Table 4.8.1.1.2-1 on a STAGGERED TEST BASIS by:

1. Verifying the fuel level in the day fuel tank.

2. Verifying the fuel level in the fuel storage tank.

3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank.

4. Verifying the diesel generator starts from ambient condition, and is up to rated bus voltage in less than or equal to 10 seconds.

5. Verifying the diesel generator is loaded with the design test load and operates for greater than or equal to 60 minutes.

6. Verifying the diesel generator is aligned to provide emergency power to the associated essential buses.

b. At least once per 92 days by verifying that a sample of diesel fuel from within 3 inches from the bottom of each fuel storage tank, obtained in accordance with ASTM D270-65, is within the acceptable limits specified in Table 1 of ASTM D975-74 when checked for viscosity, water, and sediment.

c. At least once per 18 months during shutdown by:

1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.

SURVEILLANCE REQUIREMENTS - (Cont'd)

2. Verifying the diesel generator capability to reject a load greater than or equal to 41 kw load on diesel generator 1A and greater than or equal to 50 kw on diesel generator 1B while maintaining voltage at 450 ± 10 volts,and frequency on diesel generator 1B at 60 ± 0.4 Hz.

3. Verifying the diesel generator capability to reject a load of 41 kw on diesel generator 1A and 50 kw on diesel generator 1B without exceeding 75% of the difference between nominal speed and the overspeed trip setpoint, or 15% above nominal, whichever is lower.

4. Simulating a loss of offsite power by itself, and:

   a) Verifying de-energization of the essential switchgear buses associated with diesel generator 1A and 1B and load shedding from essential switchgear bus 1B.

   b) Verifying the diesel generator starts from ambient condition on the auto-start signal, energizes the essential switchgear bus with permanently connected loads, and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads.

5. Verifying that on an ECCS actuation test signal, without loss of offsite power, the diesel generator starts on the auto-start signal and operates on standby for greater than or equal to 5 minutes.

6. Simulating a loss of offsite power in conjunction with an emergency core cooling system actuation test signal, and:

   a) Verifying de-energization of the essential switchgear buses associated with diesel generators 1A and 1B, and load shedding from the essential switchgear bus associated with diesel generator 1B.

   b) Verifying the diesel generator starts from ambient condition on the auto-start signal, energizes the essential switchgear bus with permanently connected loads, and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads.

   c) Verifying that all diesel generator 1B trips, except engine overspeed, overcrank, and generator differential, are automatically bypassed upon loss of voltage on the essential bus concurrent with or on an ECCS actuation test signal.

SURVEILLANCE REQUIREMENTS - (Cont'd)

7. Verifying the diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to greater than or equal to 60 kw for diesel generator 1A and 120 kw for diesel generator 1B, and during the remaining 22 hours of this test, the diesel generator shall be loaded to 41 kw for diesel generator 1A and 50 kw for diesel generator 1B. Within 5 minutes after completing this 24-hour test, repeat Specification 4.8.1.1.2.c.5.

8. Verifying that all available loads to each diesel generator do not exceed the continuous load rating of 250 kw for diesel generator 1A and 400 kw for diesel generator 1B.

9. Verifying that the fuel transfer pump transfers fuel from each fuel storage tank to the day tank of each diesel generator via the installed lines.

d. At least once per 10 years or after any modifications which could affect diesel generator interpendence, by starting both diesel generators simultaneously, during shutdown, and verifying that both diesel generators are up to rated voltagein less than or equal to 10 seconds.

4.8.1.1.3 The starting and control power battery and battery charger of each diesel generator shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1. The electrolyte level of each battery is above the plates,

2. The pilot cell specific gravity, corrected 77°F and normal electrolyte level, is greater than or equal to 1.180, and has not decreased more than 0.04 from the value observed during the previous test, and

3. The overall battery voltage is greater than or equal to 24 volts for diesel generator 1A and greater than or equal to 32 volts for diesel generator 1B.

b. At least once per 18 months by verifying that:

1. The batteries, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration, and

2. The battery-to-battery terminal connections are clean, tight, free of corrosion and coates with anti-corrosion material.

SURVEILLANCE REQUIREMENTS - (Cont'd)

4.8.1.1.4 Reports - All diesel generator failures, valid or non-valid, shall be reported to the Commission pursuant to Specification 6.9.1. If the number of failures in the last 100 valid tests, on a per nuclear unit basis, is greater than or equal to 7, the report shall be supplemented to include the additional information recommended in Regulatory Position c.3.b of Regulatory Guide 1.108, Revision 1, August 1977.

TABLE 4.8.1.1.2-1

DIESEL GENERATOR TEST SCHEDULE

Number of Failures in Last 100 Valid Tests*	Test Frequency
≤ 1	At least once per 31 days
2	At least once per 14 days
3	At least once per 7 days
≥ 4	At least once per 3 days

*Criteria for determining number of failures and number of valid tests shall be in accordance with Regulatory Position C.2.e of Regulatory Guide 1.108, Revision 1, August 1977, where the last 100 tests are determined on a per nuclear unit basis. For the purposes of this test schedule, only valid tests conducted after the issuance date of Amendment No. (___) shall be included in the computation of the "last 100 valid tests." Entry into this test schedule shall be made at the 31 day test frequency.

ELECTRICAL POWER SYSTEMS

A.C. SOURCES-SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. The physically independent circuit between the offsite transmission network and the onsite power distribution system and at least one electrical feeder from 2400-volt bus 1A or 1B energizing either, but not both, essential switchgear buses.

b. Diesel generator 1A or 1B, aligned to, but not energizing, the same essential switchgear bus, with:

1. A day tank containing a minimum of 80 gallons of fuel for diesel generator 1A or 170 gallons of fuel for diesel generator 1B.

2. A fuel storage system containing a minimum of 200 gallons of fuel for diesel generator 1A or 2500 gallons of fuel for diesel generator 1B.

3. A fuel transfer pump.

APPLICABILITY: OPERATIONAL CONDITIONS 3, 4, and 5.

ACTION:

With less than the above required A.C. electrical power sources OPERABLE, suspend all operations involving CORE ALTERATIONS, irradiated fuel handling, positive reactivity changes or operations that have the potential of draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.8.1.2 At least the above required A.C. electrical power sources shall be determined OPERABLE per Surveillance Requirements 4.8.1.1.1.a, 4.8.1.1.2, 4.8.1.1.3, and 4.8.1.1.4, except for the requirement of 4.8.1.1.2.a.5.

ELECTRICAL POWER SYSTEMS

3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS

A.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 The following A.C. distribution system buses shall be OPERABLE with tie breakers open between redundant buses:

a. 480-Volt A.C. Essential Switchgear Bus 1A.

b. 480-Volt A.C. Diesel Building Essential Switchgear Bus 1B.

c. 120-Volt A.C. Non-Interruptible Bus 1A.

d. 120-Volt A.C. Non-Interruptible Bus 1B.

e. 120-Volt A.C. Turbine Building Regulated Bus.

f. 120-Volt A.C. 1KVA Static Inverter from Generator Plant 125-Volt D-C Bus.

APPLICABILITY: OPERATIONAL CONDITIONS 1 AND 2.

ACTION:

a. With one of the above required A.C. distribution system buses inoperable, restore the inoperable bus to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours.

b. With two or more of the above required A.C. distribution system buses inoperable, restore at least all except one of the inoperable buses to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. Restore all of the above required A.C. distribution system buses to OPERABLE status within 8 hours from the time of initial loss or be in at least HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.1 The above required A.C. distributiong system buses shall be determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability.

ELECTRICAL POWER SYSTEMS

A.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.2 As a minimum, the following A.C. distribution system buses shall be OPERABLE:

a. 480-Volt Essential Switchgear Bus 1A or 480-Volt Diesel Building Essential Switchgear Bus 1B.

b. 120-Volt A.C. Non-Interruptible Bus 1A.

c. 120-Volt A.C. Non-Interruptible Bus 1B.

d. 120-Volt Turbine Building Regulated Bus.

APPLICABILITY: OPERATIONAL CONDITIONS 3, 4, 5, and*

ACTION:

With less than the above required A.C. distribution system buses OPERABLE, establish CONTAINMENT INTEGRITY and suspend all operations involving CORE ALTERATIONS, irradiated fuel handling, positive reactivity changes or operations that have the potential of draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.8.2.2 At least the above required A.C. distribution system buses shall be determined OPERABLE at least once per 7 days by verifying correct breaker alignment and indicated power availability.

*When handling irradiated fuel in the Containment Building.

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING

LIMITING CONDITIONS FOR OPERATION

3.8.2.3 The following D.C. distribution system buses shall be OPERABLE with tie breakers between buses open:

a. Reactor Plant 125-volt D.C. bus, a full capacity charger, and a 125-volt battery bank,

b. Generator Plant 125-volt D.C. bus, a full capacity charger, and a 125-volt battery bank, and

c. Diesel Building 125-volt D.C. bus, a full capacity charger, and a 125-volt battery bank.

APPLICABILITY: OPERATIONAL CONDITIONS 1 AND 2

ACTION:

With one of the above required 125-volt D.C. distribution system buses inoperable, restore theinoperable bus to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.3.1 Each of the above required D.C. distribution system buses shall be determined OPERABLE at least once per 7 days by verifying correct breaker alignment and indicated power availability.

4.8.2.3.2 Each 125-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1. The electrolyte level of each pilot cell is between the minimum and maximum level indication marks,

2. The pilot cell specific gravity, corrected to $77^{o}F$ and normal electrolyte level, is greater than or equal to 1.200,

3. The pilot cell voltage is greater than or equal to 2.0 volts, and

4. The overall battery voltage is greater than or equal to 120 volts.

SURVEILLANCE REQUIREMENTS - (Cont'd)

b. At least once per 92 days by verifying that:

1. The voltage of each connected cell is greater than or equal to 2.0 volts under float charge and has not decreased more than 0.3 volts from the value observed during the original acceptance test,

2. The specific gravity, corrected to 77°F, of each connected cell is greater than or equal to 1.200 and has not decreased more than 0.04 from the value observed during the previous test, and

3. The electrolyte level of each connected cell is between the minimum and maximum level indication marks.

c. At least once per 18 months by verifying that:

1. The cells, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration.

2. The cell-to-cell and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.

3. The Reactor Plant battery charger will supply at least 15 amps, the Diesel Building battery charger will supply at least 50 amps, and the Generator Plant battery charger will supply at least 7 amps at greater than or equal to 120 volts for at least 4 hours.

d. At least once per 18 months, during shutdown, by verifying that:

1. The battery capacity is adequate to supply and maintain in OPERABLE status a dummy load equal to or greater than all of the emergency loads or all of the actual emergency loads for 7 hours when the battery is subjected to a battery service test.

2. At the completion of the above test, the battery charger shall be demonstrated capable of recharging its battery while supplying normal D.C. loads. The battery shall be charged to at least 90% capacity in less than or equal to 24 hours.

e. At least once per 60 months during shutdown by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to performance discharge test. This performance discharge test shall be performed subsequent to the satisfactory completion of the required battery service test.

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.4 As a minimum, the Diesel Building 125-volt D.C. bus with a 125-volt battery bank and a charger shall be OPERABLE:

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

ACTION:

With less than the above required Diesel Building 125-volt D.C. bus OPERABLE, establish CONTAINMENT INTEGRITY and suspend all operations involving CORE ALTERATIONS, handling of irradiated fuel or a spent fuel shipping cask in the Containment Building and that the potential for draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.8.2.4.1 At least the Diesel Building 125-volt D.C. bus shall be determined OPERABLE at least once per 7 days by verifying correct breaker alignment and indicated power availability.

4.8.2.4.2 At least the Diesel Building 125-volt bus battery bank and charger shall be determined OPERABLE per Surveillance Requirement 4.8.2.3.2.

*When handling irradiated fuel or a spent fuel shipping cask in the Containment Building.

MINIMUM FREQUENCIES FOR TESTING, CALIBRATING, AND/OR CHECKING OF INSTRUMENTATION

	Channels	Action	Minimum Frequency
1.	Reactor Water Level	Calibration	At each refueling shutdown.
		*Test	Monthly when in service and prior to each reactor startup if test has not been performed within 30 days.
		Check	Daily
2.	Reactor Pressure	Calibration	At each refueling shutdown.
		*Test	Monthly when in service and prior to each reactor startup if test has not been performed within 30 days.
		Check	Daily
3.	Reactor Power - Flow	Calibration	At each refueling shutdown.
		*Test	Monthly when in service and prior to each reactor startup if test has not been performed within 30 days.
		Check	Daily
4.	Reactor Coolant Flow Rate Low	Calibration	At each refueling shutdown.
		*Test	Monthly when in service and prior to each reactor startup if test has not been performed within 30 days.
		Check	Daily
5.	Source Range (Channels 1 and 2)	Test (60 cycles per sec)	Prior to each reactor startup if test has not been performed within 30 days.

TABLE 1

OPERATING LIMITS

ITEM NO.	CONDITION	CHANNEL OR SENSOR	SET POINT	ACTION	KEYSWITCH BYPASS PROVISIONS
1	reactor power high	two of four nuclear channels 5, 6, 7, and 8 if power level is ≥ 5% of full power	Table 4.0.2.2.1-1	full scram	none
		either nuclear channel 5 or 6 if power level is < 5% of full power	Table 4.0.2.2.1-1	full scram	one channel may be bypassed for calibration and testing
2	reactor period short	nuclear channel 3 or 4	Table 4.0.2.2.1-1	full scram	(1) both channels may be bypassed only when reactor power exceeds 3 Mwt (2) one channel may be bypassed for calibration and testing
3	reactor pressure high	pressure safety channel 1 or 2	≤ 1325 psig	(1) full scram (2) shutdown condenser operates (3) closure of ventilation dampers and 4" vent header valve from reactor building	one channel may be bypassed for calibration and testing
4	reactor power flow rate abnormal	power-flow safety channel 1 or 2	Table 4.0.2.2.1-1	full scram	one channel may be bypassed for calibration and testing
5	reactor coolant flow rate low	power-flow safety channel 1 or 2	Table 4.0.2.2.1-1	full scram	one channel may be bypassed for calibration and testing

TABLE 1 - OPERATING LIMITS - (Cont'd)

ITEM NO.	CONDITION	CHANNEL OR SENSOR	SET POINT	ACTION	KEYSWITCH BYPASS PROVISIONS
6	reactor water level high	water level safety channel 1 or 2	Table 4.0.2.2.1-1	full scram	one channel may be bypassed for calibration and testing
	(Nominal indicated unvoided saturated water level shall be permitted to vary from 2'9" above the fuel to up to 4'6" above the fuel during react heatup and operation)				
7	reactor water level low	water level safety channel 1 or 2	$\leq$ 12" below nominal indicated level	(1) full scram (2) initiation of high pressure core spray pumps (3) closure of reactor building steam isolation valve and its bypass (4) prevention of reactor blowdown through decay heat cooling system (5) start 1A and 1B diesel generators (6) closure of shutdown condenser condensate drain valve (7) closure of ventilation inlet and outlet dampers (8) closure of containment offgas header valve (9) closure of heating steam condensate return valve (10) closure of retention tank pump discharge valve	one channel of Item No. 7 or channel 3 of Item No. 7A may be bypassed for calibration and testing

TABLE 1 - OPERATING LIMITS - (Cont'd)

ITEM NO.	CONDITION	CHANNEL OR SENSOR	SET POINT	ACTION	KEYSWITCH BYPASS PROVISIONS
7A	reactor water level low	water level safety channel 3	$\leq$ 12" below nominal indicated level	(1) full scram (2) initiation of high pressure core spray pumps	one channel of Item No. 7 or channel 3 of Item No. 7A may be bypassed for calibration and testing
8	main condenser vacuum low	vacuum switches 1 or 2	$\geq$ 19" hg	(1) full scram (2) closure of reactor building steam isolation valve	(1) one channel may be bypassed during calibration and testing (2) may be bypassed during plant startup and shutdown
9	reactor building steam isolation valve not fully open	reactor building steam isolation valve closure relays 1 or 2	$\geq$ 90% full open travel	(1) full scram (2) shutdown condenser operates	(1) may be bypassed during testing (2) may be bypassed during plant startup or shutdown
10	turbine building steam isolation valve not fully open	turbine building steam isolation valve closure relays 1 or 2	$\geq$ 90% full open travel	(1) full scram (2) shutdown condenser operates	(1) may be bypassed during testing (2) may be bypassed during plant startup or shutdown
11	turbine stop valve not fully open	limit switch	Table 4.0.2.2.1-1	partial scram	(1) may be bypassed during testing (2) may be bypassed whenever the turbine load is less than 10 Mwe
12	low oil level in any control rod drive accumulator	limit switches	Table 4.0.2.2.1-1	partial scram	(1) may be bypassed during testing (2) may be bypassed prior to withdrawing control rods in order to charge accumulators

TABLE 1 - OPERATING LIMITS - (Cont'd)

ITEM NO.	CONDITION	CHANNEL OR SENSOR	SET POINT	ACTION	KEYSWITCH BYPASS PROVISIONS
13	low gas pressure in any control rod drive accumulator	pressure switches	Table 4.0.2.2.1-1	partial scram	(1) may be bypassed during calibration and testing (2) may be bypassed prior to withdrawing control rods in order to charge accumulators
14	low voltage (for a time longer than required for reserve feed breakers to operate automatically)	2400 v bus 1A undervoltage relay 1 or 2 or 2400 v bus 1B undervoltage relay 1 or 2	Table 4.0.2.2.1-1	partial scram	none
		2400 v bus 1A undervoltage relay 1 and 2400 v bus 1B undervoltage relay 1 or 2400 v bus 1A undervoltage relay 2 and 2400 v bus 1B undervoltage relay 2	Table 4.0.2.2.1-1	full scram	none
		reactor building motor control center 1A relay 1 or 2	Table 4.0.2.2.1-1	full scram	none
		turbine building motor control center 1A relay 1 or 2	Table 4.0.2.2.1-1	full scram	none
15	low main steam pressure	main steam pressure transmitter	$\geq$ 1000 psig	closure of reactor building steam isolation valve	may be bypassed during plant startup and shutdown

TABLE 1 - OPERATING LIMITS - (Cont'd)

ITEM NO.	CONDITION	CHANNEL OR SENSOR	SET POINT	ACTION	KEYSWITCH BYPASS PROVISIONS
16	reactor building pressure high	reactor building pressure transmitter 1 or 2	$\leq$ 5 psig	(1) iniation of high pressure core spray pumps (2) initiation of alternate core spray pumps (3) closure of ventilation dampers (4) closure of 4" vent header valve from reactor building (5) closure of retention tank pump discharge valve (6) closureof shutdown condenser condensate drain valve (7) closure of decay heat blowdown valve (8) closure of HPSW to containment valve (9) closure of demin water to containment valve (10) closure of heating steam condensate valve	none
17	off-gas holdup tank effluent activity high	radiation monitor	$\leq$ gaseous activity levels which correspond to Column 2 of the limitations given in Sec. 4.2.7.2	diversion effluent gas to the storage tanks	

TABLE 1 - OPERATING LIMITS - (Cont'd)

ITEM NO.	CONDITION	CHANNEL OR SENSOR	SET POINT	ACTION	KEYSWITCH BYPASS PROVISIONS
18	reactor building ventilation exhaust	radiation monitors	≤ radiation levels which correspond to Column 2 of the limitations given in Sec. 4.2.7.2	closure of ventilation dampers	none
19	simultaneous low reactor pressure and low water level	pressure transmitter and water level safety channel 1 or 2	25-30 psig and ≤ 12" below nominal indicated level	opening of diaphragm valve allowing water to flow directly from overhead storage tank to core spray nozzles	
20	simultaneous high reactor building pressure and reactor low water level	reactor building pressure transmitter 1 or 2 and reactor water level safety channel 1 or 2	≤ 5 psig and ≤ 12" below nominal indicated level	opening of motor operating valves and start of engine driven pumps of alternate core spray system	
21	steam safety valves not fully closed	position switches on each of the three inservice safety valves	open-close	none - post accident indication only	none

6.0 ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The Plant Superintendent shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.

6.2 ORGANIZATION

OFFSITE

6.2.1 The offsite organization for unit management and technical support shall be as shown on Figure 6.2.1-1.

UNIT STAFF

6.2.2 The unit organization shall be as shown on Figure 6.2.2-1 and:

a. Each on duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2.2-1.

b. At least one licensed Operator shall be in the control room when fuel is in the reactor.

c. At least two licensed Operators shall be present in the control room during reactor startup, scheduled reactor shutdown and during recovery from reactor trips.

d. An individual qualified in radiation protection procedures shall be on site when fuel is in the reactor.

e. All CORE ALTERATIONS shall be directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation.

f. A Fire Brigade of at least 5 members shall be maintained on site at all times.* The Fire Brigade shall not include the two LACBWR Plant Operators necessary for safe shutdown of the unit or any other personnel required for other essential functions during a fire emergency.

g. A Shift Technical Advisor shall be onsite in OPERATIONAL CONDITIONS 1, 2, and 3.

*Fire Brigade composition may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence of Fire Brigade members provided immediate action is taken to restore the Fire Brigade to within the minimum requirements.