

ENCLOSURE 2

PLANT HATCH - UNITS 1,2
NRC DOCKETS 50-321, 50-366
OPERATING LICENSES DPR-57, NPF-5
CHANGE TO TECHNICAL SPECIFICATIONS REVISION REQUEST
EMERGENCY DIESEL GENERATORS

PAGE CHANGE INSTRUCTIONS

Unit 1

Removed Page

3.9-1
3.9-4a

Inserted Page

3.9-1
3.9-4a

Unit 2

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3/4 8-1
3/4 8-5
3/4 8-9

Inserted Page

3/4 8-1
3/4 8-5
3/4 8-9

3.9. AUXILIARY ELECTRICAL SYSTEMSApplicability

The Limiting Conditions for Operation apply to the auxiliary electrical power systems.

Objective

The objective of the Limiting Conditions for Operation is to assure an adequate supply of electrical power for operation of those systems required for safety.

SpecificationsA. Requirements For Reactor Startup

The reactor shall not be made critical from the Cold Shutdown Condition unless all of the following conditions are satisfied:

1. Offsite Power Sources

At least two 230-kV offsite transmission lines shall be available and each shall be capable of supplying auxiliary power to the emergency 4160 volt buses (1E, 1F, and 1G) and each shall be capable of supplying power to both startup auxiliary transformers (1C and 1D).

2. Standby AC Power Supply (Diesel Generators 1A, 1B, and 1C)

Three diesel generators (1A, 1B and 1C) shall be operable and capable of supplying power to the emergency 4160-volt buses (1E, 1F, and 1G).

For each diesel generator to be operable and capable of supplying power, the following conditions must be met:

A. AUXILIARY ELECTRICAL SYSTEMSApplicability

The Surveillance Requirements apply to the periodic testing requirements of the auxiliary electrical power systems.

Objective

The objective of the Surveillance Requirements is to verify the operability of the auxiliary electrical systems.

SpecificationsA. Auxiliary Electrical Systems Equipment

Tests shall be performed at scheduled intervals as follows to detect deterioration of equipment and to demonstrate that auxiliary electrical systems equipment and components are operable.

1. Offsite Power Sources

- a. Verify correct breaker alignments and indicated power availability at least once per 7 days.
- b. Demonstrate manual and automatic transfer of unit power supply from the normal circuit to alternate circuit for each of the required circuits from offsite at least once per 18 months.

2. Standby AC Power Supply (Diesel Generators 1A, 1B, and 1C)

The following periodic tests and surveillance of the standby AC power supply (Diesel Generators 1A, 1B, and 1C) shall be performed:

3.9.A.7. Logic Systems (Continued)

- c. The common accident signal logic system, and undervoltage relays and supporting system are operable.

4.9.A.7. Logic Systems (Continued)

- b.2. Within 5 minutes after completing the 24-hour load test specified in Surveillance Requirement 4.9.A.2.a.6, repeat Surveillance Requirement 4.9.A.7.b.1 with a simulated loss of offsite power start signal and run the diesel for at least 5 minutes while loaded with shutdown loads.* This test is to be performed every 18 months.
3. Once per month, the relays which initiate energization of the emergency buses by the Diesel Generators when voltage is lost on the emergency buses and startup transformer 1C, will be functionally tested.
- c.1. Once every 18 months during shutdown, each diesel generator shall be demonstrated operable by simulating a loss of offsite power in conjunction with an accident test signal and verifying: de-energization of the emergency buses and load shedding from the emergency buses, and the diesel starts on the auto-start signal with permanently connected loads in ≤ 12 seconds, energizes the auto-connected shutdown (emergency) loads through the load sequencer, operates for ≥ 5 minutes while its generator is loaded with the emergency loads, and achieves and maintains a steady-state voltage of 4160 ± 420 volts and a steady-state frequency of 60 ± 1.2 Hz.
2. The undervoltage relays for the start buses shall be calibrated annually for trip and reset voltages and the measurements recorded.
3. Verify, once per 18 months during shutdown, that all diesel generator trips, except engine overspeed, low lube oil pressure, and generator differential, are automatically bypassed upon loss of voltage on the emergency bus concurrent with an ECCS actuation signal.

*If the diesel generator fails this test, a retest may be performed after the diesel generator has been operated for ≥ 2 hours at ≥ 2565 kW.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

9. Verifying that the diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to ≥ 3000 kW* and during the remaining 22 hours of this test, the diesel generator shall be loaded to 2775-2825 kW**. Within 5 minutes after completing this 24-hour test, repeat Surveillance Requirement 4.8.1.1.2.d.5.b.**
10. Verifying that the auto-connected loads to each diesel generator do not exceed the 2000-hour rating of 3100 kW.
11. Verifying the diesel generator's capability to:
 - a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power,
 - b) Transfer its loads to the offsite power source, and
 - c) Proceed through its shutdown sequence.
12. Verifying that with the diesel generator operating in a test mode (connected to its bus), a simulated LOCA actuation signal overrides the test mode by: (1) returning the diesel generator to standby operation and (2) automatically energizing the emergency loads with offsite power.
13. Verifying that the fuel transfer pump transfers fuel from each associated fuel storage tank to the day tank of each diesel via the installed cross connection lines.
- e. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting both diesel generators simultaneously, during shutdown, and verifying that both diesel generators accelerate to synchronous speed in ≤ 12 seconds.

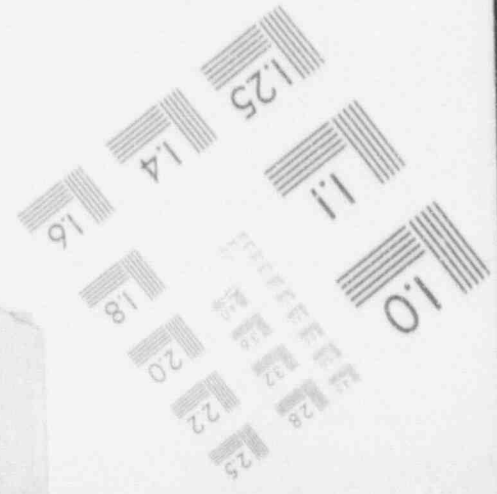
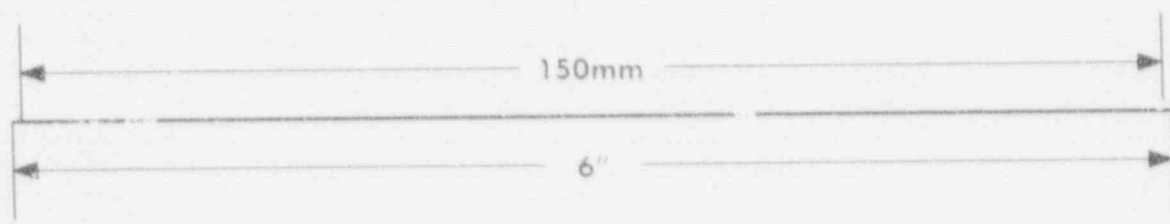
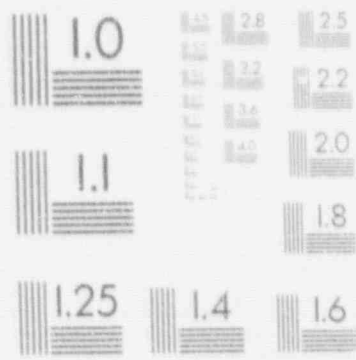
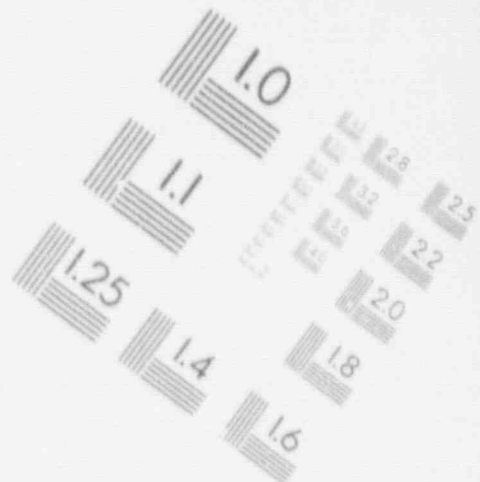
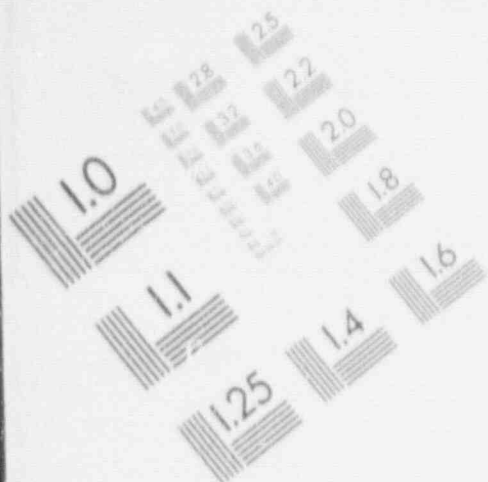
*Momentary variations outside this band shall not invalidate the test.

**For the 1B diesel generator, a single 24-hour load test every 18 months will satisfy the requirements of Unit 1 Specification 4.9.A.2.a.6 and Unit 2 Specification 4.8.1.1.2.d.9.

***If the diesel generator fails this test, a retest may be performed after the diesel generator has been operated for ≥ 2 hours at ≥ 2565 kW.

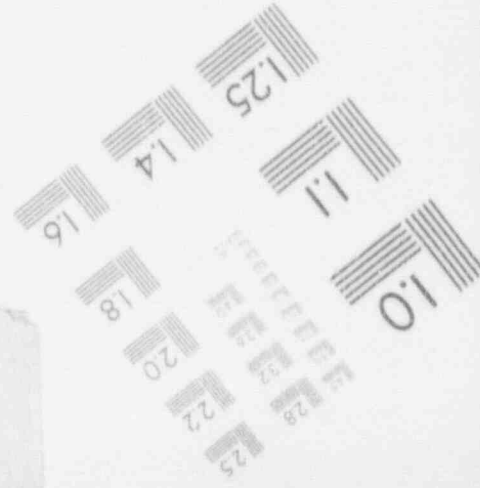
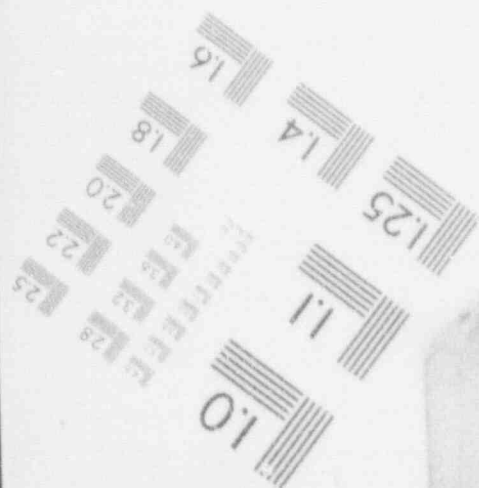
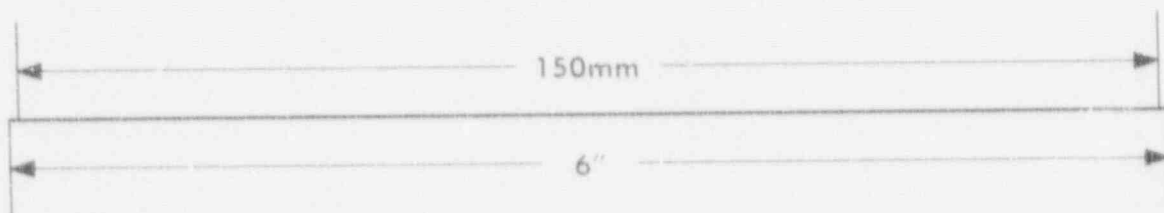
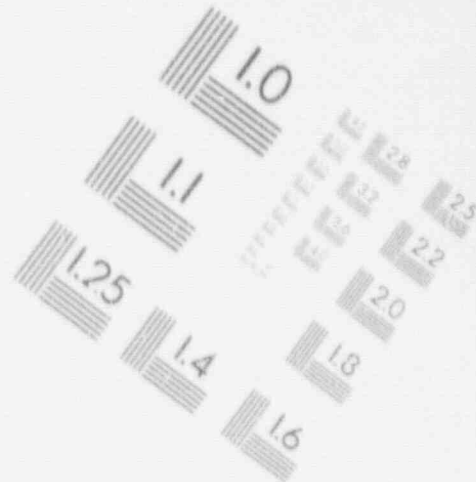
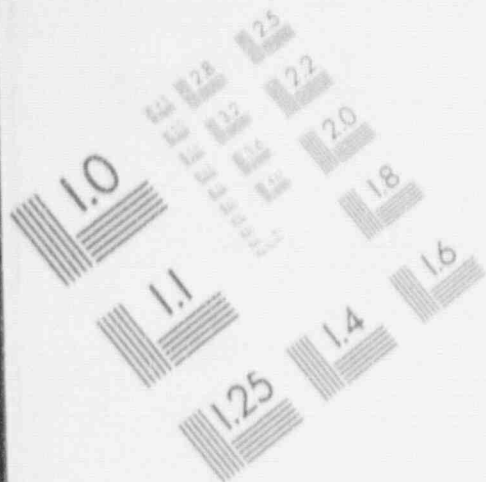
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IMAGE EVALUATION
TEST TARGET (MT-3)



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IMAGE EVALUATION
TEST TARGET (MT-3)



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. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and
- b. Three separate and independent diesel generators, each with:
 1. A separate day tank containing a minimum of 900 gallons of fuel,
 2. A separate fuel storage tank containing a minimum of 33,000 gallons of fuel, and
 3. A separate fuel transfer pump.

APPLICABILITY: CONDITIONS 1, 2, and 3.

ACTION:

- a. With one offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining offsite A.C. source by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter, and performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours. Restore at least two offsite circuits to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. With one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter, and by performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours. Restore at least three diesel generators to

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. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and
- b. One diesel generator with:
 1. A day tank containing a minimum of 900 gallons of fuel,
 2. A fuel storage tank containing a minimum of 33,000 gallons of fuel, and
 3. A fuel transfer pump.

APPLICABILITY: CONDITIONS 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 demonstrated OPERABLE per Surveillance Requirements 4.8.1.1.1, 4.8.1.1.2, except for the requirement of 4.8.1.1.2.a.5, 4.8.1.1.3 and 4.8.1.1.4.

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS**3.9. AUXILIARY ELECTRICAL SYSTEMS**Applicability

The Limiting Conditions for Operation apply to the auxiliary electrical power systems.

Objective

The objective of the Limiting Conditions for Operation is to assure an adequate supply of electrical power for operation of those systems required for safety.

Specifications**A. Requirements For Reactor Startup**

The reactor shall not be made critical from the Cold Shutdown Condition unless all of the following conditions are satisfied:

1. Offsite Power Sources

At least two 230-kV offsite transmission lines shall be available and each shall be capable of supplying auxiliary power to the emergency 4160 volt buses (1E, 1F, and 1G) and each shall be capable of supplying power to both start-up auxiliary transformers (1C and 1D).

2. Standby AC Power Supply (Diesel Generators 1A, 1B, and 1C)

Three diesel generators (1A, 1B and 1C) shall be operable* and capable of supplying power to the emergency 4160-volt buses (1E, 1F, and 1G).

For each diesel generator to be operable and capable of supplying power, the following conditions must be met:

4.9. AUXILIARY ELECTRICAL SYSTEMSApplicability

The Surveillance Requirements apply to the periodic testing requirements of the auxiliary electrical power systems.

Objective

The objective of the Surveillance Requirements is to verify the operability of the auxiliary electrical systems.

Specifications**A. Auxiliary Electrical Systems Equipment**

Tests shall be performed at scheduled intervals as follows to detect deterioration of equipment and to demonstrate that auxiliary electrical systems equipment and components are operable.

1. Offsite Power Sources

- a. Verify correct breaker alignments and indicated power availability at least once per 7 days.
- b. Demonstrate manual and automatic transfer of unit power supply from the normal circuit to alternate circuit for each of the required circuits from offsite at least once per 18 months.

2. Standby AC Power Supply (Diesel Generators 1A, 1B, and 1C)

The following periodic tests and surveillance of the standby AC power supply (Diesel Generators 1A, 1B, and 1C) shall be performed:

~~*A diesel generator may be inoperable for up to 1 hour during surveillance testing without entering the Actions, while control is taken locally to allow gradual startup and to allow the diesel engine to be barred (rolled) over.~~

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS3.9.A.7. Logic Systems (Continued)

- c. The common accident signal logic system, and undervoltage relays and supporting system are operable.

4.9.A.7. Logic Systems (Continued)

- b.2. Within 5 minutes after completing the 24-hour load test specified in Surveillance Requirement 4.9.A.2.a.6, ~~perform~~ *REPEAT* Surveillance Requirement 4.9.A.7.b.1 with a simulated loss of offsite power start signal and run the diesel for at least 5 minutes while loaded with shutdown loads.* This test is to be performed every 18 months.
3. Once per month, the relays which initiate energization of the emergency buses by the Diesel Generators when voltage is lost on the emergency buses and startup transformer 1C, will be functionally tested.
- c.1. Once every 18 months during shutdown, each diesel generator shall be demonstrated operable by simulating a loss of offsite power in conjunction with an accident test signal and verifying: de-energization of the emergency buses and load shedding from the emergency buses, and the diesel starts on the auto-start signal with permanently connected loads in ≤ 12 seconds, energizes the auto-connected shutdown (emergency) loads through the load sequencer, operates for ≥ 5 minutes while its generator is loaded with the emergency loads, and achieves and maintains a steady-state voltage of 4160 ± 420 volts and a steady-state frequency of 60 ± 1.2 Hz.
2. The undervoltage relays for the start buses shall be calibrated annually for trip and reset voltages and the measurements recorded.
3. Verify, once per 18 months during shutdown, that all diesel generator trips, except engine overspeed, low lube oil pressure, and generator differential, are automatically bypassed upon loss of voltage on the emergency bus concurrent with an ECCS actuation signal.

*If the diesel generator fails this test, a retest may be performed after the diesel generator has been operated for ≥ 2 hours at ≥ 2565 kW.

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. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and
- b. Three separate and independent diesel generators*, each with:
 1. A separate day tank containing a minimum of 900 gallons of fuel,
 2. A separate fuel storage tank containing a minimum of 33,000 gallons of fuel, and
 3. A separate fuel transfer pump.

APPLICABILITY: CONDITIONS 1, 2, and 3.

ACTION:

- a. With one offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining offsite A.C. source by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter, and performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours. Restore at least two offsite circuits to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. With one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter, and by performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours. Restore at least three diesel generators to

~~*A diesel generator may be inoperable for up to 1 hour during surveillance testing without entering the Actions, while control is taken locally to allow gradual startup and to allow the diesel engine to be barred (rolled) over.~~

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

9. Verifying that the diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to ≥ 3000 kW* and during the remaining 22 hours of this test, the diesel generator shall be loaded to 2775-2825 kW**. Within 5 minutes after completing this 24-hour test, perform Surveillance Requirement 4.8.1.1.2.d.5.*** *REPEAT*
10. Verifying that the auto-connected loads to each diesel generator do not exceed the 2000-hour rating of 3100 kW.
11. Verifying the diesel generator's capability to:
 - a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power.
 - b) Transfer its loads to the offsite power source, and
 - c) Proceed through its shutdown sequence.
12. Verifying that with the diesel generator operating in a test mode (connected to its bus), a simulated LOCA actuation signal overrides the test mode by: (1) returning the diesel generator to standby operation and (2) automatically energizing the emergency loads with offsite power.
13. Verifying that the fuel transfer pump transfers fuel from each associated fuel storage tank to the day tank of each diesel via the installed cross connection lines.
- e. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting both diesel generators simultaneously, during shutdown, and verifying that both diesel generators accelerate to synchronous speed in ≤ 12 seconds.

*Momentary variations outside this band shall not invalidate the test.

** For the 1B diesel generator, a single 24-hour load test every 18 months will satisfy the requirements of Unit 1 Specification 4.9.A.2.a.6 and Unit 2 Specification 4.8.1.1.2.d.9.

***If the diesel generator fails this test, a retest may be performed after the diesel generator has been operated for ≥ 2 hours at ≥ 2565 kW.

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. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and
- b. One diesel generator with:
 1. A day tank containing a minimum of 900 gallons of fuel,
 2. A fuel storage tank containing a minimum of ~~3~~³,000 gallons of fuel, and
 3. A fuel transfer pump.

APPLICABILITY: CONDITIONS 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 demonstrated OPERABLE per Surveillance Requirements 4.8.1.1.1, 4.8.1.1.2, except for the requirement of 4.8.1.1.2.a.5, 4.8.1.1.3 and 4.8.1.1.4.