ENCLOSURE 3

PLANT HATCH - UNITS 1, 2
NRC DOCKETS 50-321, 50-366
OPERATING LICENSES DPR-57, NPF-5
REQUEST TO REVISE TECHNICAL SPECIFICATIONS:

PAGE CHANGE INSTRUCTIONS

The proposed change to the Plant Hatch Unit 1 Technical Specifications will be incorporated as follows:

Remove Page	Insert Page
3.9-2b	3.9-2b
3.9-3	3.9-3
-----	3.9-3a
-----	3.9-3b
3.9-5	3.9-5
3.9-6	3.9-6
3.9-6a	3.9-6a
3.9-9	3.9-9
3.9-10	3.9-10
3.9-12	3.9-12
-----	3.9-12a
-----	3.9-12b
3.10-10	3.10-10

The proposed change to the Plant Hatch Unit 2 Technical Specifications will be incorporated as follows:

Remove Page	Insert Page
3/4 8-4	3/4 8-4

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

a. Operability (Continued)

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*.**

7. At least once per 18 months during shutdown, verify the auto-connected loads to each diesel generator do not exceed 3100 kW.

8. At least once per 18 months during shutdown, verify the diesel generator's capability to synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power, to transfer its loads to the offsite power source, and to proceed through its shutdown sequence.

9. At least once per 18 months during shutdown, verify that with the diesel generator operating in the test mode (connected to its bus), a simulated LOCA actuation signal overrides the test mode by returning the diesel generator to standby operation and automatically energizes the emergency loads with offsite power.

10. At least once per 10 years, or after any modifications which could affect diesel generator interdependence, verify that all three diesel generators start simultaneously during shutdown, and 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.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.9.A.3. 125/250 Volt DC Emergency Power System (Plant Batteries 1A and 1B) Both 125/250 volt plant batteries (1A and 1B) shall be operable and shall have an operable battery charger and ventilation system available for each.	4.9.A.3. 125/250 Volt DC Emergency Power System (Plant Batteries 1A and 1B) a. Weekly Surveillance Every week the specific gravity and the voltage of the pilot cell and overall battery voltage shall be measured and recorded. Each 125 volt battery shall have a minimum of 105 volts at the battery terminals to be considered operable. b. Monthly Surveillance Every month measurements shall be made of voltage of each cell to the nearest 0.1 volt and the specific gravity of each cell. These measurements shall be recorded. Liquid level shall be checked visually. c. Refueling Outage Surveillance During each scheduled refueling outage, the batteries shall be subjected to a rated load discharge test. The specific gravity and voltage of each cell shall be determined after the discharge and recorded.
4. Emergency 4160 Volt Buses (1E, 1F, and 1G) The emergency 4160 volt buses (1E, 1F, and 1G) shall be energized and operable.	4. Emergency 4160 Volt Buses (1E, 1F, and 1G) The emergency 4160 volt buses (1E, 1F, and 1G) shall be monitored to the extent that they are shown to be ready and capable of transmitting the emergency load.
5. Lower Voltage Emergency Buses a. Emergency 600 Volt Buses (1C and 1D) The emergency 600 volt buses (1C and 1D) shall be energized and operable. b. 120/208 Volt Essential Cabinets (1A and 1B) The 120/208 volt essential cabinets (1A and 1B) shall be energized and operable. c. 120/208 Volt Instrument Buses (1A and 1B) The 120/208 volt instrument buses (1A and 1B) shall be energized and operable with their crosstie breakers open.	5. Lower Voltage Emergency Buses a. Emergency 600 Volt Buses (1C and 1D) The emergency 600 volt buses (1C and 1D) shall be monitored to the extent that they are shown to be ready and capable of transmitting the emergency load. b. 120/208 Volt Essential Cabinets (1A and 1B) The 120/208 volt essential cabinets (1A and 1B) shall be monitored to the extent that they are shown to be ready and capable of transmitting the emergency load.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
6. Emergency 250 Volt DC to 600 Volt AC Inverters The emergency 250 volt DC to 600 volt AC inverters shall be energized and operable.	c. 120/208 Volt Instrument Buses (1A and 1B) The 120/208 volt instrument buses (1A and 1B) shall be monitored to the extent that they are shown to be ready and capable of transmitting the emergency load. At least once per seven (7) days the instrument bus crosstie breakers shall be verified to be open.
	6. Emergency 250 Volt DC to 600 Volt AC Inverters a. The emergency 250 volt DC/600 volt AC inverters shall be monitored to the extent that they are shown to be ready and capable of transmitting the emergency load.

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LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.9.B.1. One Startup Auxiliary Transformer (1C or 1D) Inoperable or Only One Offsite Power Source Available (230 kV Transmission Line) Reactor operation is permissible for seven days from the date that one startup auxiliary transformer (1C or 1D) is inoperable or incoming power is available from only one 230 kV offsite transmission line provided the increased Surveillance Requirements as stated in Specification 4.9.B.1. are implemented.	4.9.B.1. One Startup Auxiliary Transformer (1C or 1D) Inoperable or Only One Offsite Power Source Available (230 kV Transmission Line) When it is established that one startup auxiliary transformer (1C or 1D) is inoperable or incoming power is available from only one 230 kV offsite transmission line, verify correct breaker alignments and indicated power availability within one hour and at least once per eight hours thereafter, and perform Surveillance Requirement 4.9.A.2.a.1 within 24 hours. |
2. One Diesel Generator (1A, 1B, or 1C) Inoperable From and after the date that one of the diesel generators is made or found to be inoperable, continued reactor operation is permissible in accordance with Specification 3.5.C. for a period not to exceed seven days provided that two 230 kV offsite transmission lines are available, both remaining diesel generators and associated emergency buses are operable, and the increased Surveillance Requirements as stated in Specification 4.9.B.2. are implemented.	2. One Diesel Generator (1A, 1B, or 1C) Inoperable When it is established that one diesel generator (1A, 1B, or 1C) is inoperable, verify correct breaker alignments and indicated power availability within one hour and at least once per eight hours thereafter, and perform Surveillance Requirement 4.9.A.2.a.1 within 24 hours, and every 72 hours thereafter. |
3. One 125/250 Volt DC Power System (Plant Battery 1A or 1B) Inoperable From and after the date that one of the two 125/250 volt plant batteries is made or found to be inoperable, continued reactor operation is permissible during the succeeding seven (7) days within electrical safety considerations, provided repair work is initiated immediately to return the failed component to an operable state, Specification 3.5.G. is satisfied,	3. One 125/250 Volt DC Power System (Plant Battery 1A or 1B) Inoperable When it is established that one of the 125/250 volt DC power systems (plant battery 1A or 1B) is made or found to be inoperable, the pilot cell voltage and specific gravity and the overall battery voltage of the operable plant battery shall be tested daily and determined to be satisfactory.

3.9.B.3. One 125/250 Volt DC Power System (Plant Battery 1A or 1B) Inoperable (Continued)

and the increased Surveillance Requirements as stated in Specification 4.9.B.3. are implemented.

4. Emergency 4160 Volt Buses (1E, 1F, or 1G) Inoperable

One of the emergency 4160 volt buses (1E, 1F, or 1G) may be inoperable for a period not to exceed seven (7) consecutive days providing the other two emergency 4160 volt buses and associated ECCS equipment are operable.

5. Lower Voltage Emergency Buses

a. Emergency 600 Volt Buses (1C or 1D) Inoperable

One of the emergency 600 volt buses (1C or 1D) may be inoperable for a period not to exceed seven (7) days providing the other 600 volt bus is operable.

b. 120/208 Volt Essential Cabinets (1A and 1B)

One of the 120/208 volt essential cabinets (1A and 1B) may be inoperable for a period not to exceed eight (8) hours providing the other 120/208 volt essential cabinet is operable. Both of the 120/208 volt essential cabinets (1A and 1B) may be inoperable for a period not to exceed two (2) hours.

c. 120/208 Volt Instrument Buses (1A and 1B)

One of the 120/208 volt instrument buses (1A or 1B) may be inoperable for a period not to exceed eight (8) hours providing the other 120/208 volt instrument bus is operable. Both of the 120/208 volt instrument buses (1A and 1B) may be inoperable for a period not to exceed two (2) hours.

6. Emergency 250 Volt DC to 600 Volt AC Inverters

One of the emergency 250 volt DC to 600 volt AC inverters may be inoperable for a period not to exceed seven (7) consecutive days providing the other inverter is operable.

C. Diesel Generator Requirements (Reactor in the Shutdown or Refuel Mode)*

Whenever the reactor is in either the Shutdown or Refuel Mode, a minimum of two diesel generators shall be operable whenever:

1. Work is being done which has the potential for draining the reactor pressure vessel, or

2. Secondary containment is required, or

3. A core or containment cooling system is required.

D. Electric Power Monitoring for the Reactor Protection System

Specifications:

1. When either of the RPS MG sets or the Alternate Source is in service, its power monitoring system shall be OPERABLE.

   (a) If the power monitoring system is not OPERABLE and Operability cannot be restored within 30 minutes of discovery, remove the power supply from service immediately thereafter.

   (b) One channel of a power monitoring system may be inoperable, as necessary for test or maintenance, not to exceed 8 hours per month.

4.9.D. Electric Power Monitoring for Reactor Protection System

Specifications:

1. The Electric Power Monitoring for the Reactor Protection System shall be demonstrated operable:

   (a) At least one per 6 months by performing a FUNCTIONAL TEST,

   (b) At least once per operating cycle by demonstrating the OPERABILITY of under-voltage, over-voltage and under-frequency protective instrumentation by performance of a CHANNEL CALIBRATION including simulated automatic actuation of the protective relays, tripping logic and output circuit breakers and verifying the following setpoints:

      (1) Over-voltage $\leq$132 VAC,

      (2) Under-voltage $\geq$108 VAC, with time delay relay set to zero** |

      (3) Under-frequency $\geq$57 Hz, with time delay relay set to zero** |

* This specification is not applicable when fuel is not in the reactor pressure vessel; however, one diesel generator shall be operable and aligned to supply power as follows:

a. To provide fuel pool cooling capability; and

b. To provide power for one train of SGTS when secondary containment is required.

**Pending NRC approval of different value. |

3.9.A.5. Lower Voltage Emergency Buses

a. Emergency 600 Volt Buses (1C and 1D)

The emergency 600 volt buses (1C and 1D) shall be supplied from the emergency 4160 volt buses (1E, 1F, and 1G) and these 600 volt buses shall provide and distribute AC power to the engineered safety feature motors rated at and below 200 horsepower.

b. 120/208 Volt Essential Cabinets (1A and 1B)

The 120/208 volt essential cabinets (1A and 1B) shall be supplied from the emergency 600 volt buses (1C and 1D) and these essential cabinets shall provide and distribute AC power to numerous loads, some with engineered safety feature applications.

c. 120/208 Volt Instrument Buses (1A and 1B)

The 120/208 volt instrument buses (1A and 1B) shall be supplied from the 120/208 volt essential cabinets (1A and 1B) and these instrument buses shall provide and distribute AC power to instrumentation and controls, some with engineered safety feature applications.

6. Emergency 250 Volt DC/600 Volt AC Inverters

The two (2) emergency 250 volt DC/600 volt AC inverters shall be supplied from plant batteries (1A and 1B) and these inverters shall supply 600 volts AC to Engineered Safety Feature valves of the LPCI and Recirculation Systems.

7. Logic Systems

The operability of logic systems provides assurance of proper diesel starting performance upon receipt of an accident signal. The operability shall be confirmed by periodic tests. Failure of a logic system requires that reactor operation be terminated within seven (7) days and the reactor be maintained in the Cold Shutdown Condition until the logic systems are proven operable.

B. Requirements for Continued Operation with Inoperable Components

1. One Startup Auxiliary Transformer (1C or 1D) Inoperable or Only One Offsite Power Source Available (230 kV Transmission Line)

One startup auxiliary transformer and one offsite transmission line can supply sufficient power to permit functioning of structures, systems, and components important to safety. The standby diesel generators will serve as a backup to the preferred offsite power sources.

2. One Diesel Generator (1A, 1B, or 1C) Inoperable

The failure of any component associated with one diesel generator units shall not jeopardize the capability of the remaining diesel generator units to start and supply the minimum required engineered safety feature loads. One diesel generator may be allowed out of service based on the availability of power from the startup auxiliary transformers and the fact that two diesel generators carry sufficient engineered safety feature equipment to cover any postulated design basis accident. A diesel generator shall be considered inoperable if it is incapable of automatically starting and running the required shutdown systems, emergency systems, and engineered safety feature loads.

3. One 125/250 Volt DC Power System (Plant Battery 1A or 1B) Inoperable

Although loss of one of the two DC sources is highly improbable, loss of one source would not prevent safe shutdown of the reactor. Loss of one of the 125/250 volt DC power systems does not affect plant safety since redundant loads continue to be supplied by the second system. However, since a single failure cannot be tolerated, continued operation will be permitted for only seven (7) days unless redundancy is restored.

3.9.B.4 Emergency 4160 Volt Buses (1E, 1F, or 1G) Inoperable

Each of the three emergency 4160 volt emergency buses (1E, 1F, and 1G) is preferably supplied from the auxiliary startup transformers with each bus normally having a single diesel generator as a standby power supply. The critical emergency safety feature loads are divided among the three emergency 4160 volt buses, and failure of one bus does not prevent a safe shutdown of the reactor. Therefore, operation would be permitted for only seven (7) days after which the reactor shall be placed in the Cold Shutdown Condition.

5. Lower Voltage Emergency Buses

a. Emergency 600 Volt Buses (1C or 1D) Inoperable

The two emergency 600 volt buses (1C and 1D) are normally supplied from separate emergency 4160 volt buses (1E and 1G with 1F as a backup). Failure of one bus cannot affect its redundant counterpart and loss of either bus will not prevent operation of the minimum required emergency safety feature loads.

b. 120/208 Volt Essential Cabinets (1A and 1B)

The two 120/208 volt essential cabinets (1A and 1B) are normally supplied from separate emergency 600 volt buses (1C and 1D). Failure of one bus cannot affect its redundant counterpart and loss of either bus will not prevent operation of the minimum required emergency safety feature loads.

c. 120/208 Volt Instrument Buses (1A and 1B)

The two 120/208 volt instrument buses (1A and 1B) are normally supplied from separate 120/208 volt essential cabinets (1A and 1B). Independence of the two instrument buses is assured by maintaining the crosstie breakers open. Failure of one bus cannot affect its redundant counterpart and loss of either bus will not prevent operation of the minimum required emergency safety feature loads. The two instrument buses are each powered by a different division of Class 1E AC power. Therefore, if the buses are found to be crosstied while both buses are also tied to their normal sources, then both buses must be considered inoperable. If the buses are crosstied and only one bus is tied to its normal source, then only the bus which is not tied to its normal source must be considered inoperable.

6. Emergency 250 Volt DC to 600 Volt AC Inverter Inoperable

The two emergency 250 volt DC to 600 volt AC inverters are normally supplied from separate emergency plant batteries (1A and 1B). Failure of one inverter cannot affect its redundant counterpart, and loss of either bus will not prevent operation of the minimum required emergency safety feature loads.

C. Diesel Generator Requirements (Reactor in the Shutdown or Refuel Mode)

This requirement provides added assurance that a standby power supply is available under certain circumstances even though the reactor may not be critical and the reactor coolant temperature is less than 212°F.

D. RPS MG Sets

The LCO will minimize a possible failure in the motor-generator set voltage regulating circuitry which, if persisting for a sufficient period of time, could potentially result in degradation to the reactor protection system components with the attendant potential loss of capability to scram the plant.

E. References

1. FSAR, Section 8.4, Standby AC Power Supply.

2. General Design Criterion 17 of Appendix A to 10 CFR 50.

3. "Proposed IEEE Criteria for Class 1E Electric Systems for Nuclear Power Generating Stations" (IEEE Standard No. 308), June, 1969.

4.9.A.2.e. Fuel Oil Transfer Pumps

Following the monthly test of the diesels, the fuel oil transfer pumps shall be operated to refill the day tank and to check the operation of these pumps.

3. 125/250 Volt DC Emergency Power System (Plant Batteries 1A and 1B)

The plant batteries may deteriorate with time, but precipitous failure is unlikely. The type of surveillance described in this specification is that which has been demonstrated through experience to provide an indication of a cell becoming irregular or inoperable long before it fails.

4. Emergency 4160 Volt Buses (1E, 1F, and 1G)

The emergency 4160 volt buses (1E, 1F, and 1G) are monitored to assure readiness and capability of transmitting power to the emergency load.

These buses distribute AC power to the required engineered safety feature equipment. The normal feeds and backup to the emergency buses (1E, 1F, and 1G) are taken from the startup auxiliary transformers. If neither startup auxiliary transformer is available, buses 1E, 1F, and 1G will be energized from the standby diesel generators.

5. Lower Voltage Emergency Buses

a. Emergency 600 Volt Buses (1C and 1D)

The emergency 600 volt buses (1C and 1D) are monitored to assure readiness and capability of transmitting the emergency load.

b. 120/208 Volt Essential Cabinets (1A and 1B)

The 120/208 volt essential cabinets (1A and 1B) are monitored to assure readiness and capability of transmitting the emergency load.

c. 120/208 Volt Instrument Buses (1A and 1B)

The 120/208 volt instrument buses (1A and 1B) are monitored to assure readiness and capability of transmitting the emergency load. The periodic verification that the crosstie breakers are open assures the independence of the two buses.

6. Emergency 250 Volt DC to 600 Volt AC Inverters

The emergency 250 volt DC to 600 volt AC inverters are monitored to assure readiness and capability of transmitting power to the emergency loads.

7. Logic Systems

The periodic testing of the logic systems will verify the ability of the logic systems to bring the auxiliary electrical systems to running standby readiness with the presence of an accident signal and/or a degraded voltage or LOSP signal.

The periodic testing of the relays which initiate energization of the emergency buses by the diesel generators when voltage is lost on startup transformer 1C will verify operability of these relays.

The periodic simulation of accident signals will confirm the ability of the 600 volt load shedding logic system to sequentially shed and restart 600 volt loads if an accident signal were present and diesel generator voltage were the only source of electrical power.

D. RPS MG Sets

The surveillance requirements for the RPS power supply equipment will ensure the timely detection of potential component failures that might be caused by a sustained over-voltage or under-voltage conditions.

E. References

1. "Proposed IEEE Criteria for Class 1E Electric Systems for Nuclear Power Generating Stations" (IEEE Standard No. 308), June, 1969.

2. American Society for Testing and Materials, 1970 Annual Book of ASTM Standards, Part 17.

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4.10. REFUELING

A. Refueling Interlocks

Complete functional testing of all refueling interlocks before any refueling outage will provide positive indication that the interlocks operate in the situations for which they were designed. By loading each hoist with a weight equal to the fuel assembly, positioning the refueling platform, and withdrawing control rods, the interlocks can be subjected to valid operational tests. Where redundancy is provided in the logic circuitry, tests can be performed to assure that each redundant logic element can independently perform its functions.

C. Core Monitoring During Core Alterations

Requiring the SRM's to be functionally tested prior to any core alteration assures that the SRM's will be operable at the start of that alteration. The daily response check of the SRM's ensures their continued operability.

D. Spent Fuel Pool Water Level

A weekly record of the Spent Fuel Pool Water Level to determine that the minimum of 21 feet is maintained is considered sufficient to ensure that radiological shielding is maintained.

E. Control Rod Drive Maintenance

Refueling interlocks and core monitoring surveillance are discussed in 4.10.A. and 4.10.C. above. The choice of the strongest (highest reactivity worth) rod which will be used for a determination of the relevant shutdown margins is based on prior core calculations supplemented by empirical data obtained from similar cores. From similar data and calculations the reactivity worth of rods adjacent to a withdrawn rod will also be known. Thus the surveillance shutdown margins can be evaluated in terms of rod position.

F. Reactor Building Cranes

Modifications to the main reactor building crane are being studied in order to increase its ability to withstand a single failure. A spent fuel cask will not be lifted until these modifications have been accepted by the AEC and the AEC has approved the lifting of casks by the crane and the appropriate Technical Specifications.

G. Spent Fuel Cask Lifting Trunnions and Yoke

See note for Bases 4.10.F. above.

I. Crane Travel-Spent Fuel Storage Pool

Refer to Bases 3.10.I.

SURVEILLANCE REQUIREMENTS (Continued)

4. Verifying the diesel generator capability to reject a load of at least 2775 kW without tripping. The generator voltage shall not exceed 4800 volts during and following the load rejection.*

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

   a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

   b) Verifying the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads in $\leq$ 12 seconds, energizes the auto-connected shutdown loads through the load sequencer, operates for $\geq$ 5 minutes while its generator is loaded with the shutdown loads, and achieves and maintains a steady-state voltage of 4160 $\pm$ 420 volts and a steady-state frequency of 60 $\pm$ 1.2 Hz.

6. Verify 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 $\geq$ 5 minutes.

7. (deleted)

8. Simulating a loss of offsite power in conjunction with an ECCS actuation test signal, and

   a) Verifying de-energization of the emergency busses and load shedding for the emergency busses.

   b) Verifying the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads in $\leq$ 12 seconds, energizes the auto-connected shutdown (emergency) loads through the load sequencer, operates for $\geq$ 5 minutes while its generator is loaded with the emergency loads, and achieves and maintains a steady-state voltage of 4160 $\pm$ 420 volts and a steady-state frequency of 60 $\pm$ 1.2 Hz.

   c) Verifying 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.

* For the 1B diesel generator a single full load rejection test every 18 months will satisfy the requirements of Unit 1 Specification 4.9.A.2.a.5 and Unit 2 Specification 4.8.1.1.2.d.4.

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

a. Operability (Continued)

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*,**

7. At least once per 18 months during shutdown, verify the auto-connected loads to each diesel generator do not exceed 3100 kW.

8. At least once per 18 months during shutdown, verify the diesel generator's capability to synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power, to transfer its loads to the offsite power source, and to proceed through its shutdown sequence.

9. At least once per 18 months during shutdown, verify that with the diesel generator operating in the test mode (connected to its bus), a simulated LOCA actuation signal overrides the test mode by returning the diesel generator to standby operation and automatically energizes the emergency loads with offsite power.

10. At least once per 10 years, or after any modifications which could affect diesel generator interdependence, verify that all three diesel generators start simultaneously during shutdown, and 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.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.9.A.3. 125/250 Volt DC Emergency Power System (Plant Batteries 1A and 1B) Both 125/250 volt plant batteries (1A and 1B) shall be operable and shall have an operable battery charger and ventilation system available for each.	4.9.A.3. 125/250 Volt DC Emergency Power System (Plant Batteries 1A and 1B) a. Weekly Surveillance Every week the specific gravity and the voltage of the pilot cell and overall battery voltage shall be measured and recorded. Each 125 volt battery shall have a minimum of 105 volts at the battery terminals to be considered operable. b. Monthly Surveillance Every month measurements shall be made of voltage of each cell to the nearest 0.1 volt and the specific gravity of each cell. These measurements shall be recorded. Liquid level shall be checked visually. c. Refueling Outage Surveillance During each scheduled refueling outage, the batteries shall be subjected to a rated load discharge test. The specific gravity and voltage of each cell shall be determined after the discharge and recorded.
4. Emergency 4160 Volt Buses (1E, 1F, and 1G) The emergency 4160 volt buses (1E, 1F, and 1G) shall be energized and operable.	4. Emergency 4160 Volt Buses (1E, 1F, and 1G) The emergency 4160 volt buses (1E, 1F, and 1G) shall be monitored to the extent that they are shown to be ready and capable of transmitting the emergency load.
5. LOWER VOLTAGE EMERGENCY BUSES	5. LOWER VOLTAGE EMERGENCY BUSES
~~a.~~ ~~5.~~ Emergency 600 Volt Buses (1C and 1D) The emergency 600 volt buses (1C and 1D) shall be energized and operable.	~~5.~~ a. Emergency 600 Volt Buses (1C and 1D) The emergency 600 volt buses (1C and 1D) shall be monitored to the extent that they are shown to be ready and capable of transmitting the emergency load.
6. Emergency 250 Volt DC to 600 Volt AC Inverters The emergency 250 volt DC to 600 volt AC inverters shall be energized and operable.	6. Emergency 250 Volt DC to 600 Volt AC Inverters a. The emergency 250 volt DC/600 volt AC inverters shall be monitored to the extent that they are shown to be ready and capable of transmitting the emergency load.

INSERT 3.9.A.5.b + 3.9.A.5.c FROM NEXT PAGE

INSERT 4.9.A.5.b + 4.9.A.5.c FROM NEXT PAGE

b. 120/208 Volt Essential Cabinets (1A and 1B)

The 120/208 volt essential cabinets (1A and 1B) shall be energized and operable.

(3.9.A.5.c)

c. 120/208 Volt Instrument Buses (1A and 1B)

The 120/208 volt instrument buses (1A and 1B) shall be energized and operable with their crosstie breakers open.

(4.9.A.5.b)

b. 120/208 Volt Essential Cabinets (1A and 1B)

The 120/208 volt essential cabinets (1A and 1B) shall be monitored to the extent that they are shown to be ready and capable of transmitting the emergency load.

(4.9.A.5.c)

c. 120/208 Volt Instrument Buses (1A and 1B)

The 120/208 volt instrument buses (1A and 1B) shall be monitored to the extent that they are shown to be ready and capable of transmitting the emergency load. At least once per seven (7) days the instrument bus crosstie breakers shall be verified to be open.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.9.B.1. One Startup Auxiliary Transformer (1C or 1D) Inoperable or Only One Offsite Power Source Available (230 kV Transmission Line) Reactor operation is permissible for seven days from the date that one startup auxiliary transformer (1C or 1D) is inoperable or incoming power is available from only one 230 kV offsite transmission line provided the increased Surveillance Requirements as stated in Specification 4.9.B.1. are implemented.	4.9.B.1. One Startup Auxiliary Transformer (1C or 1D) Inoperable or Only One Offsite Power Source Available (230 kV Transmission Line) When it is established that one startup auxiliary transformer (1C or 1D) is inoperable or incoming power is available from only one 230 kV offsite transmission line, verify correct breaker alignments and indicated power availability within one hour and at least once per eight hours thereafter, and perform Surveillance Requirement ~~4.9.A.2.e~~ 4.9.A.2.a.1 within 24 hours.
2. One Diesel Generator (1A, 1B, or 1C) Inoperable From and after the date that one of the diesel generators is made or found to be inoperable, continued reactor operation is permissible in accordance with Specification 3.5.G. for a period not to exceed seven days provided that two 230 kV offsite transmission lines are available, both remaining diesel generators and associated emergency buses are operable, and the increased Surveillance Requirements as stated in Specification 4.9.B.2. are implemented.	2. One Diesel Generator (1A, 1B, or 1C) Inoperable When it is established that one diesel generator (1A, 1B, or 1C) is inoperable, verify correct breaker alignments and indicated power availability within one hour and at least once per eight hours thereafter, and perform Surveillance Requirement ~~4.9.A.2.e~~ within 24 hours, and every 72 hours thereafter. 4.9.A.2.a.1
3. One 125/250 Volt DC Power System (Plant Battery 1A or 1B) Inoperable From and after the date that one of the two 125/250 volt plant batteries is made or found to be inoperable, continued reactor operation is permissible during the succeeding seven (7) days within electrical safety considerations, provided repair work is initiated immediately to return the failed component to an operable state, Specification 3.5.G. is satisfied,	3. One 125/250 Volt DC Power System (Plant Battery 1A or 1B) Inoperable When it is established that one of the 125/250 volt DC power systems (plant battery 1A or 1B) is made or found to be inoperable, the pilot cell voltage and specific gravity and the overall battery voltage of the operable plant battery shall be tested daily and determined to be satisfactory.

3.9.B.3. One 125/250 Volt DC Power System (Plant Battery 1A or 1B) Inoperable (Continued)

and the increased Surveillance Requirements as stated in Specification 4.9.B.3. are implemented.

4. Emergency 4160 Volt Buses (1E, 1F, or 1G) Inoperable

One of the emergency 4160 volt buses (1E, 1F, or 1G) may be inoperable for a period not to exceed seven (7) consecutive days providing the other two emergency 4160 volt buses and associated ECCS equipment are operable.

5. LOWER VOLTAGE EMERGENCY BUSES

~~5.~~ a. Emergency 600 Volt Buses (1C or 1D) Inoperable

One of the emergency 600 volt buses (1C or 1D) may be inoperable for a period not to exceed seven (7) days providing the other 600 volt bus is operable.

INSERT 3.9.B.5.b + 3.9.B.5.c FROM NEXT PAGE →

6. Emergency 250 Volt DC to 600 Volt AC Inverters

One of the emergency 250 volt DC to 600 volt AC inverters may be inoperable for a period not to exceed seven (7) consecutive days providing the other inverter is operable.

C. Diesel Generator Requirements (Reactor in the Shutdown or Refuel Mode)*

Whenever the reactor is in either the Shutdown or Refuel Mode, a minimum of two diesel generators shall be operable whenever:

*This specification is not applicable when fuel is not in the reactor pressure vessel; however, one diesel generator shall be operable and aligned to supply power as follows:

a. To provide fuel pool cooling capability; and

b. To provide power for one train of SGTS when secondary containment is required.

(3.9.B.5.b)

b. 120/208 Volt Essential Cabinets (1A and 1B)

One of the 120/208 volt essential cabinets (1A or 1B) may be inoperable for a period not to exceed eight (8) hours providing the other 120/208 volt essential cabinet is operable. Both of the 120/208 volt essential cabinets (1A and 1B) may be inoperable for a period not to exceed two (2) hours.

(3.9.B.5.c)

c. 120/208 Volt Instrument Buses (1A and 1B)

One of the 120/208 volt instrument buses (1A or 1B) may be inoperable for a period not to exceed eight (8) hours providing the other 120/208 volt instrument bus is operable. Both of the 120/208 volt instrument buses (1A and 1B) may be inoperable for a period not to exceed two (2) hours.

3.9.A.5. LOWER VOLTAGE EMERGENCY BUSES

a. Emergency 600 Volt Buses (1C and 1D)

The emergency 600 volt buses (1C and 1D) shall be supplied from the emergency 4160 volt buses (1E, 1F, and 1G) and these 600 volt buses shall provide and distribute AC power to the engineered safety feature motors rated at and below 200 horsepower.

INSERT 3.9.A.5.b + 3.9.A.5.c. FROM NEXT PAGE

b. Emergency 250 Volt DC/600 Volt AC Inverters

The two (2) emergency 250 volt DC/600 volt AC inverters shall be supplied from plant batteries (1A and 1B) and these inverters shall supply 600 volts AC to Engineered Safety Feature valves of the LPCI and Recirculation Systems.

7. Logic Systems

The operability of logic systems provides assurance of proper diesel starting performance upon receipt of an accident signal. The operability shall be confirmed by periodic tests. Failure of a logic system requires that reactor operation be terminated within seven (7) days and the reactor be maintained in the Cold Shutdown Condition until the logic systems are proven operable.

B. Requirements for Continued Operation with Inoperable Components

1. One Startup Auxiliary Transformer (1C or 1D) Inoperable or Only One Offsite Power Source Available (230 kV Transmission Line)

One startup auxiliary transformer and one offsite transmission line can supply sufficient power to permit functioning of structures, systems, and components important to safety. The standby diesel generators will serve as a backup to the preferred offsite power sources.

2. One Diesel Generator (1A, 1B, or 1C) Inoperable

The failure of any component associated with the diesel generator units shall not jeopardize the capability of the remaining diesel generator units to start and supply the minimum required engineered safety feature loads. One diesel generator may be allowed out of service based on the availability of power from the startup auxiliary transformers and the fact that two diesel generators carry sufficient engineered safety feature equipment to cover any postulated design basis accident. A diesel generator shall be considered inoperable if it is incapable of automatically starting and running the required shutdown systems, emergency systems, and engineered safety feature loads.

3. One 125/250 Volt DC Power System (Plant Battery 1A or 1B) Inoperable

Although loss of one of the two DC sources is highly improbable, loss of one source would not prevent safe shutdown of the reactor. Loss of one of the 125/250 volt DC power systems does not affect plant safety since redundant loads continue to be supplied by the second system. However, since a single failure cannot be tolerated, continued operation will be permitted for only seven (7) days unless redundancy is restored.

(3.9.A.5.b)

b. 120/208 Volt Essential Cabinets (1A and 1B)

The 120/208 volt essential cabinets (1A and 1B) shall be supplied from the emergency 600 volt buses (1C and 1D) and these essential cabinets shall provide and distribute AC power to numerous loads, some with engineered safety feature applications.

(3.9.A.5.c)

c. 120/208 Volt Instrument Buses (1A and 1B)

The 120/208 volt instrument buses (1A and 1B) shall be supplied from the 120/208 volt essential cabinets (1A and 1B) and these instrument buses shall provide and distribute AC power to instrumentation and controls, some with engineered safety feature applications.

3.9.B.4. Emergency 4160 Volt Buses (1E, 1F, or 1G) Inoperable

Each of the three emergency 4160 volt emergency buses (1E, 1F, and 1G) is preferably supplied from the auxiliary startup transformers with each bus normally having a single diesel generator as a standby power supply. The critical emergency safety feature loads are divided among the three emergency 4160 volt buses, and failure of one bus does not prevent a safe shutdown of the reactor. Therefore, operation would be permitted for only seven (7) days after which the reactor shall be placed in the Cold Shutdown Condition.

5. LOWER VOLTAGE EMERGENCY BUSES

~~5.~~ a. Emergency 600 Volt Buses (1C or 1D) Inoperable

The two emergency 600 volt buses (1C and 1D) are normally supplied from separate emergency 4160 volt buses (1E and 1G with 1F as a backup). Failure of one bus cannot affect its redundant counterpart and loss of either bus will not prevent operation of the minimum required emergency safety feature loads.

INSERT 3.9.B.5.b + 3.9.B.5.c FROM NEXT PAGE

6. Emergency 250 Volt DC to 600 Volt AC Inverter Inoperable

The two emergency 250 volt DC to 600 volt AC inverters are normally supplied from separate emergency plant batteries (1A and 1B). Failure of one inverter cannot affect its redundant counterpart, and loss of either bus will not prevent operation of the minimum required emergency safety feature loads.

C. Diesel Generator Requirements (Reactor in the Shutdown or Refuel Mode)

This requirement provides added assurance that a standby power supply is available under certain circumstances even though the reactor may not be critical and the reactor coolant temperature is less than 212°F.

D. RPS MG Sets

The LCO will minimize a possible failure in the motor-generator set voltage regulating circuitry which, if persisting for a sufficient period of time, could potentially result in degradation to the reactor protection system components with the attendant potential loss of capability to scram the plant.

E. References

1. FSAR, Section 8.4, Standby AC Power Supply.

2. General Design Criterion 17 of Appendix A to 10 CFR 50.

3. "Proposed IEEE Criteria for Class 1E Electric Systems for Nuclear Power Generating Stations" (IEEE Standard No. 308), June, 1969.

Order dated August 7, 1978

(3.9.B.5.b)

b. 120/208 Volt Essential Cabinets (1A and 1B)

The two 120/208 volt essential cabinets (1A and 1B) are normally supplied from separate emergency 600 volt buses (1C and 1D). Failure of one bus cannot affect its redundant counterpart and loss of either bus will not prevent operation of the minimum required emergency safety feature loads.

(3.9.B.5.c)

c. 120/208 Volt Instrument Buses (1A and 1B)

The two 120/208 volt instrument buses (1A and 1B) are normally supplied from separate 120/208 volt essential cabinets (1A and 1B). Independence of the two instrument buses is assured by maintaining the crosstie breakers open. Failure of one bus cannot affect its redundant counterpart and loss of either bus will not prevent operation of the minimum required emergency safety feature loads. The two instrument buses are each powered by a different division of Class 1E AC power. Therefore, if the buses are found to be crosstied while both buses are also tied to their normal sources, then both buses must be considered inoperable. If the buses are crosstied and only one bus is tied to its normal source, then only the bus which is not tied to its normal source must be considered inoperable.

4.9.A.2.e. Fuel Oil Transfer Pumps

Following the monthly test of the diesels, the fuel oil transfer pumps shall be operated to refill the day tank and to check the operation of these pumps.

3. 125/250 Volt DC Emergency Power System (Plant Batteries 1A and 1B)

The plant batteries may deteriorate with time, but precipitous failure is unlikely. The type of surveillance described in this specification is that which has been demonstrated through experience to provide an indication of a cell becoming irregular or inoperable long before it fails.

4. Emergency 4160 Volt Buses (1E, 1F, and 1G)

The emergency 4160 volt buses (1E, 1F, and 1G) are monitored to assure readiness and capability of transmitting power to the emergency load.

These buses distribute AC power to the required engineered safety feature equipment. The normal feeds and backup to the emergency buses (1E, 1F, and 1G) are taken from the startup auxiliary transformers. If neither startup auxiliary transformer is available, buses 1E, 1F, and 1G will be energized from the standby diesel generatory.

5. LOWER VOLTAGE EMERGENCY BUSES

~~5.~~ a. Emergency 600 Volt Buses (1C and 1D)

The emergency 600 volt buses (1C and 1D) are monitored to assure readiness and capability of transmitting the emergency load.

INSERT 4.9.A.5.b & 4.9.A.5.c FROM NEXT PAGE

6. Emergency 250 Volt DC to 600 Volt AC Inverters

The emergency 250 volt DC to 600 volt AC inverters are monitored to assure readiness and capability of transmitting power to the emergency loads.

7. Logic Systems

The periodic testing of the logic systems will verify the ability of the logic systems to bring the auxiliary electrical systems to running standby readiness with the presence of an accident signal and/or a degraded voltage or LOSP signal.

The periodic testing of the relays which initiate energization of the emergency buses by the diesel generators when voltage is lost on startup transformer 1C will verify operability of these relays.

The periodic simulation of accident signals will confirm the ability of the 600 volt load shedding logic system to sequentially shed and restart 600 volt loads if an accident signal were present and diesel generator voltage were the only source of electrical power.

D. RPS MG Sets

The surveillance requirements for the RPS power supply equipment will ensure the timely detection of potential component failures that might be caused by a sustained over-voltage or under-voltage conditions.

E. References

1. "Proposed IEEE Criteria for Class 1E Electric Systems for Nuclear Power Generating Stations" (IEEE Standard No. 308), June, 1969.

2. American Society for Testing and Materials, 1970 Annual Book of ASTM Standards, Part 17.

(4.9.A.5.b)

b. 120/208 Volt Essential Cabinets (1A and 1B)

The 120/208 volt essential cabinets (1A and 1B) are monitored to assure readiness and capability of transmitting the emergency load.

(4.9.A.5.c)

c. 120/208 Volt Instrument Buses (1A and 1B)

The 120/208 volt instrument buses (1A and 1B) are monitored to assure readiness and capability of transmitting the emergency load. The periodic verification that the crosstie breakers are open assures the independence of the two buses.

4.10. REFUELING

A. Refueling Interlocks

Complete functional testing of all refueling interlocks before any refueling outage will provide positive indication that the interlocks operate in the situations for which they were designed. By loading each hoist with a weight equal to the fuel assembly, positioning the refueling platform, and withdrawing control rods, the interlocks can be subjected to valid operational tests. Where redundancy is provided in the logic circuitry, tests can be performed to assure that each redundant logic element can independently perform its functions.

C. Core Monitoring During Core Alterations

Requiring the SRM's to be functionally tested prior to any core alteration assures that the SRM's will be operable at the start of that alteration. The daily response check of the SRM's ensures their continued operability.

D. Spent Fuel Pool Water Level

A ~~daily~~ WEEKLY record of the Spent Fuel Pool Water Level to determine that the minimum of ~~8.5~~ 21 feet is ~~not exceeded~~ MAINTAINED is considered sufficient to ensure that radiological shielding is maintained.

E. Control Rod Drive Maintenance

Refueling interlocks and core monitoring surveillance are discussed in 4.10.A. and 4.10.C. above. The choice of the strongest (highest reactivity worth) rod which will be used for a determination of the relevant shutdown margins is based on prior core calculations supplemented by empirical data obtained from similar cores. From similar data and calculations the reactivity worth of rods adjacent to a withdrawn rod will also be known. Thus the surveillance shutdown margins can be evaluated in terms of rod position.

F. Reactor Building Cranes

Modifications to the main reactor building crane are being studied in order to increase its ability to withstand a single failure. A spent fuel cask will not be lifted until these modifications have been accepted by the AEC and the AEC has approved the lifting of casks by the crane and the appropriate Technical Specifications.

G. Spent Fuel Cask Lifting Trunnions and Yoke

See note for Bases 4.10.F. above.

I. Crane Travel-Spent Fuel Storage Pool

Refer to Bases 3.10.I.

SURVEILLANCE REQUIREMENTS (Continued)

4. Verifying the diesel generator capability to reject a load of at least 2775 kW without tripping. The generator voltage shall not exceed 4800 volts during and following the load rejection.*

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

   a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

   b) Verifying the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads in ≤ 12 seconds, energizes the auto-connected shutdown loads through the load sequencer, operates for ≥ 5 minutes while its generator is loaded with the shutdown ~~(emergency)~~ loads, and achieves and maintains a steady-state voltage of 4160 ± 420 volts and a steady-state frequency of 60 ± 1.2 Hz.

6. 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 ≥ 5 minutes.

7. (deleted)

8. Simulating a loss of offsite power in conjunction with an ECCS actuation test signal, and

   a) Verifying de-energization of the emergency busses and load shedding for the emergency busses.

   b) Verifying the diesel starts on the auto-start signal, energizes the emergency busses 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.

   c) Verifying 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.

* For the 1B diesel generator a single full load rejection test every 18 months will satisfy the requirements of Unit 1 Specification 4.9.A.2,&.5 and Unit 2 Specification 4.8.1.1.2.d.4.