

Docket No. 50-423
B13410

Attachment 1
Millstone Nuclear Power Station, Unit No. 3
Proposed Revision to Technical Specifications
3/4.8.1 Electrical Power Systems

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LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 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. Two separate and independent diesel generators, each with:
 - 1) A separate day tank containing a minimum volume of 205 gallons of fuel,
 - 2) A separate Fuel Storage System containing a minimum volume of 32,760 gallons of fuel,
 - 3) A separate fuel transfer pump,
 - 4) Lubricating oil storage containing a minimum total volume of 280 gallons of lubricating oil, and
 - 5) Capability to transfer lubricating oil from storage to the diesel generator unit.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With one offsite circuit 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. If either diesel generator has not been successfully tested within the past 24 hours, demonstrate its OPERABILITY by performing Surveillance Requirement 4.8.1.1.2.a.5 separately for each such diesel generator within 24 hours. Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.
- b. With one diesel generator inoperable, demonstrate the OPERABILITY of the A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; and if the diesel generator became inoperable due to any cause other than preplanned preventative maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.8.1.1.2.a.5 within 24 hours*; restore the diesel generator to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

*This test is required to be completed regardless of when the inoperable diesel generator is restored to OPERABILITY.

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION

ACTION (continued)

- c. With one offsite circuit and one diesel generator inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter; and if the diesel generator became inoperable due to any cause other than preplanned preventative maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.8.1.1.2.a.5 within 8 hours*; restore one of the inoperable sources to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore the other A.C. power source (offsite circuit or diesel generator) to OPERABLE status in accordance with the provisions of Section 3.8.1.1 Action Statement a or b, as appropriate with the time requirement of that Action Statement based on the time of initial loss of the remaining inoperable A.C. power source. A successful test of diesel generator OPERABILITY per Surveillance Requirement 4.8.1.1.2.a.5 performed under this Action Statement for an OPERABLE diesel generator or a restored to OPERABLE diesel generator satisfies the diesel generator test requirement of Action Statement a or b.
- d. With one diesel generator inoperable, in addition to ACTION b or c above, verify that:
1. All required systems, subsystems, trains, components, and devices that depend on the remaining OPERABLE diesel generator as a source of emergency power are also OPERABLE, and
 2. When in MODE 1, 2, or 3, the steam-driven auxiliary feedwater pump is OPERABLE.

If these conditions are not satisfied within 2 hours, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

- e. With two of the required offsite A.C. circuits inoperable, demonstrate the OPERABILITY of two diesel generators by sequentially performing Surveillance Requirement 4.8.1.1.2.a.5 on both diesel generators within 8 hours, unless the diesel generators are already operating; restore one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. Following restoration of one offsite source, follow Action Statement a with the time requirement of that Action Statement based on the time of initial loss of the remaining inoperable offsite A.C. circuit. A successful test(s) of diesel generator OPERABILITY per Surveillance Requirement 4.8.1.1.2.a.5 performed under this Action Statement for the OPERABLE diesel generators satisfies the diesel generator test requirement of Action Statement a.

*This test is required to be completed regardless of when the inoperable diesel generator is restored to OPERABILITY.

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION

ACTION (continued)

- f. With two of the above required diesel generators inoperable, demonstrate the OPERABILITY of two offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter; restore one of the inoperable diesel generators to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Following restoration of one diesel generator unit, follow Action Statement b with the time requirement of that Action Statement based on the time of initial loss of the remaining inoperable diesel generator. A successful test of diesel generator OPERABILITY per Surveillance Requirement 4.8.1.1.2.a.5 performed under this Action Statement for a restored to OPERABLE diesel generator satisfies the diesel generator test requirement of Action Statement b.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the Onsite Class 1E Distribution System shall be:

- a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments, indicated power availability, and
- b. Demonstrated OPERABLE at least once per 18 months during shutdown by transferring (manually and automatically) unit power supply from the normal circuit to the alternate circuit.

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:

- a. In accordance with the frequency specified in Table 4.8-1 on a STAGGERED TEST BASIS by:
 - 1) Verifying the fuel level in the day tank,
 - 2) Verifying the fuel level in the fuel storage tank,
 - 3) Verifying the fuel transfer pump starts and transfers fuel from the storage system to the day tank,
 - 4) Verifying the lubricating oil inventory in storage,
 - 5) Verifying the diesel starts from ambient condition and gradually accelerates to at least 508 rpm with generator voltage and frequency at 4160 ± 420 volts and 60 ± 0.8 Hz. The diesel generator shall be started for this test by using one of the following signals:
 - a) Manual, or

* Testing shall be conducted in accordance with the manufacturer's recommendations regarding engine prelube and warmup procedures, and as applicable regarding loading requirements.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (continued)

- b) Simulated loss-of-offsite power by itself, or
 - c) Simulated loss-of-offsite power in conjunction with an ESF Actuation test signal, or
 - d) An ESF Actuation test signal by itself.
- 6) Verifying the generator is synchronized and gradually loaded to an indicated 4500-4700 kW** and operates for at least 60 minutes, and
- 7) Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.
- b. At least once per 184 days the diesel generator shall be started* and accelerated to at least 508 rpm in less than or equal to 11 seconds. The generator voltage and frequency shall be 4160 ± 420 volts and 60 ± 0.8 Hz within 11 seconds after the start signal. The generator shall be synchronized to the associated emergency bus, loaded to an indicated 4500-4700 kW** in less than or equal to 60 seconds, and operate for at least 60 minutes. The diesel generator shall be started for this test using one of the signals in Surveillance Requirement 4.8.1.1.2.a.5. This test, if it is performed so it coincides with the testing required by Surveillance Requirement 4.8.1.1.2.a.5, may also serve to concurrently meet those requirements as well.
- c. At least once per 31 days and after each operation of the diesel where the period of operation was greater than or equal to 1 hour by checking for and removing accumulated water from the day tank;
- d. At least once per 31 days by checking for and removing accumulated water from the fuel oil storage tanks;
- e. By sampling new fuel oil in accordance with ASTM-D4057 prior to addition to storage tanks and:
- 1) By verifying in accordance with the tests specified in ASTM-D975-81 prior to addition to the storage tanks that the sample has:
 - a) An API Gravity of within 0.3 degrees at 60°F, or a specific gravity of within 0.0016 at 60/60°F, when compared to the supplier's certificate, or an absolute specific

* Testing shall be conducted in accordance with the manufacturer's recommendations regarding engine prelube and warmup procedures, and as applicable regarding loading requirements.

** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring of the manufacturer or momentary variations due to changing bus load shall not invalidate the test.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (continued)

- gravity at 60/60°F of greater than or equal to 0.83 but less than or equal to 0.89, or an API gravity of greater than or equal to 27 degrees but less than or equal to 39 degrees;
- b) A kinematic viscosity at 40°C of greater than or equal to 1.9 centistokes, but less than or equal to 4.1 centistokes (alternatively, Saybolt viscosity, SUS at 100°F of greater than or equal to 32.6, but not less than or equal to 40.1), if gravity was not determined by comparison with the supplier's certification;
 - c) A flash point equal to or greater than 125°F; and
 - d) A clear and bright appearance with proper color when tested in accordance with ASTM-D4176-82.
- 2) By verifying within 30 days of obtaining the sample that the other properties specified in Table 1 of ASTM-D975-81 are met when tested in accordance with ASTM-D975-81 except that the analysis for sulfur may be performed in accordance with ASTM-D1552-79, ASTM-D2622-82, or ASTM-D4294-83.
- f. At least once every 31 days by obtaining a sample of fuel oil in accordance with ASTM-D2276-78, and verifying that total particulate contamination is less than 10 mg/liter when checked in accordance with ASTM-D2276-78, Method A;
- g. 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;*
 - 2) Verifying the generator capability to reject a load of greater than or equal to 595 kW while maintaining voltage at 4160 ± 420 volts and frequency at 60 ± 3 Hz;
 - 3) Verifying the generator capability to reject a load of 4986 kW without tripping. The generator voltage shall not exceed 4784 volts during and following the load rejection;
 - 4) Simulating a loss-of-offsite power by itself, and:
 - a) Verifying deenergization of the emergency busses and load shedding from the emergency busses, and

* The provisions of Specification 4.0.6 are applicable.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (continued)

- b) Verifying the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 11 seconds, energizes the auto-connected shutdown loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at 4160 ± 420 volts and 60 ± 0.8 Hz during this test.
- 5) Verifying that on an ESF 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. The generator voltage and frequency shall be 4160 ± 420 volts and 60 ± 0.8 Hz within 11 seconds after the auto-start signal; the steady-state generator voltage and frequency shall be maintained within these limits during this test;
- 6) Simulating a loss-of-offsite power in conjunction with an ESF Actuation test signal, and:
 - a) Verifying deenergization 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 emergency (accident) loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at 4160 ± 420 volts and 60 ± 0.8 Hz during this test; and
 - c) Verifying that all automatic diesel generator trips, except engine overspeed, lube oil pressure low (2 of 3 logic) and generator differential, are automatically bypassed upon loss of voltage on the emergency bus concurrent with a Safety Injection Actuation signal.
- 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 an indicated target value of 5100 kW (between 5000 - 5200 kW) and during the remaining 22 hours of this test, the diesel generator shall be loaded to an indicated value of 4500 to 4700 kW.** The generator voltage and frequen-

** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring of the manufacturer or momentary variations due to changing bus loads shall not invalidate the test.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (continued)

cy shall be 4160 ± 420 volts and 60 ± 0.8 Hz within 11 seconds after the start signal; the steady-state generator voltage and frequency shall be maintained within these limits during this test. Within 5 minutes after completing this 24-hour test, perform Specification 4.8.1.1.2.g.6)b)*

- 8) Verifying that the auto-connected loads to each diesel generator do not exceed the 2000-hour rating of 5335 kW;
- 9) 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) Be restored to its standby status.
- 10) Verifying that with the diesel generator operating in a test mode, connected to its bus, a simulated Safety Injection signal overrides the test mode by: (1) returning the diesel generator to standby operation, and (2) automatically energizing the emergency loads with offsite power;
- 11) Verifying that the fuel transfer pump transfers fuel from each fuel storage tank to the day tank of each diesel via the installed cross-connection lines;
- 12) Verifying that the automatic load sequence timer is OPERABLE with the interval between each load block within $\pm 10\%$ of its design interval; and
- 13) Verifying that the following diesel generator lockout features prevent diesel generator starting:
 - a) Engine overspeed,
 - b) Lube oil pressure low (2 of 3 logic),
 - c) Generator differential, and
 - d) Emergency stop.

* If Surveillance Requirement 4.8.1.1.2.g.6)b) is not satisfactorily completed, it is not necessary to repeat the preceding 24-hour test. Instead, the diesel generator may be operated at an indicated 4500-4700 kW for 1 hour or until operating temperature has stabilized.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- h. 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 at least 508 rpm in less than or equal to 11 seconds; and
- i. At least once per 10 years by:
 - 1) Draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite solution, and
 - 2) Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND of the ASME Code at a test pressure equal to 110% of the system design pressure.

4.8.1.1.3 Reports - All diesel generator failures, valid or nonvalid, shall be reported to the Commission in a Special Report pursuant to Specification 6.9.2 within 30 days. Reports of diesel generator failures shall include the information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977. If the number of failures in the last 100 valid tests (on a per Diesel Generator 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

DIESEL GENERATOR TEST SCHEDULE

<u>Number of Failures in Last 20 Valid Tests*</u>	<u>Number of Failures in Last 100 Valid Tests*</u>	<u>Test Frequency</u>
≤ 1	≤ 4	Once per 31 days
≥ 2**	≥ 5	Once per 7 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, but determined on a per diesel generator basis.

For the purposes of determining the required test frequency, the previous test failure count may be reduced to zero if a complete diesel overhaul to like-new conditions is completed, provided that the overhaul including appropriate post-maintenance operation and testing, is specifically approved by the manufacturer and if acceptable reliability has been demonstrated. The reliability criterion shall be the successful completion of 14 consecutive tests in a single series. Ten of these tests shall be in accordance with Surveillance Requirement 4.8.1.1.2.a.5, four tests in accordance with Surveillance Requirement 4.8.1.1.2.b. If this criterion is not satisfied during the first series of tests, any alternate criterion to be used to transvalue the failure count to zero requires NRC approval.

** The associated test frequency shall be maintained until seven consecutive failure free demands have been performed and the number of failures in the last 20 valid demands has been reduced to one.

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. Once 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 volume of 205 gallons of fuel,
 - 2) A fuel storage system containing a minimum volume of 32,760 gallons of fuel,
 - 3) A fuel transfer pump,
 - 4) Lubricating oil storage containing a minimum total volume of 280 gallons of lubricating oil, and
 - 5) Capability to transfer lubricating oil from storage to the diesel generator unit.

APPLICABILITY: MODES 5 and 6.

ACTION:

With less than the above minimum required A. C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, movement of irradiated fuel, or crane operation with loads over the fuel storage pool, and within 8 hours, depressurize and vent the Reactor Coolant System through a greater than or equal to 5.4 square inch vent. In addition, when in MODE 5 with the reactor coolant loops not filled, or in MODE 6 with the water level less than 23 feet above the reactor vessel flange, immediately initiate corrective action to restore the required sources to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the requirements of Specifications 4.8.1.1.1, 4.8.1.1.2 (except for Specification 4.8.1.1.2a.6), and 4.8.1.1.3.

ELECTRICAL POWER SYSTEMS

3/4.8.2 D.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

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

- a. 125-volt Battery Bank 301A-1 and an associated full capacity charger,
- b. 125-volt Battery Bank 301A-2 and an associated full capacity charger,
- c. 125-volt Battery Bank 301B-1 and an associated full capacity charger, and
- d. 125-volt Battery Bank 301B-2 and an associated full capacity charger.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With either Battery Bank 301A-1 or 301B-1, and/or one of the required full capacity chargers inoperable, restore the inoperable battery bank and/or full capacity charger to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With either Battery Bank 301A-2 or 301B-2 inoperable, and/or one of the required full capacity chargers inoperable, restore the inoperable battery bank to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

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

- a. At least one per 7 days by verifying that:
 - 1) The parameters in Table 4.8-2a meet the Category A limits, and
 - 2) The total battery terminal voltage is greater than or equal to 129 volts on float charge.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (continued)

- b. At least once per 92 days and within 7 days after a battery discharge with battery terminal voltage below 110 volts, or battery overcharge with battery terminal voltage above 150 volts, by verifying that:
 - 1) The parameters in Table 4.8-2a meet the Category B limits,
 - 2) There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150×10^{-6} ohm, and
 - 3) The average electrolyte temperature of six connected cells is above 60°F.
- c. At least once per 18 months by verify 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, and coated with anticorrosion material,
 - 3) The resistance of each cell-to-cell and terminal connection is less than or equal to 150×10^{-6} ohm, and
 - 4) Each battery charger will supply at least the amperage indicated in Table 4.8-2b at 125 volts for at least 24 hours.
- d. At least once per 18 months, during shutdown, by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for the design duty cycle when the battery is subjected to a battery service test;
- 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 a performance discharge test. Once per 60-month interval this performance discharge test may be performed in lieu of the battery service test required by Specification 4.8.2.1d.; and
- f. At least once per 18 months, during shutdown, by giving performance discharge tests of battery capacity to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 90% of the manufacturer's rating.

TABLE 4.8-2a

BATTERY SURVEILLANCE REQUIREMENTS

PARAMETER	CATEGORY A ⁽¹⁾		CATEGORY B ⁽²⁾
	LIMITS FOR EACH DESIGNATED PILOT CELL	LIMITS FOR EACH CONNECTED CELL	ALLOWABLE ⁽³⁾ VALUE FOR EACH CONNECTED CELL
Electrolyte Level	>Minimum level indication mark, and < ¼" above maximum level indication mark	>Minimum level indication mark and < ¼" above maximum level indication mark	Above top of plates, and not overflowing
Float Voltage	≥ 2.13 volts	≥ 2.13 volts ⁽⁶⁾	> 2.07 volts
Specific Gravity ⁽⁴⁾	≥ 1.200 ⁽⁵⁾	≥ 1.195 Average of all connected cells > 1.205	Not more than 0.020 below the average of all connected cells Average of all connected cells ≥ 1.195 ⁽⁵⁾

TABLE NOTATIONS

- (1) For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours all the Category B measurements are taken and found to be within their allowable values, and provided all Category A and B parameter(s) are restored to within limits within the next 6 days.
- (2) For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category B parameters are within their allowable values and provided the Category B parameter(s) are restored to within limits within 7 days.
- (3) Any Category B parameter not within its allowable value indicates an inoperable battery.
- (4) Corrected for electrolyte temperature and level.
- (5) Or battery charging current is less than 2 amps when on charge.
- (6) Corrected for average electrolyte temperature.

TABLE 4.8-2b

BATTERY CHARGER CAPACITY

<u>CHARGER</u>	<u>AMPERAGE</u>
301A-1	200
301A-2	50
301A-3	200
301B-1	200
301B-2	50
301B-3	200

ELECTRICAL POWER SYSTEMS

D. C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.2 As a minimum, one 125-volt battery bank and its associated full-capacity charger shall be OPERABLE.

APPLICABILITY: MODES 5 and 6.

ACTION:

With the required battery bank and/or full-capacity charger inoperable, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, or movement of irradiated fuel; initiate corrective action to restore the required battery bank and full-capacity charger to OPERABLE status as soon as possible, and within 8 hours, depressurize and vent the Reactor Coolant System through a 5.4 square inch vent.

SURVEILLANCE REQUIREMENTS

4.8.2.2 The above required 125-volt battery bank and full-capacity charger shall be demonstrated OPERABLE in accordance with Specification 4.8.2.1.

ELECTRICAL POWER SYSTEMS

3/4.8.3 ONSITE POWER DISTRIBUTION

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.3.1 The following electrical busses shall be energized in the specified manner:

- a. Train A A.C. Emergency Busses consisting of:
 - 1) 4160-Volt Emergency Bus #34C, and
 - 2) 480-Volt Emergency Bus #32R, 32S, 32T, and 32Y.
- b. Train B A.C. Emergency Busses consisting of:
 - 1) 4160-Volt Emergency Bus #34D, and
 - 2) 480-Volt Emergency Bus #32U, 32V, 32W, and 32X.
- c. 120-Volt A.C. Vital Bus #VIAC-1 energized from its associated inverter connected to D.C. Bus #301A-1*,
- d. 120-Volt A.C. Vital Bus #VIAC-2 energized from its associated inverter connected to D.C. Bus #301B-1*,
- e. 120-Volt A.C. Vital Bus #VIAC-3 energized from its associated inverter connected to D.C. Bus #301A-2*,
- f. 120-Volt A.C. Vital Bus #VIAC-4 energized from its associated inverter connected to D.C. Bus #301B-2*,
- g. 125-Volt D.C. Bus #301A-1 energized from Battery Bank #301A-1,
- h. 125-Volt D.C. Bus #301A-2 energized from Battery Bank #301A-2,
- i. 125-Volt D.C. Bus #301B-1 energized from Battery Bank #301B-1, and
- j. 125-Volt D.C. Bus #301B-2 energized from Battery Bank #301B-2.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With one of the required trains of A.C. emergency busses not fully energized, reenergize the division within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one A.C. vital bus either not energized from its associated inverter, or with the inverter not connected to its associated D.C. bus: (1) reenergize the A.C. vital bus within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN

* Two inverters may be disconnected from their D.C. bus for up to 24 hours as necessary, for the purpose of performing an equalizing charge on their associated battery bank provided: (1) their vital busses are energized, and (2) the vital busses associated with the other battery bank are energized from their associated inverters and connected to their associated D.C. bus.

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION

ACTION (Continued)

within the following 30 hours; and (2) reenergize the A.C. vital bus from its associated inverter connected to its associated D.C. bus within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

- c. With one D.C. bus not energized from its associated battery bank, reenergize the D.C. bus from its associated battery bank within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.3.1 The specified busses shall be determined energized in the required manner at least once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

ELECTRICAL POWER SYSTEMS

ONSITE POWER DISTRIBUTION

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.3.2 As a minimum, the following electrical busses shall be energized in the specified manner:

- a. One train of A.C. emergency busses consisting of one 4160-volt and four 480-volt A.C. emergency busses.
- b. Two 120-volt A.C. vital busses energized from their associated inverters connected to their respective D.C. busses, and
- c. Two 125-volt D.C. busses energized from their associated battery banks.

APPLICABILITY: MODES 5 and 6.

ACTION:

With any of the above required electrical busses not energized in the required manner, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, or movement of irradiated fuel, initiate corrective action to energize the required electrical busses in the specified manner as soon as possible, and within 8 hours, depressurize and vent the RCS through at least a 5.4 square inch vent.

SURVEILLANCE REQUIREMENTS

4.8.3.2 The specified busses shall be determined energized in the required manner at least once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

ELECTRICAL POWER SYSTEMS

3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

LIMITING CONDITION FOR OPERATION

3.8.4.1 All containment penetration conductor overcurrent protective devices shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With one or more of the containment penetration conductor overcurrent protective device(s) inoperable:

- a. Restore the protective device(s) to OPERABLE status or deenergize the circuit(s) by tripping the associated backup circuit breaker or racking out or removing the inoperable circuit breaker within 72 hours, declare the affected system or component inoperable, and verify the backup circuit breaker to be tripped or the inoperable circuit breaker racked out or removed at least once per 7 days thereafter; the provisions of Specification 3.0.4 are not applicable to overcurrent devices in circuits which have their backup circuit breakers tripped, their inoperable circuit breakers racked out, or removed, or
- b. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.4.1 All containment penetration conductor overcurrent protective devices shall be demonstrated OPERABLE:

- a. At least once per 18 months:
 - 1) By verifying that the medium voltage (4-15 kV) circuit breakers are OPERABLE by selecting, on a rotating basis, at least 10% of the circuit breakers of each voltage level, and performing the following:
 - a) A CHANNEL CALIBRATION of the associated protective relays,
 - b) An integrated system functional test which includes simulated automatic actuation of the system and verifying that each relay and associated circuit breakers and control circuits function as designed, and

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- c) For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.
- 2) By selecting and functionally testing a representative sample of at least 10% of each type of lower voltage circuit breakers. Circuit breakers selected for functional testing shall be selected on a rotating basis.

Testing of air circuit breakers shall consist of injecting a current with a value equal to 300% of the pickup of the long-time delay trip element and 150% of the pickup of the short-time delay trip element, and verifying that the circuit breaker operates within the time delay band width for that current specified by the manufacturer. The instantaneous element shall be tested by injecting a current equal to $\pm 20\%$ of the pickup value of the element and verifying that the circuit breaker trips instantaneously with no intentional time delay.

Molded case circuit breakers and unitized starters (a frame size of 250 amps or less) shall be tested for long time delay at 300% as described above, and in addition tested for the instantaneous trip by injection a current value which falls within +40% (of the upper limit) and -25% (of the lower limit) of the manufacturers instantaneous trip current range and verifying the breaker trips instantaneously with no intentional time delay. For those molded case circuit breakers/unitized starters used in 480V circuits, if single pole instantaneous test results fall outside these tolerances, additional instantaneous testing shall be conducted using two poles in series, including A-B, B-C and C-A phase combinations. All combination test results shall fall within the specified tolerances.

Circuit breakers found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation. For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.

- b. At least once per 60 months by subjecting each circuit breaker to an inspection and preventive maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.

ELECTRICAL POWER SYSTEMS

MOTOR-OPERATED VALVES THERMAL OVERLOAD PROTECTION

LIMITING CONDITION FOR OPERATION

3.8.4.2.1 Each thermal overload protection bypassed only under accident conditions for safety-related motor-operated valves shall be bypassed by an OPERABLE bypass device integral with the motor starter.

APPLICABILITY: Whenever the motor-operated valve is required to be OPERABLE.

ACTION:

With the thermal overload protection for one or more of the above required valves not bypassed under conditions for which it is designed to be bypassed, restore the inoperable device or provide a means to bypass the thermal overload within 8 hours, or declare the affected valve(s) inoperable and apply the appropriate ACTION Statement(s) of the affected system(s).

SURVEILLANCE REQUIREMENTS

4.8.4.2.1 The thermal overload protection for the above required valves shall be verified to be bypassed by the appropriate accident signal(s) by performance of a TRIP ACTUATION DEVICE OPERATIONAL TEST of the bypass circuitry during COLD SHUTDOWN or REFUELING at least once per 18 months.

ELECTRICAL POWER SYSTEMS

MOTOR-OPERATED VALVES THERMAL OVERLOAD PROTECTION NOT BYPASSED

LIMITING CONDITION FOR OPERATION

3.8.4.2.2 Each thermal overload protection not bypassed under accident conditions for safety-related motor-operated valves shall be OPERABLE.

APPLICABILITY: Whenever the motor-operated valve is required to be OPERABLE.

ACTION:

With the thermal overload protection for one or more of the above required valves inoperable, bypass the inoperable thermal overload within 8 hours; restore the inoperable thermal overload to OPERABLE status within 30 days or declare the affected valve(s) inoperable and apply the appropriate ACTION statement(s) for the affected system(s).

SURVEILLANCE REQUIREMENTS

4.8.4.2.2 The thermal overload protection for the above required valves shall be demonstrated OPERABLE at least once per 18 months and following maintenance on the motor starter by the performance of CHANNEL CALIBRATION of a representative sample of at least 25% of all thermal overloads for the above required valves.

ELECTRICAL POWER SYSTEMS

A.C. CIRCUITS INSIDE CONTAINMENT

LIMITING CONDITION FOR OPERATION

3.8.4.3 At least the A.C. circuits for the following valves inside containment shall be de-energized:

<u>Device Number</u>	<u>Valve</u>
3SIL*MV8808A	Accumulator Isolation
3SIL*MV8808B	Accumulator Isolation
3SIL*MV8808C	Accumulator Isolation
3SIL*MV8808D	Accumulator Isolation

APPLICABILITY: MODES 1, 2, 3, and 4

ACTION:

With any of the above required circuits energized, trip the associated circuit breaker(s) within 1 hour.

SURVEILLANCE REQUIREMENTS

4.8.4.3 Each of the A.C. circuits for the above listed valves shall be determined to be de-energized at least once per 24 hours* by verifying that the associated circuit breakers are in the tripped condition.

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

Attachment 2

Millstone Nuclear Power Station, Unit No. 3

3/4.8.1 Electrical Power Systems

Description of Individual Proposed Changes
to Technical Specifications and
Discussion on Significant Hazards Consideration

March 1990

Technical Specification Section 3/4.8.1
Electrical Power Systems

Northeast Nuclear Energy Company (NNECO) is hereby proposing a set of technical specification changes that would accomplish the following general objectives. First, for routine testing and ACTION statement tests, fast starts (11 seconds) and fast loadings (60-second) would be deleted, except for once per 6 months and during the 18-month (refueling) tests. Second, the accelerated frequency for routine test (based upon accumulated number of test failures) would be changed to reduce the amount of accelerated testing by basing such testing on a reliability goal of 0.95 per Emergency Diesel Generator (D/G). Third, for ACTION statement tests, the number of Emergency D/G tests would be reduced. Further, NNECO believes that instrumentation inaccuracies and meter reading errors can contribute significantly to inadvertent overload conditions. NNECO has therefore proposed to reduce the specified load and value to ensure that operations at the upper limit of the uncertainty value do not result in exceeding the engine ratings and to specify a nonopen-ended operating band for such tests. To accomplish the objective of reducing emergency D/G testing, NNECO has proposed a large number of changes (Attachment 1) to the Technical Specifications which are in accordance with the intent of guidance provided by the NRC in Generic Letter 84-15. In the following paragraphs, these proposed changes are discussed in the order they occur in the Technical Specifications.

1. Section 3.8.1.1 ACTION a

Description of Change

The proposed ACTION Statement 'a' provides the actions to be taken with one off-site circuit of the required AC electrical power sources inoperable. The actions required when one D/G is inoperable are being separated from this action statement and incorporated into an individual ACTION statement (proposed Technical Specification Section 3.8.1.1, ACTION b).

The performance of Surveillance Requirement 4.8.1.1.2.a.5, demonstration of D/G operability, will be done once within 24 hours of declaring the off-site circuit inoperable unless previously tested within the past 24 hours. The existing requirement is to perform Surveillance 4.8.1.1.2.a.5 within one hour and at least once per 8 hours thereafter regardless of the time at which the last test was performed.

Justification for Change

The reason for performing D/G operability tests following the loss of one off-site circuit is to ensure that the backup power source will be available and capable of starting as designed. The present action statement requires verification of D/G starting within one hour and then

once every eight hours thereafter. Demonstration of D/G starting capability within one hour of a loss of an off-site power source and subsequent testing every eight hours thereafter is both excessive and unwarranted, and contradicts manufacturer recommendations that the D/Gs be tested with a maximum frequency of once per 7 days.

Performing D/G operability tests following the loss of one offsite circuit is to verify the availability of a backup power source. The D/Gs are designed and are intended to be standby power sources. The present Technical Specifications require that both D/Gs be tested initially within the first hour and every 8 hours thereafter, regardless of how recently a test has been successfully completed. In a 72-hour period, an initial test within 1 hour and a follow-up test every 8 hours thereafter results in a total of nine D/G tests. This contradicts manufacturer recommendations that the D/Gs be tested with a maximum frequency of once per 7 days and introduces accelerated D/G wear. However, it is understood that when an offsite power source is lost, D/G availability becomes more essential and the D/Gs should be tested if they have not been successfully tested in the past 24 hours. If a D/G has been successfully tested in the past 24 hours, an additional test provides little further assurance of D/G availability than what was provided in the previous successful test. D/G testing within the initial 24 hours will, in addition to providing assurance of starting capability, also provide additional time for inspection and prelube and other warmup procedures recommended by the manufacturer to minimize the mechanical stress and wear on the D/Gs. Furthermore, 24 hours permits sequential testing of the D/Gs rather than the simultaneous testing of both.

Repetitive testing increases the likelihood of a D/G failure rather than providing continued assurance of starting capability especially since loss of an offsite source does not directly imply a failure of the D/Gs. Based on the above, the tests required for one inoperable D/G are being separated from this action statement.

2. Section 3.8.1.1 ACTION b

Description of Change

The proposed ACTION statement 'b' provides the appropriate responses when declaring one emergency D/G inoperable. The performance of surveillance requirement 4.8.1.1.2.a.5, demonstration of diesel operability, will be done once within 24 hours to demonstrate the operability of the remaining D/G. This test is required to be performed regardless of when the inoperable D/G is restored to operability. However, the remaining operable D/G need not be challenged if the D/G had been rendered inoperable due to preplanned maintenance or surveillance testing.

Justification for Change

The reason for performing a D/G operability test following the loss of the other diesel is to ensure that the remaining diesel will be available and capable of starting as designed. Specifically, an operability test of the remaining diesel provides assurance that the remaining operable diesel is not subject to the same failure (i.e., common mode failure). Rather than relying on previous surveillance testing, operability testing within 24 hours is proposed consistent with the guidance provided in Generic Letter 84-15. The proposed change does not require the operable D/G to be challenged if the inoperable D/G was rendered inoperable due to preplanned maintenance or surveillance testing. This demonstration of operability is consistent with the North Anna, Unit No. 2 Technical Specifications.

Repetitive operability testing every 8 hours following the initial confirmation of diesel availability is unwarranted and counterproductive. Fast starts contribute to premature engine wear and as such repetitive operability tests within the 72 hour action statement are counterproductive to continued assurance of starting capability. To be consistent with the philosophy of reducing excessive testing and thereby enhancing diesel reliability, only one operability start is proposed as confirmation of the remaining diesel's availability. Testing within 24 hours provides timely assurance of starting capability while providing the additional time for inspection prior to testing.

3. Section 3.8.1.1 ACTION c

Description of Change

The proposed ACTION statement 'c' provides the appropriate responses when declaring one offsite circuit and one D/G inoperable. In the existing Technical Specification this is action statement 'b'. Surveillance requirement 4.8.1.1.2.a.5 will be performed to demonstrate the operability of the remaining D/G within 8 hours of declaring one D/G inoperable. The existing requirement is to perform 4.8.1.1.2.a.5 within one hour and at least once per 8 hours thereafter.

Justification for Change

Performing a D/G operability test within 8 hours of declaring an offsite source and a D/G inoperable provides adequate assurance of the availability of the remaining D/G while eliminating unnecessary starts. Since the allowable outage period for this action is 12 hours, follow-up D/G starts are not applicable. A successful D/G operability test performed pursuant to this action also satisfies the subsequent requirement to verify D/G operability within 24 hours under ACTION 'a' or 'b'. Additionally, the performance of the test within 8 hours provides the requisite assurance while also providing the time for inspection prior to the test.

4. Section 3.8.1.1 ACTION d

Description of Change

This ACTION statement covers the responses in addition to ACTION 'b' or 'c' when declaring one D/G inoperable. In the existing technical specifications this is action 'c'. There are no substantive changes to this action, therefore, no justification is provided.

5. Section 3.8.1.1 ACTION e

Description of Change

This ACTION statement covers the appropriate responses when two offsite power circuits are declared inoperable. The demonstration of diesel operability will be done within 8 hours by sequentially performing surveillance 4.8.1.1.2.a.5 on both diesels.

Justification for Change

The proposed change is consistent with those changes made from ACTION statements 'a', 'b', and 'c' above. As noted in the discussion for ACTION statement 'a', loss of an offsite circuit does not suggest that either diesel has become less reliable than noted by its previous surveillance test. Given the significance of losing both offsite circuits, one operability test per diesel within 8 hours provides adequate assurance of diesel reliability. This change is also consistent with the guidance provided in General Letter 84-15.

6. Section 3.8.1.1 ACTION f

Description of Change

This ACTION statement covers the appropriate responses when declaring both D/Gs inoperable. With two D/Gs inoperable, the operability of two offsite AC circuits must be demonstrated within one hour and at least once per 8 hours thereafter. One D/G must be restored to operable within 2 hours or shutdown procedures are initiated. Once one D/G is restored to operable, the requirements of ACTION statement 'b' are followed with the applicable time requirements of that ACTION statement.

Justification for Change

The proposed change is the same as existing Technical Specification 3.8.1.1.e. The only difference in the proposed change is the use of distinct ACTION statements based on the number of D/Gs inoperable (either one or both).

7. Surveillance 4.8.1.1.2.a.5 and 6 and Surveillance 4.8.1.1.2.g.7

Description of Change

The proposed surveillance requirements cover the starting of the diesel and the parameters that must be met during D/G start-up testing. The existing Technical Specifications require the diesel to accelerate to at least 508 rpm, 4160 ± 420 volts and 60 ± 0.8 Hz within 11 seconds after the start signal. The D/G loading requirements in the existing Technical Specifications require verification that the generator is synchronized, loaded to greater than or equal to 4986 kW in less than or equal to 60 seconds, and operates for at least 60 minutes. The proposed changes modify the test requirements to permit more gradual starting and gradual loading of the D/G during routine surveillance (once per 31 days) and ACTION statement operability testing. The surveillance requirement 4.8.1.1.2.a.6 has been modified to specify error bands in loading the D/G in lieu of the present requirement to load the D/G greater than or equal to a given value. For continuous load rating, the value specified is 4500-4700 kW (continuous duty rating accounting for instrumentation inaccuracies). According to the existing Technical Specification Section 4.8.1.1.2.g.7, a 24-hour load run is required, the first 2 hours of which are at the 110% value and the next 22 hours are at the 100% (continuous duty) load value; specifically, at greater than or equal to 5485 kW and greater than or equal to 4986 kW. NNECO proposes that the required loads for the 18-month load run be an indicated target value of 5100 kW (between 5000-5200 kW) and an indicated value of 4500-4700 kW, respectively.

Justification for Change

To reduce wear and minimize the severity of thermal transients on the D/Gs, the manufacturer has recommended increasing the start time and gradually loading the diesels any time a D/G is routinely tested. Reaching rated speed and voltage in the presently specified 11 seconds is based on the FSAR analysis assumptions for a design basis loss of coolant accident (LOCA) concurrent with a loss of offsite power. Requiring the D/G to be routinely tested to design base conditions is excessive and unwarranted. First, the design base verification test is performed every eighteen months besides the present routine surveillance test requirement and consistent with Generic Letter 84-15, proposed surveillance requirement 4.8.1.1.2.b has been added to require semiannual verification of the FSAR specified 11 second start. NNECO believes that semiannual testing to verify design base capability is adequate given the severity of the test on the D/Gs.

Diesel reliability is not determined by fast starts of the diesel. Rather, the assurance of continued and reliable diesel performance is provided by trending critical parameters while the diesel is loaded and after those parameters have stabilized following the start. The design

capability of the air start system would be confirmed semiannually, but routine surveillance testing without fast starting would still be adequate to establish trends in starting times which would be indicative of a need to initiate subsequent preventative maintenance activities.

NNECO believes that open-ended language "greater than or equal to" has the potential for routine overloading of the D/Gs. Specifying an upper limit would eliminate this potential. The proposed changes specify a loading which accounts for instrument error ($\pm 5.2\%$) by lowering the specified loading to ensure the upper value does not exceed the continuous rating or 110% of the continuous rating. Additionally, the proposed changes take into account operational control capabilities and human factor characteristics of the meter by providing a ± 100 kW operating band consistent with the 200 kW meter graduation (meter span of 8000 kW).

For the 4986 kW continuous load rating, the proposed specified load is determined as follows:

Instrument Error (meter span of 8000 kW) is $0.052 \times 8000 = 416$ kW. Using ± 400 kW for calculating surveillance requirement loading limits upper limit = $4986 - 400$ kW = 4586 kW, therefore, the upper limit = 4600 kW.

Applying the operational band of ± 100 kW, the control band is 4500-4700kW. The resultant span in actual load may then be from 4100 kW to 5100 kW which corresponds to 82.2 to 102.3% of the 4986 kW continuous rating.

For the 110% of continuous load rating (5485 kW), the proposed specified load is determined as follows:

Instrument error same as above = 416kW. Using ± 400 kW for calculating surveillance requirement loading limits, upper limit = $5485 - 400 = 5085$ kW.

Selecting 5100 kW as an upper limit and applying an operational band of ± 100 kW results in a control band of 5000-5200 kW. The resultant span in actual load may be from 4600kW to 5600kW which corresponds to 92.2% to 112.3% of the 4986 kW continuous duty.

It is for the above reasons as well as to minimize the degradation to the diesels that the manufacturer has specifically recommended gradual starting and loading as well as maintaining load for at least 60 minutes.

8. Surveillance 4.8.1.1.2.b

Description of Change

This new surveillance test covers the semi-annual requirement to perform an 11 second start (508 rpm, 4160 ± 420 volts, 60 ± 0.8 Hz) from ambient

conditions and a 60 second loading to an indicated 4500-4700 KW and operate for at least 60 minutes.

Justification for Change

This surveillance requirement encompasses the same requirements of the existing Specification 4.8.1.1.2.a.5 and 4.8.1.1.2.a.6 with the exception of reducing the surveillance interval.

This surveillance requirement has been added to verify diesel capability to perform during a design basis accident condition.

9. Surveillance 4.8.1.1.2.e.2

Description of Change

The proposed change adds ASTM Test D4294-83 as an acceptable method for determining sulfur content in the emergency D/G fuel oil.

Justification for Change

The addition of this new method for determining the sulfur content provides an improvement over the other test methods currently listed in the technical specifications.

10. Table 4.8-1 and Section 4.8.1.1.3

Description of Change

This table addresses D/G surveillance testing frequency. The existing technical specification testing frequency is based on the number of valid failures experienced in the last 100 valid tests per Regulatory Guide 1.108, Revision 1. The proposed technical specification testing frequency is based on a matrix of the number of valid failures in the last 20 and 100 valid tests on a per diesel basis.

In addition, the proposed change provides for a restart in counting failures provided successful corrective actions have been implemented.

Justification for Change

The existing Technical Specifications for the D/Gs require accelerated testing based on past failures per Regulatory Guide 1.108, Revision 1. This test schedule is based on a reactor unit basis rather than on a D/G basis. The test frequency proceeds from 31 days for one failure to 3 days for four or more failures.

The proposed change to Table 4.8-1 is consistent with the guidance provided in Generic Letter 84-15 with the exception that a transvaluation

in number of failures is permitted following a complete diesel overhaul and successful post maintenance operation and testing, and if acceptable reliability has been demonstrated. The reliability criterion shall be the successful completion of 14 consecutive tests in a single series. The concept of transvaluation is included to encourage corrective actions which enhance reliability rather than maintain a punitive testing schedule following corrective actions which is counterproductive to diesel reliability. The 100 valid test criteria has also been revised to reflect the Generic Letter 84-15 concept of reliability goals. Specifically, five failures or more in the last 100 tests per diesel require increased surveillance to ensure the minimum desired level (i.e., .95) for diesel reliability is maintained. With less than that, monthly testing per manufacturers recommendations is specified.

The proposed change is based on a per diesel rather than per reactor basis consistent with the guidance provided in Generic Letter 84-15. Modifying the specification to a per diesel basis addresses individual diesel reliability and enhances overall reliability by requiring remedial actions only on D/Gs which are experiencing failures.

11. SECTION 3.8.2.1, ACTION B

The proposed ACTION statement 'b' clarifies battery charger requirements by tying the associated full capacity charger to its associated battery. The proposed ACTION 'b' is identical to the existing ACTION 'a'.

Justification for Change

The proposed change is the same as existing ACTION statement 'a'. It is appropriate to have consistent action statements for both the battery and its associated battery charger since without the battery charger, the battery would shortly enter its action statement.

Other Changes

Several other changes (footnote to Specification 4.8.1.1.2.g.7, Section 4.8.1.1.3) are being made which are strictly editorial in nature (i.e., renumbering of sections, rewording to achieve consistency in technical specifications, etc.)

In addition, several pages are being renumbered so that the pages left blank by a previous amendment can be removed from the Technical Specifications.

Significant Hazards Consideration

NNECO has reviewed the proposed changes in accordance with 10CFR50.92 and has concluded that the changes do not involve a significant hazards

consideration. The basis for this conclusion is that the three criteria of 10CFR50.92(c) are not compromised. The proposed changes do not involve a significant hazards consideration because the changes would not:

1. Involve a significant increase in the probability or consequences of an accident previously analyzed. The proposed changes to the ACTION statements will decrease the wear on the D/Gs by reducing the number of required starts. This will also allow adequate time for the completion of all manufacturer recommended D/G engine prelube and warmup procedures. The proposed changes to routine (frequency other than 184 days or 18 months) load testing requirements will decrease the wear on the D/Gs by reducing load frequency and timing requirements. Modifying starting and loading requirements consistent with the manufacturer's recommendations is intended to enhance diesel reliability by minimizing severe test conditions which can lead to premature failures. This change would serve to enhance overall safety. The proposed change that adds 184-day testing requirements has been included to encompass the fast loading to the continuous duty rating requirement being deleted from routine testing. This reduced frequency for fast start, full load testing avoids subjecting the D/Gs to severe thermal transients, which result from fast loading, on a routine basis. D/G operation in accordance with manufacturer recommendations will reduce unnecessary engine stress and wear, while potentially improving overall D/G reliability and availability. The changes to the D/G testing schedule will minimize unnecessary D/G testing while maintaining the reliability levels recommended in GL 84-15. The proposed testing schedule adequately assures continued D/G reliability without maintaining a punitive testing schedule following effective corrective action.

The proposed change to Surveillance Requirement 4.8.1.1.2.e.2 provides for improved detection of sulfur in the D/G fuel oil supply, and thus reduces the probability of diesel failure due to fuel oil quality problems.

Although the proposed change to Section 3.8.2.1.b provides an action statement that would allow the associated charger to be inoperable for 24 hours it will not impact system operability. This proposed action is identical to action 3.8.2.1.a. It is appropriate to have the same action statement for both the batteries and chargers because without the charger, the battery would shortly enter its action statement.

Since the above proposed changes serve to enhance overall safety, these changes do not increase the probability or consequences of any accident previously analyzed.

2. Create the possibility of a new or different kind of accident from any previously analyzed. The proposed changes do not alter the method of operating the plant. The changes do not introduce any new failure modes.

The proposed changes affect testing frequency, starting and loading practices only and have no impact on any accident analysis. The proposed changes provide assurance that the D/Gs will be able to power their respective safety systems if required.

The proposed changes to Section 4.8.1.1.2.e.2, improved sulfur detection method, and section 3.8.2.1.b, battery charger restoration, do not impact DC power system operability. There are no new failure modes associated with these changes. Additionally, the changes do not modify plant response to the point where it can be considered a new accident.

The proposed changes do not impact the performance of any safety system. For these reasons, the changes do not create the possibility of a new or different kind of accident.

3. Involve a significant reduction in the margin of safety. The proposed changes in the testing requirements do not affect the capability of the diesels to perform their function. The purpose of the changes is to increase the overall D/G reliability.

The proposed change to Section 4.8.1.1.2.e.2 provides an improved method to detect sulfur in the D/G fuel oil supply and has no impact on the consequences of any accident previously analyzed.

The proposed change to Section 3.8.2.1.b clarifies battery charger requirements by tying the associated full capacity charger to its associated battery and it is identical to existing action statement 'a'. The change does not impact any protective boundary and does not affect the consequences of any accident previously analyzed.

The proposed changes do not impact the consequences of any design basis event. There is no direct impact on any of the protective boundaries. For these reasons, the changes do not involve a reduction in the margin of safety.

Summary

The proposed changes revise the existing Millstone Unit No. 3 Technical Specification requirements concerning emergency diesel generator testing. These changes are in accordance with the intent of guidance provided in Generic Letter 84-15 and manufacturer's recommendations. NNECO believes that the proposed changes should serve to increase overall D/G reliability and longevity. Based on the above discussion, NNECO has concluded the proposed amendment does not adversely affect or endanger the health or safety of the public. In summary, the proposed changes do not involve a significant hazards consideration.