

PROPOSED TECHNICAL SPECIFICATION CHANGES

SPECIFICATIONS:	3/4.8.1	MARKUP CURRENT SPEC
	B3/4.8	MARKUP CURRENT SPEC
	6.5.1.6	MARKUP CURRENT SPEC
	6.5.2.9	MARKUP CURRENT SPEC
	6.8.1	MARKUP CURRENT SPEC
	6.8.4	MARKUP CURRENT SPEC

SPECIFICATIONS:	3/4.8.1	MARKUP SUBMITTED SPEC
	B3/4.8	MARKUP SUBMITTED SPEC
	6.5.1.6	MARKUP SUBMITTED SPEC
	6.5.2.9	MARKUP SUBMITTED SPEC
	6.8.1	MARKUP SUBMITTED SPEC
	6.8.4	MARKUP SUBMITTED SPEC

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

~~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 6600 to 6821 kW\*\*\* and during the remaining 22 hours of this test, the diesel generator shall be loaded to an indicated 6000 to 6201 kW.\*\*\* The generator voltage and frequency shall be 4000 ± 320 volts and 60 ± 1.2, 3 Hz within 12 seconds after the start signal; the steady state generator voltage and frequency shall be maintained within 4000 ± 320 volts and 60 ± 1.2 Hz during this test;~~

Insert 15

~~8) Verifying that the auto connected loads to each diesel generator do not exceed 6201 kW;~~

7) 8)

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.

8) 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;

9) 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;

10) 12)

Verifying that the automatic LOCA and shutdown sequence timer is OPERABLE with the interval between each load block within ± 10% of its design interval; and

11) 13)

Verifying the diesel generator's hot restart capability by operating the diesel generator for greater than or equal to 2 hours at an indicated load of 5580 to 6201 kW, shutting down the diesel and restarting it within 5 minutes. On the restart, the diesel generator voltage and frequency shall be 4000 ± 320 volts and 60 ± 1.2 Hz within 12 seconds after the start signal (load test not required after restart).

Insert 16

~~\*\*\* 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 or momentary variations due to changing bus loads shall not invalidate this test.~~

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- 5) Verifying each diesel generator's automatic trips are bypassed upon the simulated SIS and loss-of-offsite power combined test\*\* except:
- a) High jacket coolant temperature;
  - b) Engine Overspeed;
  - c) Low lube oil pressure;
  - d) High crankcase pressure;
  - e) Start failure relay;
  - f) Generator differential current.
- 6) Verifying full-load carrying capability of the diesel generator at a power factor between 0.8 and 0.9 for an interval of not less than 24 hours at 5580 to 6201 kW (indicated). Verify the diesel generator operates for  $\geq 2$  hours loaded to an indicated 6600 to 6821 kW if auto connected loads increase above 6201 kW. The generator voltage and frequency shall be maintained within  $4000 \pm 320$  volts and  $60 \pm 1.2$  Hz during this test;\*\*\*\*

Added

INSERT 16

- \*\* This surveillance shall not be performed in Modes 1 or 2 and credit may be taken for unplanned events that satisfy this requirement.
- \*\*\* This surveillance shall not be performed in Modes 1, 2, 3, or 4 and credit may be taken for unplanned events that satisfy this requirement.
- \*\*\*\* 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 or momentary variations due to changing bus loads shall not invalidate this test.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

h. ~~g.~~ ~~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 514 rpm in less than or equal to 12 seconds; and~~

Insert 17

i. ~~h.~~ ~~At least once per 10 years by draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite solution or equivalent.~~

Insert 18

i. ~~At least once per 184 days the diesel generators shall be started\*\* from ambient conditions (using the keep warm system) using one of the signals specified in 4.8.1.1.2a.4) and accelerated to at least 514 rpm in less than or equal to 12 seconds. The generator voltage and frequency shall be  $4000 \pm 320$  volts and  $60 \pm 1.2$  Hz within 12 seconds after the start signal. Subsequently verify the generator is loaded to an indicated 6000 to 6201 kW\*\*\* in less than or equal to 60 seconds and operates at an indicated load of 6000 to 6201 kW\*\*\* for at least 60 minutes.~~

~~4.8.1.1.3 Reports All diesel generator failures, valid or nonvalid, shall be reported in a Special Report to the Commission 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 nuclear unit basis) is greater than or equal to 7, the report shall be supplemented to include the additional information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977.~~

\*\* This test shall be preceded by an engine prelube period and/or other warmup procedures recommended by the manufacturer so that the mechanical stress and wear on the diesel engine is minimized.

\*\*\* ~~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 or momentary variations due to changing bus loads shall not invalidate this test.~~

INSERT 17

Added

- h. At least once per 10 years, or after any modifications which could affect diesel generator interdependence, verify that when started simultaneously from standby conditions,\*\* each diesel generator achieves in less than or equal to 12 seconds, a voltage of  $4000 \pm 320$  volts and a frequency of  $60 \pm 1.2$  Hz.

INSERT 18

- i. At least once per 10 years by:
- 1) Draining each fuel oil storage tank,
  - 2) Removing the accumulated sediment,
  - 3) Cleaning the tank to remove microbiological growth.

## 3/4.8 ELECTRICAL POWER SYSTEMS

### BASES

#### 3/4.8.1, 3/4.8.2, and 3/4.8.3 A.C. SOURCES, D.C. SOURCES, AND ONSITE POWER DISTRIBUTION

The OPERABILITY of the A.C. and D.C. power sources and associated distribution systems during operation ensures that sufficient power will be available to supply the safety-related equipment required for: (1) the safe shutdown of the facility, and (2) the mitigation and control of accident conditions within the facility. The minimum specified independent and redundant A.C. and D.C. power sources and distribution systems satisfy the requirements of General Design Criterion 17 of Appendix A to 10 CFR Part 50.

The ACTION requirements specified for the levels of degradation of the power sources provide restriction upon continued facility operation commensurate with the level of degradation. The OPERABILITY of the power sources are consistent with the initial condition assumptions of the safety analyses and are based upon maintaining at least one redundant set of onsite A.C. and D.C. power sources and associated distribution systems OPERABLE during accident conditions coincident with an assumed loss-of-offsite power and single failure of the other onsite A.C. source. The A.C. and D.C. source allowable out-of-service times are based on Regulatory Guide 1.93, "Availability of Electrical Power Sources," December 1974. When one diesel generator is inoperable, there is an additional ACTION requirement to verify that 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 that the steam-driven auxiliary feedwater pump is OPERABLE. This requirement is intended to provide assurance that a loss-of-offsite power event will not result in a complete loss of safety function of critical systems during the period one of the diesel generators is inoperable. The term verify as used in this context means to administratively check by examining logs or other information to determine if certain components are out-of-service for maintenance or other reasons. It does not mean to perform the Surveillance Requirements needed to demonstrate the OPERABILITY of the component.

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that: (1) the facility can be maintained in the shutdown or refueling condition for extended time periods, and (2) sufficient instrumentation and control capability are available for monitoring and maintaining the unit status. A D.C. electrical source consists of the battery banks, associated full capacity chargers and the D.C. busses. The associated full capacity chargers may be the charger designated for that bus or the installed swing charger.

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~~The Surveillance Requirements for demonstrating the OPERABILITY of the diesel generators are in accordance with the recommendations of Regulatory Guides 1.9, "Selection of Diesel Generator Set Capacity for Standby Power Supplies," Revision 1, November 1978; 1.108, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," Revision 1, August 1977 as modified by Amendment No. 21, issued May 1, 1987; and 1.137, "Fuel Oil Systems for Standby Diesel Generators," Revision 1, October 1979. Each diesel generator (DG) is provided with an~~

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The surveillance requirements of Technical Specification 3/4.8.1 are based upon, in part, the guidance of Generic Letter 94-01, "Removal of Accelerated Testing and Special Reporting Requirements for Emergency Diesel Generators From Plant Technical Specifications," Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation," Regulatory Guide 1.9, "Selection, Design, Qualification, and Testing of Emergency Diesel Generator Units Used as Class 1E Onsite Electrical Power Systems at Nuclear Power Plants," Revision 3, and NUREG-1431, "Standard Technical Specifications - Westinghouse Plants." Also, the guidance of NUMARC 67-00, "Guidelines and Technical Bases for NUMARC Initiatives Addressing Station Blackout at Light Water Reactors," Revision 1, and Regulatory Guide 1.160 has been adopted to formulate a comprehensive Emergency Diesel Generator Reliability Program.

Technical Specification 3.8.1.1, ACTION b and c, require, in part, the demonstration of the OPERABILITY of the remaining OPERABLE emergency diesel generator by performing Technical Specification 4.8.1.1.2a.4. This test is required to be completed regardless of when the inoperable emergency diesel generator is restored to OPERABLE status unless the emergency diesel generator was declared inoperable to do preplanned preventative maintenance, testing, or maintenance to correct a condition which, if left uncorrected, would not affect the OPERABILITY of the emergency diesel generator. The requirement to test the remaining OPERABLE emergency diesel generator when one emergency diesel generator is inoperable is limited to those situations where the cause for inoperability can not be conclusively demonstrated in order to preclude the potential for common mode failures. The test is not required to be accomplished if the emergency diesel generator was declared inoperable due to an inoperable support system or an independently testable component. When such a test is required, it is required to be performed within 24 hours for ACTION b and within 8 hours for ACTION c of having determined that the emergency diesel generator is inoperable.

Technical Specification 4.8.1.1.2a.4 is considered to be a "Start Test" as described in Regulatory Guide 1.9, Revision 3. A "Start Test" is performed to demonstrate proper startup from standby conditions and to verify that the required design voltage and frequency is attained. For these tests, Regulatory Guide 1.9, Revision 3, recommends that the emergency diesel generators be slow started and allowed to reach rated speed on a prescribed schedule that is selected to minimize stress and wear.

Regulatory Guide 1.9, Revision 3, considers Technical Specification 4.8.1.1.2a.5 to be a "Load-Run Test". A "Load-Run Test" demonstrates 90 to 100 percent (5580 to 6201 kilowatts) of the continuous rating (6201 kilowatts) of the emergency diesel generator for an interval of not less than 1 hour and until temperature equilibrium has been attained. This test may be accomplished by synchronizing the generator with offsite power and the loading and unloading of an diesel generator during this test should be gradual and based on a prescribed schedule that is selected to minimize stress and wear on the diesel generator.

Regulatory Guide 1.9, Revision 3, considers Technical Specification 4.8.1.1.2b to be a "Fast-Start Test". A "Fast-Start Test" demonstrates that each emergency diesel generator starts from standby conditions. If a plant normally has in operation keep warm systems designed to maintain lube oil and jacket water cooling at certain temperatures or prelubrication systems or both, this would constitute normal standby conditions for that plant. Verification that the emergency diesel generator reaches required voltage and frequency within acceptable limits and time is also required.

The requirements of the "Single-Load Rejection Test" and the "Full-Load Rejection Test" as described in Regulatory Guide 1.9, Revision 3 have been combined. The "Full-Load Rejection Test" is a demonstration of the emergency diesel generator's capability to reject a load equal to 90 to 100 percent of its continuous rating (5580 to 6201 kilowatts) while operating at a power factor between 0.8 and 0.9 and that the voltage does not exceed 4784 volts and that the frequency does not exceed 65.4 Hertz following a load rejection of 5580 to 6201 kilowatts. The frequency criteria is from the "Single-Load Rejection Test" and is based on nominal engine speed plus 75 percent of the difference between nominal speed and the over-speed trip setpoint.

The note that will not allow a surveillance requirement to be performed in MODES 1 or 2 is based on the improved Standard Technical Specifications (NUREG-1431) which recognizes that the performance of certain surveillance requirements during operation with the reactor critical could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, unit safety systems.

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In addition, through a plant procedure, the ESW pump starting transient during the LOCA sequencing test, Technical Specification 4.8.1.1.2.g.4.d, will be demonstrated to be within a minimum voltage of 3120 Vac and to recover to 3680 Vac with 3 seconds and to be within a maximum voltage of 4784 Vac and recover to 4320 Vac within 2 seconds. This acceptance criteria is based on Regulatory Guide 1.9 revision 3 section 1.4 and past trending of ESW pump starting transient performance.



## ELECTRIC POWER SYSTEMS

### BASES

#### A.C. SOURCES, D.C. SOURCES, and ONSITE POWER DISTRIBUTION (Continued)

~~engine overspeed trip to prevent damage to the engine. Recovery from the transient caused by the loss of a large load could cause diesel engine overspeed, which, if excessive, might result in a trip of the engine. Surveillance Requirement 4.8.1.1.2.f(2) demonstrates the DG load response characteristics and capability to reject the largest single load without exceeding predetermined voltage and frequency and while maintaining a specified margin to the overspeed trip as required by Regulatory Guide 1.9, Position C.4.~~

The Surveillance Requirements for demonstrating the OPERABILITY of the station batteries are based on the recommendations of Regulatory Guide 1.129, "Maintenance Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants," February 1978; and IEEE Std 450-1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations."

Verifying average electrolyte temperature above the minimum for which the battery was sized, total battery terminal voltage on float charge, connection resistance values and the performance of battery service and discharge tests ensures the effectiveness of the charging system, the ability to handle high discharge rates and compares the battery capacity at that time with the rated capacity.

Table 4.8-2 specifies the normal limits for each designated pilot cell and each connected cell for electrolyte level, float voltage and specific gravity. The limits for the designated pilot cells float voltage and specific gravity, greater than 2.13 volts and 0.015 below the manufacturer's full charge specific gravity or a battery charger current that had stabilized at a low value, is characteristic of a charged cell with adequate capacity. The normal limits for each connected cell for float voltage and specific gravity, greater than 2.13 volts and not more than 0.020 below the manufacturer's full charge specific gravity with an average specific gravity of all the connected cells not more than 0.010 below the manufacturer's full charge specific gravity, ensures the OPERABILITY and capability of the battery.

Operation with a battery cell's parameter outside the normal limit but within the Allowable Value specified in Table 4.8-2 is permitted for up to 7 days. During this 7-day period: (1) the Allowable Value for electrolyte level ensures no physical damage to the plates with an adequate electron transfer capability; (2) the Allowable Value for the average specific gravity of all the cells, not more than 0.020 below the manufacturer's recommended full charge specific gravity, ensures that the decrease in rating will be less than the safety margin provided in sizing; (3) the Allowable Value for an individual cell's specific gravity, ensures that an individual cell's specific gravity will not be more than 0.040 below the manufacturer's full charge specific gravity and that the overall capability of the battery will be maintained within an acceptable limit; and (4) the Allowable Value for an individual cell's float voltage, greater than 2.07 volts, ensures the battery's capability to perform its design function.

Insert B →

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DIESEL FUEL OIL TESTING PROGRAM

In accordance with Technical Specification 6.8.4, a Diesel Fuel Oil Testing Program to implement required testing of both new fuel oil and stored fuel oil shall be established. For the intent of this specification, new fuel oil shall represent diesel fuel oil that has not been added to the Diesel Fuel Oil Storage Tanks. Once the fuel oil is added to the Diesel Fuel Oil Storage Tanks, the diesel fuel oil is considered stored fuel oil, and shall meet the Technical Specification requirements for stored fuel oil.

Tests listed below are a means of determining whether new fuel oil is of the appropriate grade and has not been contaminated with substances that would have an immediate detrimental impact on diesel engine combustion. If results from these tests are within acceptable limits, the new fuel oil may be added to the storage tanks without concern for contaminating the entire volume of fuel oil in the storage tanks. These tests are to be conducted prior to adding the new fuel to the storage tanks, but in no case is the time between receipt of the new fuel oil and conducting the tests to exceed 30 days. The tests, limits, and applicable ASTM standards being used to evaluate the condition of new fuel oil are:

1. By sampling new fuel <sup>Added</sup> (in accordance with) ASTM D4057 prior to addition to storage tanks and:
2. By verifying <sup>Added</sup> (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 gravity at 60/60 F or 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, 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 water and sediment content of less than or equal to 0.05% when tested <sup>Added</sup> (in accordance with) ASTM D1796-83.

Failure to meet any of the above limits is cause for rejecting the new fuel oil, but does not represent a failure to meet the Limiting Condition for Operation of Technical Specification 3.8.1.1, since the new fuel oil has not been added to the diesel fuel oil storage tanks.

Within 30 days following the initial new fuel oil sample, the fuel oil is analyzed <sup>Added</sup> to establish 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 D4294-90. An exception to ASTM D129, which is specified in ASTM D975-81, has been taken. ASTM D129 uses a Barium precipitation method for the determination of sulfate after oxidation has occurred. The use of any wet lab sulfate analysis is acceptable since the determination is made in the aqueous rinse water for the oxidation process. In the event the correct fuel oil properties are not met, ACTION g provides an additional 30 days from the time that it is determined that the correct fuel oil properties are not met to meet the Diesel Fuel Oil Testing Program limits. The additional 30 day period is acceptable because the fuel oil properties of interest, even if they are not within limits, would not have an immediate effect on emergency diesel generator operation. The diesel fuel oil surveillance in accordance with the Diesel Fuel Oil Testing Program will ensure the availability of high quality diesel fuel oil for the emergency diesel generators. <sup>Added</sup>

At least once every 31 days, a sample of fuel oil is obtained from the storage tanks (in accordance with) ASTM D2276-78. The particulate contamination is verified to be less than 10 mg/liter when checked (in accordance with) ASTM D2276-78, Method A. The filter size for the determination of particulate contamination will be 3.0 micron nominal instead of 0.8 micron nominal as specified by ASTM D2276-78, Method A. The filtered amount of diesel fuel will be approximately one liter when possible. Also it is acceptable to obtain a field sample for subsequent laboratory testing in lieu of field testing.

Fuel oil degradation during long term storage shows up as an increase in particulate, due mostly to oxidation. The presence of particulate does not mean the fuel oil will not burn properly in a diesel engine. The particulate can cause fouling of filters and fuel oil injection equipment which can cause engine failure.

The frequency for performing surveillance on stored fuel oil is based on stored fuel oil degradation trends which indicate that particulate concentration is unlikely to change significantly between surveillances.

## ADMINISTRATIVE CONTROLS

### RESPONSIBILITIES (Continued)

- m. Review of Unit operations to detect potential hazards to nuclear safety;
  - n. Investigations or analysis of special subjects as requested by the Chairman of the NSRB;
  - o. Review of Unit Turbine Overspeed Protection Reliability Program and revisions thereto; ~~and~~ <sup>stet</sup>
  - p. Review of the Fire Protection Program and submitting recommended changes to the NSRB; ~~and~~
  - ~~q. Review of the Diesel Fuel Oil Testing Program.~~
- 6.5.1.7 The ORC shall:

- a. Recommend in writing to the Manager, Callaway Plant approval or disapproval of items considered under Specifications 6.5.1.6a through e., i., j., k., l., o., and ~~p.~~ <sup>stet</sup> above.
- b. Render determinations in writing with regard to whether or not each item considered under Specifications 6.5.1.6b. through e., and m., above, constitutes an unreviewed safety question; and
- c. Provide written notification within 24 hours to the Senior Vice President-Nuclear and the Nuclear Safety Review Board of disagreement between the ORC and the Manager, Callaway Plant; however, the Manager, Callaway Plant shall have responsibility for resolution of such disagreements pursuant to Specification 6.1.1. above.

### RECORDS

6.5.1.8 The ORC shall maintain written minutes of each ORC meeting that, at a minimum, document the results of all ORC activities performed under the responsibility provisions of these Technical Specifications. Copies shall be provided to the Senior Vice President-Nuclear and the Nuclear Safety Review Board.

### 6.5.2 NUCLEAR SAFETY REVIEW BOARD (NSRB)

#### FUNCTION

6.5.2.1 The NSRB shall function to provide independent review and audit of designated activities in the areas of:

- a. Nuclear power plant operations,
- b. Nuclear engineering,
- c. Chemistry and radiochemistry,
- d. Metallurgy,
- e. Instrumentation and control,
- f. Radiological safety,
- g. Mechanical and electrical engineering, and
- h. Quality assurance practices.

The NSRB shall report to and advise the Senior Vice President-Nuclear on those areas of responsibility stated in Specifications 6.5.2.8 and 6.5.2.9.

## ADMINISTRATIVE CONTROLS

### AUDITS (Continued)

- d. The performance of activities required by the Operational Quality Assurance Program to meet the criteria of Appendix B, 10 CFR Part 50, at least once per 24 months;
- e. The Fire Protection programmatic controls including the implementing procedures at least once per 24 months by qualified licensee QA personnel;
- f. The fire protection equipment and program implementation at least once per 12 months utilizing either qualified offsite licensee fire protection engineer or an outside independent fire protection consultant. An outside independent fire protection consultant shall be used at least every third year.
- g. The Radiological Environmental Monitoring Program and the results thereof at least once per 12 months;
- h. The OFFSITE DOSE CALCULATION MANUAL and implementing procedures at least once per 24 months;
- i. The PROCESS CONTROL PROGRAM and implementing procedures for processing and packaging of radioactive wastes at least once per 24 months;
- j. The performance of activities required by the Quality Assurance Program for effluent and environmental monitoring, at least once per 12 months; ~~and~~ stet
- k. Any other area of unit operation considered appropriate by the NSRB or the Senior Vice President-Nuclear; ~~and~~  
~~1. The Diesel Fuel oil Testing Program and implementing procedures.~~

### RECORDS

6.5.2.10 Records of NSRB activities shall be prepared, approved, and distributed as indicated below:

- a. Minutes of each NSRB meeting shall be prepared, approved and forwarded to the Senior Vice President-Nuclear within 14 days following each meeting;
- b. Reports of reviews encompassed by Specification 6.5.2.8 above, shall be prepared, approved and forwarded to the Senior Vice President-Nuclear within 14 days following completion of the review; and
- c. Audit reports encompassed by Specification 6.5.2.9 above, shall be forwarded to the management positions responsible for the areas audited and summaries of audits shall be prepared and forwarded to the Senior Vice President-Nuclear within 30 days after completion of the audit by the auditing organization.

## ADMINISTRATIVE CONTROLS

### SAFETY LIMIT VIOLATION (Continued)

- c. The Safety Limit Violation Report shall be submitted to the Commission, the NSRB and the Senior Vice President-Nuclear within 14 days of the violation; and
- d. Critical operation of the unit shall not be resumed until authorized by the Commission.

### 6.8 PROCEDURES AND PROGRAMS

6.8.1 Written procedures shall be established, implemented, and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978;
- b. The emergency operating procedures required to implement the requirements of NUREG-0737 and Supplement 1 to NUREG-0737 as stated in Section 7.1 of Generic Letter No. 82-33;
- c. Plant Security Plan implementation;
- d. Radiological Emergency Response Plan implementation;
- e. PROCESS CONTROL PROGRAM implementation;
- f. OFFSITE DOSE CALCULATION MANUAL implementation;
- g. Quality Assurance Program implementation for effluent and environmental monitoring; and ← stet
- h. Fire Protection Program implementation, and Diesel Fuel Oil Testing Program implementation.

6.8.2 Each procedure and administrative policy of Specification 6.8.1 above, and changes thereto, including temporary changes shall be reviewed prior to implementation as set forth in Specification 6.5 above.

6.8.3 The plant Administrative Procedures and changes thereto shall be reviewed in accordance with Specification 6.5.1.6 and approved in accordance with Specification 6.5.3.1. The associated implementing procedures and changes thereto shall be reviewed and approved in accordance with Specification 6.5.3.1.

6.8.4 The following programs shall be established, implemented and maintained:

- a. Reactor Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The systems include the recirculation portion of the Containment Spray System, Safety Injection System, Chemical and Volume Control System, and RHR System. The program shall include the following:

- 1) Preventive maintenance and periodic visual inspection requirements, and

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

f. Radiological Environmental Monitoring Program (Continued)

- 3) Participation in a Interlaboratory Comparison Program to ensure that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

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6.8.5 The following programs, relocated from the Technical Specifications to FSAR Chapter 16, shall be implemented and maintained:

a. Explosive Gas and Storage Tank Radioactivity Monitoring Program

This program provides controls for potentially explosive gas mixtures contained in the WASTE GAS HOLDUP SYSTEM, the quantity of radioactivity contained in gas storage tanks, and the quantity of radioactivity contained in unprotected outdoor liquid storage tanks.

The program shall include:

1. The limits for concentrations of hydrogen and oxygen in the WASTE GAS HOLDUP SYSTEM and a surveillance program to ensure the limits are maintained.
2. A surveillance program to ensure that the quantity of radioactivity contained in each gas storage tank is less than the amount that would result in a whole body exposure of  $\geq 0.5$  rem to a MEMBER OF THE PUBLIC at the nearest SITE BOUNDARY in the event of an uncontrolled release of the tanks' contents, consistent with Branch Technical Position ETSB 11-5, "Postulated Radioactive Releases due to Waste Gas System Leak or Failure," in NUREG-0800, July 1981.
3. A surveillance program to ensure that the quantity of radioactivity contained in the following outdoor liquid radwaste tanks, that are not surrounded by liners, dikes, or walls capable of holding the tanks' contents and that do not have tank overflows and surrounding area drains connected to the liquid radwaste system, is less than the amount that would result in concentrations less than the limits of 10 CFR Part 20.1 -20.602, Appendix B (redesignated at 56FR23391, May 21, 1991) at the nearest potable water supply and the nearest surface water supply in an UNRESTRICTED AREA, in the event of an uncontrolled release of the tanks' contents:
  - a. Reactor Makeup Water Storage Tank,
  - b. Refueling Water Storage Tank,
  - c. Condensate Storage Tank, and
  - d. Outside temporary tanks, excluding demineralizer vessels and the liner being used to solidify radioactive waste.

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g. Diesel Fuel Oil Testing Program

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A diesel fuel oil testing program to implement required testing of both new fuel oil and stored fuel oil. The program shall include sampling and testing requirements, and acceptance criteria, in accordance with the applicable ASTM Standards. The purpose of the program is to establish the following:

1. Acceptability of new fuel oil for use prior to addition to storage tanks by determining that the fuel oil has:
  - a. an API gravity or an absolute specific gravity within limits,
  - b. a flash point within limits for ASTM 2D fuel oil,
  - c. a kinematic viscosity within limits for ASTM 2D fuel oil,
  - d. a water and sediment content within the limits for ASTM 2D fuel oil;
2. Other properties for ASTM 2D fuel oil are within limits within 30 days following sampling and addition of new fuel oil to storage tanks;
3. Total particulate concentration of the stored fuel oil is < 10 mg/liter when tested every 31 days in accordance with the applicable ASTM Standards; and

h. Emergency Diesel Generator Reliability Program

An emergency diesel generator reliability program that establishes the requirements and guidelines for emergency diesel generator reliability, availability, and monitoring. The program shall include the following:

1. Emergency diesel generator reliability performance goals (target reliability) based upon the station blackout coping assessment. Target reliability goal monitoring is accomplished through monitoring methods that are based upon those described in Appendix D of NUMARC 87-00,
2. Measures to ensure detailed root cause analysis of emergency diesel generator failures is performed and effective corrective actions are taken in response to failures,
3. Implementation of an emergency diesel generator preventive maintenance program that is consistent with the Maintenance Rule, and
4. Monitoring of emergency diesel generator availability and performance parameters to ensure the target reliability is met or exceeded.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:

- a. At least once per 31 days 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 diesel starts\*\* and obtains a voltage of ~~4160 ± 160~~  $4000 \pm 320$  420 volts, and a frequency of  $60 \pm 1.2$  Hz. The diesel generator can be slow started and allowed to reach rated speed at a rate that is selected to minimize stress and wear,
  - 5) Verifying the generator is synchronized, gradually loaded to an indicated 5580 to 6201 kW\*\*\* for at least 60 minutes, and until temperature equilibrium is attained. The rate of loading and unloading of the generator during this test should be gradual, based upon minimizing stress and wear on the diesel generator, and
  - 6) Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.
- b. At least once per 31 days by checking for and removing accumulated water from the day tanks;
- c. At least once per 31 days by checking for and removing accumulated water from the fuel oil storage tanks;
- d. By verifying fuel oil properties of new fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program.
- e. By verifying fuel oil properties of stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program.
- f. At least once per 184 days verify each diesel generator starts from standby conditions\*\* and achieves in less than or equal to 12 seconds, a voltage of  $4000 \pm 320$  volts, and a frequency of  $60 \pm 1.2$  Hz using one of the following signals:
  - 1) Manual, or
  - 2) Simulated loss-of-offsite power by itself, or
  - 3) Safety Injection test signal.

\*\* This test shall be preceded by an engine prelube period and/or other warmup procedures recommended by the manufacturer so that mechanical stress and wear on the diesel engine is minimized.

\*\*\* 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 or momentary variations due to changing bus loads shall not invalidate this test.



## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

- 5) Verifying each diesel generator's automatic trips are bypassed upon the simulated SIS and loss-of-offsite power combined test\*\* except:
- a) High jacket coolant temperature;
  - b) Engine Overspeed;
  - c) Low lube oil pressure;
  - d) High crankcase pressure;
  - e) Start failure relay;
  - f) Generator differential current.
- 6) Verifying full-load carrying capability of the diesel generator\*\* at a power factor between 0.8 and 0.9 for an interval of not less than 24 hours at 5580 to 6201 kW (indicated). The generator voltage and frequency shall be maintained within  $4000 \pm 320$  volts and  $60 \pm 1.2$  Hz during this test; \*\*\*
- 7) 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.
- 8) 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;
- 9) 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; and
- 10) Verifying that the automatic LOCA and shutdown sequence timer is OPERABLE with the interval between each load block within  $\pm 10\%$  of its design interval; and

Verify the diesel generator operates for  $\geq 2$  hours loaded to an indicated 6600 to 6821 KW if auto connected loads increase above 6201 KW.

\*\* This surveillance shall not be performed in Modes 1 or 2 and credit may be taken for unplanned events that satisfy this requirement.

\*\*\* This surveillance shall not be performed in Modes 1, 2, 3, or 4 and credit may be taken for unplanned events that satisfy this requirement.

Insert 1 →

## INSERT 1

\*\*\*\* 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 or momentary variations due to changing bus loads shall not invalidate this test.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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11) Verifying the diesel generator's hot restart capability by operating the diesel generator for greater than or equal to 2 hours at an indicated load of 5580 to 6201 kW, shutting down the diesel and restarting it within 5 minutes. On the restart, the diesel generator voltage and frequency shall be  $4000 \pm 320$  volts and  $60 \pm 1.2$  Hz within 12 seconds after the start signal (load test not required after restart).

- h. At least once per 10 years verify that when started simultaneously from standby conditions, \*\* each diesel generator achieves in less than or equal to 12 seconds, a voltage of  $4000 \pm 320$  volts and a frequency of  $60 \pm 1.2$  HZ.
- i. At least once per 10 years by:
  - 1) Draining each fuel oil storage tank,
  - 2) Removing the accumulated sediment,
  - 3) Cleaning the tank to remove microbiological growth.

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\*\* This test shall be preceded by an engine prelube period and/or other warmup procedures recommended by the manufacturer so that the mechanical stress and wear on the diesel engine is minimized.

, or after any modification which could affect diesel generator interdependence,

## ELECTRICAL POWER SYSTEMS

### BASES

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#### A.C. SOURCES, D.C. SOURCES, AND ONSITE POWER DISTRIBUTION (Continued)

following a load rejection of 5580 to 6201 kilowatts. The frequency criteria is from the "Single-Load Rejection Test" and is based on nominal engine speed plus 75 percent of the difference between nominal speed and the over-speed trip setpoint.

Insert A1 →

The note that will not allow a surveillance requirement to be performed in MODES 1 or 2 is based on the improved Standard Technical Specifications (NUREG-1431) which recognizes that the performance of certain surveillance requirements during operation with the reactor critical could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, unit safety systems.

The Surveillance Requirements for demonstrating the OPERABILITY of the station batteries are based on the recommendations of Regulatory Guide 1.129, "Maintenance Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants," February 1978; and IEEE Std 450-1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations."

Verifying average electrolyte temperature above the minimum for which the battery was sized, total battery terminal voltage on float charge, connection resistance values and the performance of battery service and discharge tests ensures the effectiveness of the charging system, the ability to handle high discharge rates and compares the battery capacity at that time with the rated capacity.

Table 4.8-2 specifies the normal limits for each designated pilot cell and each connected cell for electrolyte level, float voltage and specific gravity. The limits for the designated pilot cells float voltage and specific gravity. The limits for the designated pilot cells float voltage and specific gravity, greater than 2.13 volts and 0.015 below the manufacturer's full charge specific gravity or a battery charger current that had stabilized at a low value, is characteristic of a charged cell with adequate capacity. The normal limits for each connected cell for float voltage and specific gravity, greater than 2.13 volts and not more than 0.020 below the manufacturer's full charge specific gravity with an average specific gravity of all the connected cells not more than 0.010 below the manufacturer's full charge specific gravity, ensures the OPERABILITY and capability of the battery.

Operation with a battery cell's parameter outside the normal limit but within the Allowable Value specified in Table 4.8-2 is permitted for up to 7 days. During this 7-day period: (1) the Allowable Value for electrolyte level ensures no physical damage to the plates with an adequate electron transfer capability; (2) the Allowable Value for the average specific gravity of all the cells, not more than 0.020 below the manufacturer's recommended full charge specific gravity, ensures that the decrease in rating will be less than the safety margin provided in sizing; (3) the Allowable Value for an individual cell's specific gravity, ensures that an individual cell's specific gravity will not be more than 0.040 below the manufacturer's full charge specific gravity and that the overall capability of the battery will be maintained within an acceptable limit; and (4) the Allowable Value for an individual cell's float voltage, greater than 2.07 volts, ensures the battery's capability to perform its design function.

## Insert A1

In addition, through a plant procedure, the ESW pump starting transient during the LOCA sequencing test, Technical Specification 4.8.1.1.2.g.4.d, will be demonstrated to be within a minimum voltage of 3120 Vac and to recover to 3680 Vac with 3 seconds and to be within a maximum voltage of 4784 Vac and recover to 4320 Vac within 2 seconds. This acceptance criteria is based on Regulatory Guide 1.9 revision 3 section 1.4 and past trending of ESW pump starting transient performance.

## ELECTRICAL POWER SYSTEMS

### BASES

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#### DIESEL FUEL OIL TESTING PROGRAM

In accordance with Technical Specification 6.8.4, a Diesel Fuel Oil Testing Program to implement required testing of both new fuel oil and stored fuel oil shall be established. For the intent of this specification, new fuel oil shall represent diesel fuel oil that has not been added to the Diesel Fuel Oil Storage Tanks. Once the fuel oil is added to the Diesel Fuel Oil Storage Tanks, the diesel fuel oil is considered stored fuel oil, and shall meet the Technical Specification requirements for stored fuel oil.

Tests listed below are a means of determining whether new fuel oil is of the appropriate grade and has not been contaminated with substances that would have an immediate detrimental impact on diesel engine combustion. If results from these tests are within acceptable limits, the new fuel oil may be added to the storage tanks without concern for contaminating the entire volume of fuel oil in the storage tanks. These tests are to be conducted prior to adding the new fuel to the storage tanks, but in no case is the time between receipt of the new fuel oil and conducting the tests to exceed 30 days. The tests, limits, and applicable ASTM standards used to evaluate the condition of new fuel oil are:

- in accordance with
1. By sampling new fuel oil ~~based on~~ ASTM D4057 prior to addition to storage tanks and:
  2. By verifying ~~based on~~ 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 gravity at 60/60°F or 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, 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 water and sediment content of less than or equal to 0.05% when tested ~~based on~~ ASTM D1796-83.

in accordance with

Failure to meet any of the above limits is cause for rejecting the new fuel oil, but does not represent a failure to meet the Limiting Condition for Operation of Technical Specification 3.8.1.1, since the new fuel oil has not been added to the diesel fuel oil storage tanks.

## ELECTRICAL POWER SYSTEMS

### BASES

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#### DIESEL FUEL OIL TESTING PROGRAM (Continued)

*in accordance with*

Within 30 days following the initial new fuel oil sample, the fuel oil is analyzed to establish that the other properties specified in Table 1 of ASTM D975-81 are met when tested ~~based on ASTM D975-81~~ except that the analysis for sulfur may be performed ~~based on~~ ASTM D1522-79, ASTM D2622-82 or ASTM D4294-90. An exception to ASTM D129, which is specified in ASTM D975-81, has been taken. ASTM D129 uses a Barium precipitation method for the determination of sulfate after oxidation has occurred. The use of any wet lab sulfate analysis is acceptable since the determination is made in the aqueous rinse water for the oxidation process. In the event the correct fuel oil properties are not met, ACTION g provides an additional 30 days from the time that it is determined that the correct fuel oil properties are not met to meet the Diesel Fuel Oil Testing Program limits. The additional 30 day period is acceptable because the fuel oil properties of interest, even if they are not within limits, would not have an immediate effect on emergency diesel generator operation. The diesel fuel oil surveillance in accordance with the Diesel Fuel Oil Testing Program will ensure the availability of high quality diesel fuel oil for the emergency diesel generators.

*in accordance with*

At least once every 31 days, a sample of fuel oil is obtained from the storage tanks ~~based on ASTM D2276-78~~. The particulate contamination is verified to be less than 10 mg/liter when checked ~~based on~~ ASTM D2276-78, Method A. The filter size for the determination of particulate contamination will be 3.0 micron nominal instead of 0.8 micron nominal as specified by ASTM D2276-78, Method A. The filtered amount of diesel fuel will be approximately one liter when possible. Also, it is acceptable to obtain a field sample for subsequent laboratory testing in lieu of field testing.

Fuel oil degradation during long term storage shows up as an increase in particulate, due mostly to oxidation. The presence of particulate does not mean the fuel oil will not burn properly in a diesel engine. The particulate can cause fouling of filters and fuel oil injection equipment which can cause engine failure.

The frequency for performing surveillance on stored fuel oil is based on stored fuel oil degradation trends which indicate that particulate concentration is unlikely to change significantly between surveillances.

## ADMINISTRATIVE CONTROLS

### RESPONSIBILITIES (Continued)

- m. Review of Unit operations to detect potential hazards to nuclear safety;
- n. Investigations or analysis of special subjects as requested by the Chairman of the NSRB;
- o. Review of Unit Turbine Overspeed Protection Reliability Program and revisions thereto; ~~and~~
- p. Review of the Fire Protection Program and submitting recommended changes to the NSRB; ~~and~~
- ~~q. Review of the Diesel Fuel Oil Testing Program.~~

#### 6.5.1.7 The ORC shall:

- a. Recommend in writing to the Manager, Callaway Plant approval or disapproval of items considered under Specifications 6.5.1.6a through e., i., j., k., l., o., and ~~q.~~ above.
- b. ~~Render~~ determinations in writing with regard to whether or not each item considered under Specifications 6.5.1.6b. through e., and m., above, constitutes an unreviewed safety question; and
- c. Provide written notification within 24 hours to the Senior Vice President-Nuclear and the Nuclear Safety Review Board of disagreement between the ORC and the Manger, Callaway Plant; however, the Manager, Callaway Plant shall have responsibility for resolution of such disagreements pursuant to Specification 6.1.1 above.

### RECORDS

6.5.1.8 The ORC shall maintain written minutes of each ORC meeting that, at a minimum, document the results of all ORC activities performed under the responsibility provisions of these Technical Specifications. Copies shall be provided to the Senior Vice President-Nuclear and the Nuclear Safety Review Board.

### 6.5.2 NUCLEAR SAFETY REVIEW BOARD (NSRB)

#### FUNCTION

6.5.2.1 The NSRB shall function to provide independent review and audit of designated activities in the areas of:

- a. Nuclear power plant operations,
- b. Nuclear engineering,
- c. Chemistry and radiochemistry,
- d. Metallurgy,
- e. Instrumentation and control,
- f. Radiological safety,
- g. Mechanical and electrical engineering, and
- h. Quality assurance practices

The NSRB shall report to and advise the Senior Vice President-Nuclear on those areas of responsibility stated in Specifications 6.5.2.8 and 6.5.2.9.



## ADMINISTRATIVE CONTROLS

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### AUDITS (Continued)

- d. The performance of activities required by the Operational Quality Assurance Program to meet the criteria of Appendix B, 10 CFR Part 50, at least once per 24 months;
- e. The Fire Protection programmatic controls including the implementing procedures at least once per 24 months by qualified licensee QA personnel;
- f. The fire protection equipment and program implementation at least once per 12 months utilizing either qualified offsite licensee fire protection engineer or an outside independent fire protection consultant. An outside independent fire protection consultant shall be used at least every third year.
- g. The Radiological Environmental Monitoring Program and the results thereof at least once per 12 months;
- h. The OFFSITE DOSE CALCULATION MANUAL and implementing procedures at least once per 24 months;
- i. The PROCESS CONTROL PROGRAM and implementing procedures for processing and packaging of radioactive wastes at least once per 24 months;
- j. The performance of activities required by the Quality Assurance Program for effluent and environmental monitoring, at least once per 12 months; *and*
- k. Any other area of unit operation considered appropriate by the NSRB or the Senior Vice President-Nuclear; *and*
- ~~l. The Diesel Fuel Oil Testing Program and implementing procedures.~~

### RECORDS

6.5.2.10 Records of NSRB activities shall be prepared, approved, and distributed as indicated below:

- a. Minutes of each NSRB meeting shall be prepared, approved and forwarded to the Senior Vice President-Nuclear within 14 days following each meeting;
- b. Reports of reviews encompassed by Specification 6.5.2.8 above, shall be prepared, approved and forwarded to the Senior Vice President-Nuclear within 14 days following completion of the review; and
- c. Audit reports encompassed by Specification 6.5.2.9 above, shall be forwarded to the management positions responsible for the areas audited and summaries of audits shall be prepared and forwarded to the Senior Vice President-Nuclear within 30 days after completion of the audit by the auditing organization.

## ADMINISTRATIVE CONTROLS

### SAFETY LIMIT VIOLATION (Continued)

- c. The Safety Limit Violation Report shall be submitted to the Commission, the NSRB and the Senior Vice President-Nuclear within 14 days of the violation; and
- d. Critical operation of the unit shall not be resumed until authorized by the Commission.

### 6.8 PROCEDURES AND PROGRAMS

6.8.1 Written procedures shall be established, implemented, and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978;
- b. The emergency operating procedures required to implement the requirements of NUREG-0737 and Supplement 1 to NUREG-0737 as stated in Section 7.1 of Generic Letter No. 82-33;
- c. Plant Security Plan implementation;
- d. Radiological Emergency Response Plan implementation;
- e. PROCESS CONTROL PROGRAM implementation;
- f. OFFSITE DOSE CALCULATION MANUAL implementation;
- g. Quality Assurance Program implementation for effluent and environmental monitoring;
- h. Turbine Overspeed Protection Reliability Program; *and*
- i. Fire Protection Program implementation; ~~and~~
- ~~j. Diesel Fuel Oil Testing Program implementation.~~

6.8.2 Each procedure and administrative policy of Specification 6.8.1 above, and changes thereto, including temporary changes shall be reviewed prior to implementation as set forth in Specification 6.5 above.

6.8.3 The plant Administrative Procedures and changes thereto shall be reviewed in accordance with Specification 6.5.1.6 and approved in accordance with Specification 6.5.3.1. The associated implementing procedures and changes thereto shall be reviewed and approved in accordance with Specification 6.5.3.1.

6.8.4 The following programs shall be established, implemented and maintained:

- a. Reactor Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The systems include the recirculation portion of the Containment Spray System, Safety Injection System, Chemical and Volume Control System, and RHR System. The program shall include the following:

- 1) Preventive maintenance and periodic visual inspection requirements, and

## ADMINISTRATIVE CONTROLS

### PROCEDURES AND PROGRAMS (Continued)

#### g. Radiological Environmental Monitoring Program (Continued)

- 3) Participation in a Interlaboratory Comparison Program to ensure that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

#### h. Diesel Fuel Oil Testing Program

in accordance with

A diesel fuel oil testing program to implement required testing of both new fuel oil and stored fuel oil. The program shall include sampling and testing requirements and acceptance criteria, ~~based upon~~ the applicable ASTM Standards. The purpose of the program is to establish the following:

1. Acceptability of new fuel oil for use prior to addition to storage tanks by determining that the fuel oil has:
  - a. an API gravity or an absolute specific gravity within limits,
  - b. a flash point within limits for ASTM 2D fuel oil,
  - c. a kinematic viscosity within limits for ASTM 2D fuel oil,
  - d. a water and sediment content within the limits for ASTM 2D fuel oil;
2. Other properties for ASTM 2D fuel oil are within limits within 30 days following sampling and addition of new fuel oil to storage tanks;
3. Total particulate concentration of the stored fuel oil is  $< 10$  mg/liter when tested every 31 days in accordance with the applicable ASTM Standards; and

#### i. Emergency Diesel Generator Reliability Program

An emergency diesel generator reliability program that establishes the requirements and guidelines for emergency diesel generator reliability, availability, and monitoring. The program shall include the following:

1. Emergency diesel generator reliability performance goals (target reliability) based upon the station blackout coping assessment. Target reliability goal monitoring is accomplished through monitoring methods that are based upon those described in Appendix D of NUMARC 87-00,
2. Measures to ensure detailed root cause analysis of emergency diesel generator failures is performed and effective corrective actions are taken in response to failures,
3. Implementation of an emergency diesel generator preventive maintenance program that is consistent with the Maintenance Rule, and