



**Northeast  
Nuclear Energy**

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The Northeast Utilities System

**JUL 31 2000**

Docket No. 50-423  
B18184

Re: 10 CFR 50.90

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

**Millstone Nuclear Power Station, Unit No. 3  
Technical Specifications Change Request 3-11-99  
Emergency Diesel Generator Surveillance Requirements**

Introduction

Pursuant to 10 CFR 50.90, Northeast Nuclear Energy Company (NNECO) hereby proposes to amend Operating License NPF-49, by incorporating the attached proposed changes into the Millstone Unit No. 3 Technical Specifications. NNECO is proposing to change Technical Specifications 3.8.1.1, "Electrical Power Systems - A.C. Sources - Operating," and 3.8.1.2, "Electrical Power Systems - A.C. Sources - Shutdown." The index and the Bases for these Technical Specifications will be modified as a result of the proposed changes.

Attachment 1 provides a discussion of the proposed changes and the Safety Summary. Attachment 2 provides the Significant Hazards Consideration. Attachment 3 provides the marked-up version of the appropriate pages of the current Technical Specifications. Attachment 4 provides the retyped pages of the Technical Specifications.

Environmental Considerations

NNECO has reviewed the proposed license amendment request against the criteria of 10 CFR 51.22 for environmental considerations. The Technical Specification and Bases changes are associated with the surveillance requirements for the Emergency Diesel Generators (EDGs). The proposed changes will allow certain EDG surveillance requirements to be performed when the plant is operating instead of shut down as

ADD 1

currently required. Additional changes will remove EDG accelerated testing and special reporting requirements, and the surveillance requirement to perform EDG inspections. EDG inspections will still be performed as recommended by the manufacturer. The proposed changes will not adversely impact the type and amounts of effluents that may be released off site.

These changes will not result in a significant increase in the type and amounts of effluents that may be released off site. In addition, this amendment request will not significantly increase individual or cumulative occupational radiation exposures. Therefore, NNECO has determined the proposed changes will not have a significant effect on the quality of the human environment.

### Conclusions

The proposed changes to the Millstone Unit No. 3 Technical Specifications do not involve a significant impact on public health and safety (see the Safety Summary provided in Attachment 1) and do not involve a Significant Hazards Consideration pursuant to the provisions of 10 CFR 50.92 (see the Significant Hazards Consideration provided in Attachment 2). Therefore, NNECO requests the NRC review and approve the proposed changes to the Millstone Unit No. 3 Technical Specifications through an amendment to Operating License NPF-49, pursuant to 10 CFR 50.90.

### Plant Operations Review Committee and Nuclear Safety Assessment Board

The Plant Operations Review Committee and Nuclear Safety Assessment Board have reviewed and concurred with the determinations.

### Schedule

We request issuance of this amendment for Millstone Unit No. 3 prior to December 31, 2000, with the amendment to be implemented within 30 days of issuance. This will allow Millstone Unit No. 3 to use the proposed changes during the next refueling outage currently scheduled for February 2001.

### State Notification


In accordance with 10 CFR 50.91(b), a copy of this License Amendment Request is being provided to the State of Connecticut.

There are no regulatory commitments contained within this letter.

If you should have any questions on the above, please contact Mr. Ravi Joshi at  
(860) 440-2080.


Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

  
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Raymond P. Necci  
Vice President - Nuclear Technical Services

Subscribed and sworn to before me

this 31<sup>st</sup> day of July, 2000

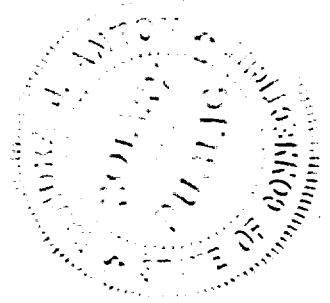
  
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Notary Public

Date Commission Expires: \_\_\_\_\_  
**SANDRA J. ANTON**  
**NOTARY PUBLIC**  
**COMMISSION EXPIRES**  
**MAY 31, 2005**

Attachments (4)

cc: H. J. Miller, Region I Administrator  
V. Nerses, NRC Senior Project Manager, Millstone Unit No. 3  
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Director  
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Monitoring and Radiation Division  
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Docket No. 50-423  
B18184

**Attachment 1**

**Millstone Nuclear Power Station, Unit No. 3**

**Technical Specifications Change Request 3-11-99  
Emergency Diesel Generator Surveillance Requirements  
Discussion of Proposed Changes and Safety Summary**

**Technical Specifications Change Request 3-11-99  
Emergency Diesel Generator Surveillance Requirements  
Discussion of Proposed Changes and Safety Summary**

Pursuant to 10 CFR 50.90, Northeast Nuclear Energy Company (NNECO) hereby proposes to amend Operating License NPF-49, by incorporating the attached proposed changes into the Millstone Unit No. 3 Technical Specifications. NNECO is proposing to change Technical Specifications 3.8.1.1, "Electrical Power Systems - A.C. Sources - Operating," and 3.8.1.2, "Electrical Power Systems - A.C. Sources - Shutdown." The index and the Bases for these Technical Specifications will be modified as a result of the proposed changes.

NNECO has reviewed the surveillance requirements (SRs) for the Emergency Diesel Generators (EDGs) contained in the Millstone Unit No. 3 Technical Specifications. The purpose of this review was to determine if any of the current EDG SRs currently required to be performed when the plant is shut down, could be safely performed while the plant is operating. This would help to reduce outage length and increase EDG availability when the plant is shut down.

As a result of this review, NNECO has determined that several EDG SRs can be safely performed while the plant is operating. The proposed Technical Specification changes to accomplish this are described below. Additional Technical Specification changes to remove EDG accelerated testing and special reporting requirements, and the surveillance requirement to perform EDG inspections are also discussed.

**System Description**

Millstone Unit No. 3 has two EDGs. Each EDG is capable of supplying power to the respective emergency 4160 VAC bus. During normal power operation, the EDGs are maintained in a standby mode. The EDGs may be manually started and will automatically start on a loss of power (LOP) to the respective emergency bus, a safety injection signal (SIS), and a containment depressurization accident signal (CDA). If the normal and alternate offsite power sources are not available, the EDGs are then automatically connected to the respective emergency bus and sequentially loaded. Upon receiving an automatic start signal, the EDGs are accelerated to rated speed, frequency, and voltage within 11 seconds, and are ready to accept load in accordance with the unit's sequential loading schedule. The capacity of one EDG is sufficient to meet the engineered safety features demand. The EDG loading sequence prevents system instability during motor starting. A fast responding exciter and a voltage regulator ensure quick voltage recovery after any load step.

Sequential loading is achieved by an emergency generator load sequencer (EGLS). The EGLS is a solid-state digital system which provides relay contact outputs to shed loads, block manual starts, and sequentially load the plant safety buses during emergency conditions. The primary purpose of the EGLS is to automatically control the

loading of the safety buses when a loss of offsite power has occurred and the buses are being reenergized by the EDG. The EGLS automatically performs the functions of load shedding, load blocking, and sequential load application under the conditions of LOP, SIS and LOP, and CDA and LOP. Under the conditions of SIS without LOP, the EGLS does not introduce load shedding, load blocking, or sequential load application into any of the control circuits of the engineered safety features. Under the condition of CDA without LOP, the EGLS delays the start of the containment recirculation pumps but does not introduce load shedding, load blocking, or sequential load application into the control circuits of any other engineered safety feature.

During the first 40 seconds, the EGLS sequences initial damage mitigating loads automatically. After the first 40 seconds, the manual start block signal is removed and additional emergency bus loads may be started manually. Typical loads manually started are the pressurizer heaters, the fuel pool cooling pump, and turbine protection equipment. Under the condition of SIS without LOP or CDA without LOP, the EGLS has the capability to automatically reset should a LOP occur on the essential bus. This capability prevents reconnection of all loads at the same time preventing an overload condition that could cause the respective EDG output breaker to trip.

#### Technical Specification Changes

Numerous changes to the Millstone Unit No. 3 Technical Specifications are proposed. Each proposed Technical Specification change will be discussed.

#### Index Page

The entry for Table 4.8-1, "Diesel Generator Test Schedule," will be replaced with the word "DELETED" on Index Page xi. This is consistent with the proposed removal of this table, which will be discussed. This is a non-technical change.

#### Technical Specification 3.8.1.1

Changes to Technical Specification 3.8.1.1 are proposed to allow several EDG SRs to be performed while the plant is operating, to remove EDG accelerated testing and special reporting requirements, and to remove the surveillance requirement to perform EDG inspections.

1. SR 4.8.1.1.2.a will be modified by replacing the phrase "In accordance with the frequency specified in Table 4.8.1" with the phrase "At least once per 31 days." The 31 day test frequency is the same as currently required, based on the past performance of the Millstone Unit No. 3 EDGs. This change is necessary due to the proposed deletion of Table 4.8-1. Removal of this table is consistent with the guidance contained in Generic Letter (GL) 94-01, "Removal of Accelerated Testing and Special Reporting Requirements for Emergency Diesel Generators," dated May 31, 1994. This is acceptable based on the implementation of the

Maintenance Rule, and is consistent with the Improved Standard Technical Specifications (NUREG-1431, TSTF-37).

2. SR 4.8.1.1.2.b will be divided into two SRs, 4.8.1.1.2.b.1 and 4.8.1.1.2.b.2. This is necessary to allow the current loading requirement to be excluded when the plant is shut down. This will be accomplished by the proposed change to SR 4.8.1.2, which will be discussed. The format changes will not result in any technical change to the current requirements.

The only technical change to the current requirements will be the addition of the phrase "from standby conditions" to the EDG starting requirements contained in the proposed SR 4.8.1.1.2.b.1. This will clarify the current requirement that a start from standby conditions is acceptable. Starting the EDGs from standby conditions reduces stresses and mechanical wear on the EDGs. This is consistent with other EDG SRs including 4.8.1.1.2.a.5, 4.8.1.1.2.g.4.b, 4.8.1.1.2.g.5, and 4.8.1.1.2.g.6.b. This is also consistent with NUREG-1431 (SR 3.8.1.7).

3. SR 4.8.1.1.2.g.1 will be removed. This SR refers to performing EDG inspections in accordance with procedures prepared in conjunction with the recommendations of the manufacturer. This is a maintenance activity that can be removed from Technical Specifications since it does not verify operability or the EDG functions assumed in the safety analysis. This is consistent with NUREG-1431.
4. SR 4.8.1.1.2.g.7 and the associated footnotes will be relocated as SR 4.8.1.1.2.j. As a result of this relocation, this SR may be performed while the plant is operating. In addition, the phrase "excluding the requirement to start the diesel from standby conditions" will be added to the requirement to perform SR 4.8.1.1.2.a.5 within 5 minutes of completing the 24 hour EDG test. This clarification is consistent with the intent of this requirement to verify the EDG can restart from hot conditions.
5. SR 4.8.1.1.2.g.11 will be relocated as SR 4.8.1.1.2.k. As a result of this relocation, this SR may be performed while the plant is operating.
6. SR 4.8.1.1.2.g.13 will be relocated as SR 4.8.1.1.2.l. As a result of this relocation, this SR may be performed while the plant is operating.
7. SR 4.8.1.1.2.h will be modified by adding the phrase "from standby conditions" to the EDG starting requirements. This will clarify the current requirement that a start from standby conditions is acceptable. Starting the EDGs from standby

conditions reduces stresses and mechanical wear on the EDGs. This is consistent with other EDG SRs including 4.8.1.1.2.a.5, 4.8.1.1.2.g.4.b, 4.8.1.1.2.g.5, and 4.8.1.1.2.g.6.b. This is also consistent with NUREG-1431 (SR 3.8.1.20).

8. SR 4.8.1.1.3 will be removed. Removal of this special reporting requirement is consistent with the guidance contained in GL 94-01. This is also consistent with NUREG-1431 (TSTF-37).
9. Table 4.8.1 will be removed and the phrase "This page intentionally left blank." will be added to Page 3/4 8-9. Removal of this table is consistent with the guidance contained in GL 94-01. This is acceptable based on the implementation of the Maintenance Rule, and is consistent with NUREG-1431 (TSTF-37).

#### Technical Specification 3.8.1.2

Technical Specification 3.8.1.2 will be modified to exclude an additional surveillance requirement and to be consistent with the removal of the EDG special reporting requirements from Technical Specification 3.8.1.1.

1. SR 4.8.1.2 will be modified by allowing SR 4.8.1.1.2.b.2 to be excluded from the required testing. Since only one EDG is required to be operable, it is not appropriate to require that EDG to be loaded when performing the six month test (SR 4.8.1.1.2.b).
2. SR 4.8.1.2 will be modified by removing the reference to SR 4.8.1.1.3. This is consistent with the proposed change to remove SR 4.8.1.1.3, as previously discussed.

#### Technical Specification Bases

The Bases for Technical Specifications 3.8.1.1 and 3.8.1.2 will be modified as a result of the proposed changes.

#### Safety Summary

The Technical Specification and Bases changes are associated with the surveillance requirements for the EDGs. The proposed changes will allow certain EDG surveillance requirements to be performed when the plant is operating instead of shut down as currently required. Additional changes will remove EDG accelerated testing and special reporting requirements, and the surveillance requirement to perform EDG inspections.

## Index Page

The index page will be revised to be consistent with the proposed change to Technical Specification 3.8.1.1 that removes the EDG Test Schedule. This is a non-technical change.

### Technical Specification 3.8.1.1

Millstone Unit No. 3 has implemented the Maintenance Rule required by 10 CFR 50.65, utilizing the guidance contained in NUMARC 93-01 and Regulatory Guide 1.160. A program has been established to monitor EDG performance. This program establishes criteria for EDG reliability and unavailability. A cause determination is required for each failure classified as a maintenance rule functional failure. If any performance criteria is exceeded, the EDG will be evaluated for monitoring under 10 CFR 50.65.a.1. As a result, this program essentially duplicates the current Technical Specification requirements for EDG accelerated testing and special reporting. In addition, the proposed change to a fixed 31 day test frequency will not result in a frequency change based on the past performance of the Millstone Unit No. 3 EDGs. Therefore, removing these requirements from the Millstone Unit No. 3 Technical Specifications will not adversely affect EDG reliability. The proposed changes are consistent with generic industry guidance contained in GL 94-01 and NUREG-1431 (TSTF-37).

Dividing SR 4.8.1.1.2.b into two SRs (4.8.1.1.2.b.1 and 4.8.1.1.2.b.2) will not result in any technical change to the current requirements. Adding the phrase "from standby conditions" to the EDG starting requirements will clarify the current requirement that a start from standby conditions is acceptable. Starting the EDGs from standby conditions reduces stresses and mechanical wear on the EDGs. This is consistent with other EDG SRs and with generic industry guidance contained in NUREG-1431 (SR 3.8.1.7).

The EDGs are required to be operable by Technical Specification 3.8.1.1. The EDGs meet the criteria of 10 CFR 50.36 for items which must be in controlled by Technical Specifications. The ability of the EDGs to perform as assumed in the safety analysis is verified by the performance of various SRs contained in this specification. However, SR 4.8.1.1.2.g.1, which requires EDG inspections to be performed in accordance with procedures prepared in conjunction with the recommendations of the manufacturer, does not verify operability or any EDG function assumed in the safety analysis. As a result, SR 4.8.1.1.2.g.1 can be removed from Technical Specification 3.8.1.1 without adversely affecting the ability of the EDGs to function as assumed in the safety analysis. EDG inspections and other maintenance activities recommended by the manufacturer will still be performed. Plant procedures can adequately control maintenance activities like this. The majority of these inspections and maintenance activities will still be performed when the plant is shut down since the activities normally takes seven to ten days to complete, and the current allowed outage time is only three days. In the future, NNECO may submit a change to the allowed outage time that will allow more of these activities to be performed while the plant is operating. In addition,

the frequency of these activities is expected to change to once every 24 months based on the recommendations of the manufacturer. By removing this requirement from Technical Specifications, NNECO will be able to evaluate the manufacturer's recommendation and process procedure changes utilizing the provisions of 10 CFR 50.59. The removal of this SR is consistent with NUREG-1431.

The proposed change to move SR 4.8.1.1.2.g.7 within the surveillance requirements of Technical Specification 3.8.1.1 will not result in any technical change to the current requirement, except that it will be acceptable to perform the required testing while the plant is operating. Allowing the 24 hour EDG test to be performed while the plant is operating will not directly affect EDG operability since the EDG remains operable when connected to the grid. The EDG output breaker will open in response to an engineered safety features signal (LOP, SIS, and CDA), and the EDG will be available to supply the associated emergency bus, if required. In addition, the EDG and electrical protective features will be available during the 24 hour test to provide associated EDG and electrical distribution protection, and the other EDG will not be affected by test performance. However, the 24 hour EDG test may result in EDG inoperability due to depletion of fuel oil, but the current allowed outage time will provide sufficient time to restore fuel oil inventory. The clarification that the standby conditions of SR 4.8.1.1.2.a.5 do not apply when restarting the EDG within 5 minutes of completing the 24 hour test is consistent with the intent of this requirement to verify the EDG can restart from hot conditions. This will not result in any change to test performance and is consistent with NUREG-1431.

The proposed change to move SR 4.8.1.1.2.g.11 within the surveillance requirements of Technical Specification 3.8.1.1 will not result in any technical change to the current requirement, except that it will be acceptable to perform the required testing while the plant is operating. The verification of the ability to transfer fuel oil from each fuel oil storage tank to each EDG fuel oil day tank requires the two manual fuel oil cross-connect valves to be opened, which may affect EDG operability. However, this is a relatively simple test that can be performed within the current allowed outage time. In addition, restoration of the normal system configuration by closing the manual valves can be readily accomplished since these valves are not located in an environment that could be adversely affected by a design basis accident.

The proposed change to move SR 4.8.1.1.2.g.13 within the surveillance requirements of Technical Specification 3.8.1.1 will not result in any technical change to the current requirement, except that it will be acceptable to perform the required testing while the plant is operating. The verification that the specified EDG lockout features prevent the associated EDG from starting will result in the EDG being inoperable. However, this test will not affect the remaining operable EDG, and the test can be performed within the current allowed outage time. In addition, system restoration can be readily accomplished if necessary.

Adding the phrase "from standby conditions" to the EDG starting requirements for SR 4.8.1.1.2.h will clarify the current requirement that a start from standby conditions is acceptable. Starting the EDGs from standby conditions reduces stresses and mechanical wear on the EDGs. This is consistent with other EDG SRs and with generic industry guidance contained in NUREG-1431 (SR 3.8.1.20).

#### Technical Specification 3.8.1.2

By modifying SR 4.8.1.2 to exclude SR 4.8.1.1.2.b.2 (184 day test), the one EDG required to be operable in Modes 5 and 6 will not be required to be connected to the grid. With only one EDG required to be operable, it is not appropriate to connect that EDG to the grid since that would increase the likelihood a grid fault could result in the loss of both normal and emergency power. The remaining EDG test, SR 4.8.1.1.2.b.1, which verifies the EDG will start is sufficient to provide reasonable assurance of the operability of that EDG. This is consistent with the current requirement contained in SR 4.8.1.2 that excludes loading the EDG during the 31 day test (SR 4.8.1.1.2.a.6), and with generic industry guidance contained in NUREG-1431 (SR 3.8.2.1).

Modifying SR 4.8.1.2 to remove the reference to SR 4.8.1.1.3 is a non-technical change consistent with the proposed change to remove SR 4.8.1.1.3 previously discussed.

#### Technical Specification Bases

The proposed changes to the Bases for Technical Specifications 3.8.1.1 and 3.8.1.2 are consistent with the proposed Technical Specification changes.

The proposed changes to the Technical Specifications and Bases will not adversely affect the operation of the equipment used to mitigate the design basis accidents. EDG unavailability will not significantly increase since most of the affected SRs are short duration tests, and are only expected to be performed once per 18 months. There will be no adverse effect on plant operation and the plant response to the design basis accidents will not change. Therefore, there will be no adverse impact on public health and safety. Thus, the proposed changes are safe.

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**Attachment 2**

**Millstone Nuclear Power Station, Unit No. 3**

**Technical Specifications Change Request 3-11-99  
Emergency Diesel Generator Surveillance Requirements  
Significant Hazards Consideration**

**Technical Specifications Change Request 3-11-99  
Emergency Diesel Generator Surveillance Requirements  
Significant Hazards Consideration**

**Description of License Amendment Request**

Northeast Nuclear Energy Company (NNECO) hereby proposes to revise the Millstone Unit No. 3 Technical Specifications as described in this License Amendment Request. The Technical Specification and Bases changes are associated with the surveillance requirements for the Emergency Diesel Generators (EDGs). The proposed changes will allow certain EDG surveillance requirements to be performed when the plant is operating instead of shut down as currently required. Additional changes will remove EDG accelerated testing and special reporting requirements, and the surveillance requirement to perform EDG inspections. A brief summary of the changes is provided below. Refer to Attachment 1 of this submittal for a detailed discussion of the proposed changes.

**Index Page**

- A non-technical change to revise the index to be consistent with the proposed removal of Table 4.8-1, "Diesel Generator Test Schedule."

**Technical Specification 3.8.1.1**

- Modify Surveillance Requirement (SR) 4.8.1.1.2.a to only require performance at least once per 31 days instead of in accordance with the frequency specified in Table 4.8.1.
- Divide SR 4.8.1.1.2.b into two SRs (4.8.1.1.2.b.1 and 4.8.1.1.2.b.2) to allow the current loading requirement to be excluded when the plant is shut down. Modify the current requirement to specify that an EDG start from standby conditions is acceptable.
- Remove SR 4.8.1.1.2.g.1 which requires EDG inspections to be performed in accordance with procedures prepared in conjunction with the recommendations of the manufacturer.
- Move SR 4.8.1.1.2.g.7 and the associated footnotes within the surveillance requirements of Technical Specification 3.8.1.1 to allow this SR to be performed while the plant is operating. Clarify the requirement to verify the EDG can restart from hot conditions.

- Move SR 4.8.1.1.2.g.11 within the surveillance requirements of Technical Specification 3.8.1.1 to allow this SR to be performed while the plant is operating.
- Move SR 4.8.1.1.2.g.13 within the surveillance requirements of Technical Specification 3.8.1.1 to allow this SR to be performed while the plant is operating.
- Modify SR 4.8.1.1.2.h to specify that an EDG start from standby conditions is acceptable.
- Delete SR 4.8.1.1.3 and Table 4.8-1.

#### Technical Specification 3.8.1.2

- Modify SR 4.8.1.2 to not require the EDG to be loaded when performing the six month SR.
- Delete the reference to SR 4.8.1.1.3 in SR 4.8.1.2.

#### Basis for No Significant Hazards Consideration

In accordance with 10 CFR 50.92, NNECO has reviewed the proposed changes and has concluded that they do not involve a Significant Hazards Consideration (SHC). The basis for this conclusion is that the three criteria of 10 CFR 50.92(c) are not compromised. The proposed changes do not involve an SHC because the changes do not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed Technical Specification changes are associated with the surveillance requirements for the Emergency Diesel Generators (EDGs). The proposed changes will allow certain EDG surveillance requirements to be performed when the plant is operating instead of shut down as currently required. Additional changes will remove EDG accelerated testing and special reporting requirements, and the surveillance requirement to perform EDG inspections.

The operation of, and requirements for, the equipment covered by the affected Technical Specifications will remain essentially the same. The removal of the EDG accelerated testing and special reporting will not adversely affect EDG operation and availability since Millstone Unit No. 3 has implemented the Maintenance Rule as required by 10 CFR 50.65. Removal of the EDG

inspection surveillance requirement from Technical Specifications is acceptable since it does not verify operability or EDG functions assumed in the safety analysis. EDG inspections, which are maintenance activities that can be adequately controlled by plant procedures, will still be performed in accordance with the recommendations of the manufacturer. This will provide continued assurance the EDGs will be available when required. The proposed change to no longer require the one EDG required to be operable in Modes 5 and 6 to be connected to the grid will reduce the probability that a grid fault could result in the loss of both normal and emergency power. Allowing the 24 hour EDG run, fuel oil transfer, and diesel lockout surveillance requirements to be performed when the plant is operating will not have a significant adverse impact on the availability of the associated EDG, and will not affect the other EDG. Clarifying that the EDGs can be started from standby conditions will minimize stresses and mechanical wear when performing the two affected surveillance requirements. Clarifying that the standby conditions of SR 4.8.1.1.2.a.5 do not apply when restarting the EDG within 5 minutes of completing the 24 hour test will not result in any change to test performance, and is consistent with the intent of this requirement to verify the EDG can restart from hot conditions. The proposed changes to the index and the format of a surveillance requirement are non-technical changes that will not affect any of the current requirements.

The proposed Technical Specification changes will have no adverse effect on plant operation or the operation of accident mitigation equipment, and will not significantly impact the availability of accident mitigation equipment. The plant response to the design basis accidents will not change. In addition, the equipment covered by these specifications are not accident initiators and can not cause an accident. Therefore, the proposed Technical Specification changes will not result in a significant increase in the probability or consequences of an accident previously evaluated.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes do not impact any system or component which could cause an accident. The proposed changes will not alter the plant configuration (no new or different type of equipment will be installed) or require any unusual operator actions. The proposed changes will not alter the way any structure, system, or component functions, and will not significantly alter the manner in which the plant is operated. There will be no adverse effect on plant operation or accident mitigation equipment. The proposed changes do not introduce any new failure modes. Also, the response of the plant and the operators following an accident will not be significantly different as a result of these changes. In addition, the accident mitigation equipment affected by the proposed changes are not accident initiators. Therefore, the proposed changes will not create the possibility of a new or different kind of accident from any previously analyzed.

3. Involve a significant reduction in a margin of safety.

The proposed Technical Specification changes are associated with the surveillance requirements for the EDGs. The proposed changes will allow certain EDG surveillance requirements to be performed when the plant is operating instead of shut down as currently required. Additional changes will remove EDG accelerated testing and special reporting requirements, and the surveillance requirement to perform EDG inspections.

The operation of, and requirements for, the equipment covered by the affected Technical Specifications will remain essentially the same. The removal of the EDG accelerated testing and special reporting will not adversely affect EDG operation and availability since Millstone Unit No. 3 has implemented the Maintenance Rule as required by 10 CFR 50.65. In addition, the proposed change is consistent with the generic industry guidance contained in Generic Letter 94-01, and the Improved Standard Technical Specifications (NUREG-1431, TSTF-37).

Removal of the EDG inspection surveillance requirement from Technical Specifications is acceptable since it does not verify operability or EDG functions assumed in the safety analysis. EDG inspections, which are maintenance activities that can be adequately controlled by plant procedures, will still be performed in accordance with the recommendations of the manufacturer. This will provide continued assurance the EDGs will be available when required. By removing this requirement from Technical Specifications, NNECO will be able to evaluate the manufacturer's recommendation and process procedure changes utilizing the provisions of 10 CFR 50.59. This is consistent with NUREG-1431.

Allowing the 24 hour EDG test to be performed while the plant is operating will not directly affect EDG operability. The EDG output breaker will open in response to an engineered safety features signal (loss of power to the respective emergency bus, a safety injection signal, and a containment depressurization accident signal), and the EDG will be available to supply the associated emergency bus, if required. In addition, the EDG and electrical protective features will be available during the 24 hour test to provide associated EDG and electrical distribution protection, and the other EDG will not be affected by test performance. The 24 hour EDG test may result in EDG inoperability due to depletion of fuel oil, but the current allowed outage time will provide sufficient time to restore fuel oil inventory. Clarifying that the standby conditions of SR 4.8.1.1.2.a.5 do not apply when restarting the EDG within 5 minutes of completing the 24 hour test will not result in any change to test performance, and is consistent with the intent of this requirement to verify the EDG can restart from hot conditions.

Allowing the fuel oil transfer and diesel lockout surveillance requirements to be performed when the plant is operating will not have a significant adverse impact on the availability of the associated EDG and will not affect the other EDG. In addition, these tests can be performed within the current allowed outage time.

Clarifying that the EDGs can be started from standby conditions will minimize stresses and mechanical wear when performing the two associated surveillance requirements. This is consistent with NUREG-1431.

Excluding the requirement to load the one EDG required to be operable in Modes 5 and 6 will reduce the probability that a grid fault could result in the loss of both normal and emergency power. This is consistent with NUREG-1431.

The proposed changes to the index and format of a surveillance requirement are non-technical changes that will not affect any of the current requirements and will not adversely impact any of the design basis accidents or the associated accident mitigation equipment.

The proposed changes will have no adverse effect on plant operation or equipment important to safety. The plant response to the design basis accidents will not change and the accident mitigation equipment will continue to function as assumed in the design basis accident analysis. Therefore, there will be no significant reduction in a margin of safety.

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**Attachment 3**

**Millstone Nuclear Power Station, Unit No. 3**

**Technical Specifications Change Request 3-11-99  
Emergency Diesel Generator Surveillance Requirements  
Marked Up Pages**

November 29, 1995

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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**

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**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 278 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. source by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. 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; 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.

\*The OPERABILITY of the remaining diesel generator need not be verified if the diesel generator became inoperable due to:

- (1) Preplanned preventive maintenance or testing,
- (2) An inoperable support system with no potential common mode failure for the remaining diesel generator, or
- (3) An independently testable component with no potential common mode failure for the remaining diesel generator.

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**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 offsite A.C. source by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter; 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 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, 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.

\*The OPERABILITY of the remaining diesel generator need not be verified if the diesel generator became inoperable due to:

- (1) Preplanned preventive maintenance or testing,
- (2) An inoperable support system with no potential common mode failure for the remaining diesel generator, or
- (3) An independently testable component with no potential common mode failure for the remaining diesel generator.

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## 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:\*

*At least once  
per 31 days*

- 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 standby conditions and achieves generator voltage and frequency at  $4160 \pm 420$  volts and  $60 \pm 0.8$  Hz. The diesel generator shall be started for this test by using one of the following signals:
    - a) Manual, or

\*All planned starts for the purpose of these surveillances may be preceded by an engine prelube period.

**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 in accordance with the manufacturer's recommendations between 4800-5000 kW\* and operates with a load between 4800-5000 kW\* 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, verify that the diesel generator starts and attains generator voltage and frequency of  $4160 \pm 420$  volts and  $60 \pm 0.8$  Hz within 11 seconds after the start signal. The generator shall be synchronized to the associated emergency bus, loaded between 4800-5000 kW\* in accordance with the manufacturer's recommendations, and operate with a load between 4800-5000 kW\* 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.8, may also serve to concurrently meet those requirements as well.

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- 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 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;

\*The operating band is meant as guidance to avoid routine overloading of the diesel. Momentary transients outside the load range shall not invalidate the test.

**INSERT A - Page 3/4 8-4**

**b. At least once per 184 days by:**

- 1) Verifying that the diesel generator starts from standby conditions and attains generator voltage and frequency of  $4160 \pm 420$  volts and  $60 \pm 0.8$  Hz within 11 seconds after the start signal.**
- 2) Verifying the generator is synchronized to the associated emergency bus, loaded between 4800-5000 kW\* in accordance with the manufacturer's recommendations, and operate with a load between 4800-5000 kW\* 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.**

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

July 26, 1995

- 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 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) Water and sediment less than 0.05 percent by volume when tested in accordance with ASTM-D1796-83.
- 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:  
(1) the cetane index shall be determined in accordance with ASTM-D976 (this test is an appropriate approximation for cetane number as stated in ASTM-D975-81 [Note E]), and (2) 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  $4160 \pm 420$  volts and frequency at  $60 \pm 3$  Hz;
  - 3) Verifying the generator capability to reject a load of 4986 kW without tripping. The generator voltage shall not exceed 5000 volts during and 4784 volts 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
    - b) Verifying the diesel starts from standby conditions 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  $4160 \pm 420$  volts and  $60 \pm 0.8$  Hz during this test.

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# ELECTRICAL POWER SYSTEMS

## SURVEILLANCE REQUIREMENTS (Continued)

- 5) Verifying that on an ESF Actuation test signal, without loss-of-offsite power, the diesel generator starts from standby conditions on the auto-start signal and operates on standby for greater than or equal to 5 minutes. The generator voltage and frequency shall be  $4160 \pm 420$  volts and  $60 \pm 0.8$  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 from standby conditions on the auto-start signal, energizes the emergency busses with permanently connected loads within 11 seconds, energizes the auto-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  $4160 \pm 420$  volts and  $60 \pm 0.8$  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.

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- 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 between 5400-5500 kW\*\*\* and during the remaining 22 hours of this test, the diesel generator shall be loaded between 4800-5000 kW\*\*\*. The generator voltage and frequency shall be  $4160 \pm 420$  volts and  $60 \pm 0.8$  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.a.5);\*\*

*This requirement  
will become  
SR 4.8.1.1.2.j*

\*Diesel generator loadings may include gradual loading as recommended by the manufacturer.

\*\*If Surveillance Requirement 4.8.1.1.2.a.5) is not satisfactorily completed, it is not necessary to repeat the preceding 24-hour test. Instead, the diesel generator may be operated between 4800-5000 kW for 2 hours or until operating temperature has stabilized.

\*\*\*The operating band is meant as guidance to avoid routine overloading of the diesel. Momentary transients outside the load range shall not invalidate the test.

SURVEILLANCE REQUIREMENTS (Continued)

- 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;

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This requirement 11) will become SR 4.8.1.1.2.k

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

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- 13) Verifying that the following diesel generator lockout features prevent diesel generator starting:

This requirement will become SR 4.8.1.1.2.l

- a) Engine overspeed,
- b) Lube oil pressure low (2 of 3 logic),
- c) Generator differential, and
- d) Emergency stop.

- 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 achieve generator voltage and frequency at  $4160 \pm 420$  volts and  $60 \pm 0.8$  Hz in less than or equal to 11 seconds; and

from standby conditions

- i. 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.

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ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

← **INSERT B**

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.

← **INSERT C**

**INSERT B - Page 3/4 8-8**

- j. At least once per 18 months by verifying the diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded between 5400-5500 kW\* and during the remaining 22 hours of this test, the diesel generator shall be loaded between 4800-5000 kW\*. The generator voltage and frequency shall be  $4160 \pm 420$  volts and  $60 \pm 0.8$  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.a.5) excluding the requirement to start the diesel from standby conditions.\*\*\*
- k. At least once per 18 months by 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.
- l. At least once per 18 months by verifying that the following diesel generator lockout features prevent diesel generator starting:
  - 1) Engine overspeed,
  - 2) Lube oil pressure low (2 of 3 logic),
  - 3) Generator differential, and
  - 4) Emergency stop.

**INSERT C - Page 3/4 8-8**

- \* The operating band is meant as guidance to avoid routine overloading of the diesel. Momentary transients outside the load range shall not invalidate the test.
- \*\* Diesel generator loadings may include gradual loading as recommended by the manufacturer.
- \*\*\* If Surveillance Requirement 4.8.1.1.2.a.5) is not satisfactorily completed, it is not necessary to repeat the preceding 24-hour test. Instead, the diesel generator may be operated between 4800-5000 kW for 2 hours or until operating temperature has stabilized.

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>
$\leq 1$	$\leq 4$	Once per 31 days
$\geq 2^{**}$	$\geq 5$	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.

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~~April 12, 1995~~

A. C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

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

- a. One circuit between the offsite transmission network and the Onsite Class 1E Distribution System, and
- b. One diesel generator with:
  - 1) A day tank containing a minimum volume of 278 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, crane operation with loads over the fuel storage pool, or operation with a potential for draining the reactor vessel; initiate corrective action to restore the required sources to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENT

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.

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**INSERT D - Page 3/4 8-10**

**Specifications 4.8.1.1.2.a.6 and 4.8.1.1.2.b.2**

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3/4.8 ELECTRICAL POWER SYSTEMS

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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.

Action Statement 'b'

Required Action Statement 'b' provides an allowance to avoid unnecessary testing of the other operable diesel generator. If it can be determined that the cause of the inoperable diesel generator does not exist on the OPERABLE diesel generator, Surveillance Requirement 4.8.1.1.2.a.5 does not have to be performed. If the cause of inoperability exists on the other OPERABLE diesel generator, the other OPERABLE diesel generator would be declared inoperable upon discovery and ACTION Statement 'f' would be entered and appropriate actions will be completed per ACTION Statement 'f'. Once the failure is repaired, the common cause failure no longer exists, and the required ACTION 'b' will be satisfied. If the cause of the initial inoperable diesel generator can not be confirmed not to exist on the remaining diesel generator, performance of Surveillance Requirement 4.8.1.1.2.a.5 (within 24 hours of entering ACTION Statement 'b') suffices to provide assurance of continued OPERABILITY of the other diesel generator. In the event the inoperable diesel generator is restored to OPERABLE status prior to determination of the cause of the inoperability of the diesel

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BASES

generator, NNECO will continue to evaluate the common cause possibility. This continued evaluation, however, is no longer under the 24 hour constraint imposed while in ACTION Statement 'b'.

According to Generic Letter 84-15, 24 hours is reasonable to confirm that the OPERABLE diesel generator is not affected by the same problem as the inoperable diesel generator.

Action Statement 'c'

Required ACTION Statement 'c' provides an allowance to avoid unnecessary testing of the other OPERABLE diesel generator. If it can be determined that the cause of the inoperable diesel generator does not exist on the operable diesel generator, Surveillance Requirement 4.8.1.1.2.a.5 does not have to be performed. If the cause of inoperability exists on the other OPERABLE diesel generator, the other OPERABLE diesel generator would be declared inoperable upon discovery and ACTION Statement 'f' would be entered and appropriate actions will be completed per ACTION Statement 'f'. Once the failure is repaired, the common cause failure no longer exists, and the required ACTION 'c' will be satisfied. If the cause of the initial inoperable diesel generator can not be confirmed not to exist on the remaining diesel generator, performance of Surveillance Requirement 4.8.1.1.2.a.5 (within 8 hours of entering ACTION Statement 'c') suffices to provide assurance of continued OPERABILITY of the other diesel generator.

In the event, the inoperable diesel generator is restored to operable status prior to determination of the cause of the inoperability of the diesel generator, NNECO will continue to evaluate the common cause possibility. This continued evaluation, however, is no longer under eight hours constraint imposed while in ACTION Statement 'c'.

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 is available for monitoring and maintaining the unit status.

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," March 10, 1971; 1.108, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," Revision 1, August 1977; and 1.137, "Fuel-Oil Systems for Standby Diesel Generators," Revision 1, October 1979.

## BASES

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

Technical Specification 3.8.1.1.b.1 requires a minimum volume of 278 gallons be contained in each of the diesel generator day tanks. Technical Specification 3.8.1.2.b.1 requires a minimum volume of 278 gallons be contained in the required diesel generator day tank. This capacity ensures that a minimum usable volume of 189 gallons is available to permit operation of each of the diesel generators for approximately 27 minutes with the diesel generators loaded to the 2,000 hour rating of 5335 kW. The shutoff level for the (two) fuel oil transfer pumps is 493 gallons (413 gallons usable volume) which corresponds to approximately 60 minutes of engine operation at the 2,000 hour rating. The first pump has a make-up setpoint of 372 gallons (284 gallons usable volume) which corresponds to approximately 42 minutes of operation at the 2,000 hour rating. The 278 gallon day tank low level value corresponds to the auto make-up setpoint of the second pump and is therefore the lowest value of fuel oil with auto make-up capability. Loss of the two redundant pumps would cause day tank level to drop below the minimum value.

Technical Specification 3.8.1.1.b.2 requires a minimum volume of 32,760 gallons be contained in each of the diesel generator's fuel storage systems. Technical Specification 3.8.1.2.b.2 requires a minimum volume of 32,760 gallons be contained in the required diesel generator's fuel storage system. This capacity ensures that a minimum usable volume (29,180 gallons) is available to permit operation of each of the diesel generators for approximately three days with the diesel generators loaded to the 2,000 hour rating of 5335 kW. The ability to cross-tie the diesel generator fuel oil supply tanks ensures that one diesel generator may operate up to approximately six days. Additional fuel oil can be supplied to the site within twenty-four hours after contacting a fuel oil supplier.

Surveillance Requirements 4.8.1.1.2.a.6 (monthly) and 4.8.1.1.2.b (once per 184 days) and 4.8.1.1.2.g.7 (18 months test)

The Surveillances 4.8.1.1.2.a.6 and 4.8.1.1.2.b verify that the diesel generators are capable of synchronizing with the offsite electrical system and loaded to greater than or equal to continuous rating of the machine. A minimum time of 60 minutes is required to stabilize engine temperatures, while minimizing the time that the diesel generator is connected to the offsite source. Surveillance Requirement 4.8.1.1.2.g.7 requires demonstration once per 18 months that the diesel generator can start and run continuously at full load capability for an interval of not less than 24 hours,  $\geq 2$  hours of which are at a load equivalent to 110% of the continuous duty rating and the remainder of the time at a load equivalent to the continuous duty rating of the diesel generator. The load band is provided to avoid routine overloading of the diesel generator. Routine overloading may result in more frequent teardown inspections in accordance with vendor recommendations in order to maintain diesel generator operability. The load band specified accounts for instrumentation inaccuracies using plant computer and for the operational control capabilities and human factor characteristics. The note (\* ~~invalid~~) acknowledges that momentary transient outside the load range shall not invalidate the test.

### 3/4.8 ELECTRICAL POWER SYSTEMS

~~PTSCR 3-8-99~~  
~~November 9, 1999~~

#### BASES

Surveillance Requirements 4.8.1.1.2.a.5 (Monthly), 4.8.1.1.2.b (Once per 184 Days), 4.8.1.1.2.g.4.b (18 Month Test), 4.8.1.1.2.g.5 (18 Month Test) and 4.8.1.1.2.g.6.b (18 Month Test)

Several diesel generator surveillance requirements specify that the emergency diesel generators are started from a standby condition. Standby conditions for a diesel generator means that the EDG system is aligned for automatic start and loading, diesel engine coolant and lubricating oil are being circulated and temperatures are maintained within design ranges. Design ranges for standby temperatures are greater than or equal to the low temperature alarm setpoints and less than or equal to the standby "keep-warm" heater shutoff temperatures for each respective sub-system.

Surveillance Requirement 4.8.1.1.2.g.7 (18 Month Test)

The existing "standby condition" stipulation contained in specification 4.8.1.1.2.a.5 is superseded when performing the hot restart demonstration required by 4.8.1.1.2.g.7.

**Docket No. 50-423**  
**B18184**

**Attachment 4**

**Millstone Nuclear Power Station, Unit No. 3**

**Technical Specifications Change Request 3-11-99**  
**Emergency Diesel Generator Surveillance Requirements**  
**Retyped Pages**

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## 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. 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 lubricating oil inventory in storage,
  - 5) Verifying the diesel starts from standby conditions and achieves generator voltage and frequency at  $4160 \pm 420$  volts and  $60 \pm 0.8$  Hz. The diesel generator shall be started for this test by using one of the following signals:
    - a) Manual, or

\*All planned starts for the purpose of these surveillances may be preceded by an engine prelube period.

## 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 in accordance with the manufacturer's recommendations between 4800-5000 kW\* and operates with a load between 4800-5000 kW\* 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 by:
    - 1) Verifying that the diesel generator starts from standby conditions and attains generator voltage and frequency of  $4160 \pm 420$  volts and  $60 \pm 0.8$  Hz within 11 seconds after the start signal.
    - 2) Verifying the generator is synchronized to the associated emergency bus, loaded between 4800-5000 kW\* in accordance with the manufacturer's recommendations, and operate with a load between 4800-5000 kW\* 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 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;

\*The operating band is meant as guidance to avoid routine overloading of the diesel. Momentary transients outside the load range shall not invalidate the test.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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- 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 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) Water and sediment less than 0.05 percent by volume when tested in accordance with ASTM-D1796-83.
- 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:
- (1) the cetane index shall be determined in accordance with ASTM-D976 (this test is an appropriate approximation for cetane number as stated in ASTM-D975-81 [Note E]), and (2) 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) DELETED
  - 2) Verifying the generator capability to reject a load of greater than or equal to 595 kW while maintaining voltage at  $4160 \pm 420$  volts and frequency at  $60 \pm 3$  Hz;
  - 3) Verifying the generator capability to reject a load of 4986 kW without tripping. The generator voltage shall not exceed 5000 volts during and 4784 volts 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
    - b) Verifying the diesel starts from standby conditions 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  $4160 \pm 420$  volts and  $60 \pm 0.8$  Hz during this test.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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- 5) Verifying that on an ESF Actuation test signal, without loss-of-offsite power, the diesel generator starts from standby conditions on the auto-start signal and operates on standby for greater than or equal to 5 minutes. The generator voltage and frequency shall be  $4160 \pm 420$  volts and  $60 \pm 0.8$  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 from standby conditions on the auto-start signal, energizes the emergency busses with permanently connected loads within 11 seconds, energizes the auto-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  $4160 \pm 420$  volts and  $60 \pm 0.8$  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) DELETED

## **ELECTRICAL POWER SYSTEMS**

### **SURVEILLANCE REQUIREMENTS (Continued)**

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- 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) DELETED
- 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) DELETED
- h. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting both diesel generators simultaneously from standby conditions, during shutdown, and verifying that both diesel generators achieve generator voltage and frequency at  $4160 \pm 420$  volts and  $60 \pm 0.8$  Hz in less than or equal to 11 seconds; and
- i. 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.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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- j. At least once per 18 months by verifying the diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded between 5400-5500 kW\* and during the remaining 22 hours of this test, the diesel generator shall be loaded between 4800-5000 kW\*. The generator voltage and frequency shall be  $4160 \pm 420$  volts and  $60 \pm 0.8$  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.a.5) excluding the requirement to start the diesel from standby conditions.\*\*\*
- k. At least once per 18 months by 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.
- l. At least once per 18 months by verifying that the following diesel generator lockout features prevent diesel generator starting:
  - 1) Engine overspeed,
  - 2) Lube oil pressure low (2 of 3 logic),
  - 3) Generator differential, and
  - 4) Emergency stop.

\* The operating band is meant as guidance to avoid routine overloading of the diesel. Momentary transients outside the load range shall not invalidate the test.

\*\* Diesel generator loadings may include gradual loading as recommended by the manufacturer.

\*\*\* If Surveillance Requirement 4.8.1.1.2.a.5) is not satisfactorily completed, it is not necessary to repeat the preceding 24-hour test. Instead, the diesel generator may be operated between 4800-5000 kW for 2 hours or until operating temperature has stabilized.

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## A. C. SOURCES

### SHUTDOWN

#### LIMITING CONDITION FOR OPERATION

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

- a. One circuit between the offsite transmission network and the Onsite Class 1E Distribution System, and
- b. One diesel generator with:
  - 1) A day tank containing a minimum volume of 278 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, crane operation with loads over the fuel storage pool, or operation with a potential for draining the reactor vessel; initiate corrective action to restore the required sources to OPERABLE status as soon as possible.

#### SURVEILLANCE REQUIREMENT

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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 Specifications 4.8.1.1.2.a.6 and 4.8.1.1.2.b.2).

### 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

Technical Specification 3.8.1.1.b.1 requires a minimum volume of 278 gallons be contained in each of the diesel generator day tanks. Technical Specification 3.8.1.2.b.1 requires a minimum volume of 278 gallons be contained in the required diesel generator day tank. This capacity ensures that a minimum usable volume of 189 gallons is available to permit operation of each of the diesel generators for approximately 27 minutes with the diesel generators loaded to the 2,000 hour rating of 5335 kW. The shutoff level for the (two) fuel oil transfer pumps is 493 gallons (413 gallons usable volume) which corresponds to approximately 60 minutes of engine operation at the 2,000 hour rating. The first pump has a make-up setpoint of 372 gallons (284 gallons usable volume) which corresponds to approximately 42 minutes of operation at the 2,000 hour rating. The 278 gallon day tank low level value corresponds to the auto make-up setpoint of the second pump and is therefore the lowest value of fuel oil with auto make-up capability. Loss of the two redundant pumps would cause day tank level to drop below the minimum value.

Technical Specification 3.8.1.1.b.2 requires a minimum volume of 32,760 gallons be contained in each of the diesel generator's fuel storage systems. Technical Specification 3.8.1.2.b.2 requires a minimum volume of 32,760 gallons be contained in the required diesel generator's fuel storage system. This capacity ensures that a minimum usable volume (29,180 gallons) is available to permit operation of each of the diesel generators for approximately three days with the diesel generators loaded to the 2,000 hour rating of 5335 kW. The ability to cross-tie the diesel generator fuel oil supply tanks ensures that one diesel generator may operate up to approximately six days. Additional fuel oil can be supplied to the site within twenty-four hours after contacting a fuel oil supplier.

#### Surveillance Requirements 4.8.1.1.2.a.6 (monthly) and 4.8.1.1.2.b.2 (once per 184 days) and 4.8.1.1.2.j (18 months test)

The Surveillances 4.8.1.1.2.a.6 and 4.8.1.1.2.b.2 verify that the diesel generators are capable of synchronizing with the offsite electrical system and loaded to greater than or equal to continuous rating of the machine. A minimum time of 60 minutes is required to stabilize engine temperatures, while minimizing the time that the diesel generator is connected to the offsite source. Surveillance Requirement 4.8.1.1.2.j requires demonstration once per 18 months that the diesel generator can start and run continuously at full load capability for an interval of not less than 24 hours,  $\geq 2$  hours of which are at a load equivalent to 110% of the continuous duty rating and the remainder of the time at a load equivalent to the continuous duty rating of the diesel generator. The load band is provided to avoid routine overloading of the diesel generator. Routine overloading may result in more frequent teardown inspections in accordance with vendor recommendations in order to maintain diesel generator operability. The load band specified accounts for instrumentation inaccuracies using plant computer and for the operational control capabilities and human factor characteristics. The note (\*) acknowledges that momentary transient outside the load range shall not invalidate the test.

### 3/4.8 ELECTRICAL POWER SYSTEMS

#### BASES

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Surveillance Requirements 4.8.1.1.2.a.5 (Monthly), 4.8.1.1.2.b.1 (Once per 184 Days), 4.8.1.1.2.g.4.b (18 Month Test), 4.8.1.1.2.g.5 (18 Month Test) and 4.8.1.1.2.g.6.b (18 Month Test)

Several diesel generator surveillance requirements specify that the emergency diesel generators are started from a standby condition. Standby conditions for a diesel generator means that the EDG system is aligned for automatic start and loading, diesel engine coolant and lubricating oil are being circulated and temperatures are maintained within design ranges. Design ranges for standby temperatures are greater than or equal to the low temperature alarm setpoints and less than or equal to the standby "keep-warm" heater shutoff temperatures for each respective sub-system.

Surveillance Requirement 4.8.1.1.2.j (18 Month Test)

The existing "standby condition" stipulation contained in specification 4.8.1.1.2.a.5 is superseded when performing the hot restart demonstration required by 4.8.1.1.2.j.