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10 CFR 50.90

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Subject: Davis-Besse Nuclear Power Station
License Amendment Application to Revise Technical Specification 3/4.8.1.1, "A. C. Sources - Operating," to Adopt a More Recent Standard for Diesel Fuel Oil Testing and Remove the Requirement to Perform Certain Surveillance Requirements During Shutdown (License Amendment Request No. 03-0015)

Ladies and Gentlemen:

Pursuant to 10 CFR 50.90, the following amendment is requested for the Davis-Besse Nuclear Power Station, Unit 1 (DBNPS). The proposed change would revise Technical Specification (TS) 3/4.8.1.1, "A. C. Sources - Operating," to adopt a more recent standard for diesel fuel oil testing and remove the restriction that certain surveillance requirements be performed during shutdown. The DBNPS staff has evaluated the proposed changes to the Technical Specifications against the criteria of 10 CFR 50.92(c) and concludes that this amendment would not involve a significant hazards consideration.

Approval of the proposed amendment is requested by February 1, 2006, to have the changes available prior to the fourteenth refueling outage, which is currently scheduled to commence in March 2006. Once approved, the amendment shall be implemented within 120 days.

The proposed changes have been reviewed by the DBNPS Plant Operations Review Committee and Company Nuclear Review Board. Enclosure 1 includes an evaluation of the proposed amendment. A list of regulatory commitments made in this letter is included in Enclosure 2.

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Should you have any questions or require additional information, please contact Mr. Henry L. Hegrat, Supervisor – Fleet Licensing, at (330) 315-6944.

The statements contained in this submittal, including its associated enclosures and attachments, are true and correct to the best of my knowledge and belief. I am authorized by the FirstEnergy Nuclear Operating Company to make this submittal. I declare under penalty of perjury that the foregoing is true and correct.

Executed on July 27, 2005

MAR

Enclosures

cc: Regional Administrator, NRC Region III
W. A. Macon, NRC/NRR Project Manager
N. Dragani, Executive Director, Ohio Emergency Management Agency, State of Ohio (NRC Liaison)
C. S. Thomas, NRC Region III, DB-1 Senior Resident Inspector
Utility Radiological Safety Board

DAVIS-BESSE NUCLEAR POWER STATION
EVALUATION
FOR
LICENSE AMENDMENT REQUEST NUMBER 03-0015

Subject: License Amendment Application to Revise Technical Specification 3/4.8.1.1, "A. C. Sources - Operating," to Adopt a More Recent Standard for Diesel Fuel Oil Testing and Remove the Requirement to Perform Certain Surveillance Requirements During Shutdown

1.0 DESCRIPTION

This is a request to amend the Davis-Besse Nuclear Power Station, Unit Number 1 Facility Operating License Number NPF-3.

The proposed changes would revise Technical Specification (TS) 3/4.8.1.1, "A. C. Sources - Operating," to adopt a more recent standard for diesel fuel oil testing and remove the restriction that certain surveillance requirements be performed during shutdown. Specifically, the proposed amendment would revise TS Surveillance Requirement (SR) 4.8.1.1.2.b to replace American Society for Testing and Materials (ASTM) Standard D 975-68 with more recent version ASTM D 975-98b. Additionally, the proposed change would revise SR 4.8.1.1.2.d to eliminate the requirement to perform SR 4.8.1.1.2.d.1 and SR 4.8.1.1.2.d.3 during shutdown.

2.0 PROPOSED CHANGE

The proposed changes are shown in the marked-up TS pages in Attachment 1 and affect TS 3/4.8.1.1, "A. C. Sources - Operating."

The proposed amendment would revise SR 4.8.1.1.2.b to replace the existing reference to ASTM D 975-68 with a reference to ASTM D 975-98b. The revised SR 4.8.1.1.2.b would state:

> At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank is within the acceptable limits specified in Table 1 of ASTM D975-98b when checked for viscosity, water and sediment.

The proposed amendment would revise SR 4.8.1.1.2.d to eliminate the restriction that SR 4.8.1.1.2.d.1 and SR 4.8.1.1.2.d.3 be performed during shutdown by deleting "during shutdown" from SR 4.8.1.1.2.d. The proposed change would retain the requirement to perform SR 4.8.1.1.2.d.2 and 4.8.1.1.2.d.4 during shutdown by adding "during shutdown" to each of these SRs. SR 4.8.1.1.2.d currently states:

> 4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:
>
> d. At least once each REFUELING INTERVAL during shutdown by:
>
> 1. Verifying the generator capability to reject a load equal to the largest single emergency load supplied by the generator without tripping.
>
> 2. Simulating a loss of offsite power in conjunction with a safety features actuation system (SFAS) test signal, and:
>
> (a) Verifying de-energization of the essential busses and load shedding

from the essential busses.

(b) Verifying the diesel starts from ambient condition on the auto-start signal, energizes the essential busses with permanently connected loads, energizes the auto-connected essential loads through the load sequencer and operates for ≥ 5 minutes while its generator is loaded with the essential loads.

(c) Verifying that all diesel generator trips, except engine overspeed and generator differential, are automatically bypassed upon loss of voltage on the essential bus and/or an SFAS test signal.

3. Verifying the diesel generator operates for ≥ 60 minutes while loaded to ≥ 2000 kw.

4. Verifying that the auto-connected loads to each diesel generator do not exceed the 2000 hour rating of 2838 kw.

The proposed revised SR 4.8.1.1.2.d would state:

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:

d. At least once each REFUELING INTERVAL by:

1. Verifying the generator capability to reject a load equal to the largest single emergency load supplied by the generator without tripping.

2. Simulating during shutdown a loss of offsite power in conjunction with a safety features actuation system (SFAS) test signal, and:

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

(b) Verifying the diesel starts from ambient condition on the auto-start signal, energizes the essential busses with permanently connected loads, energizes the auto-connected essential loads through the load sequencer and operates for ≥ 5 minutes while its generator is loaded with the essential loads.

(c) Verifying that all diesel generator trips, except engine overspeed and generator differential, are automatically bypassed upon loss of voltage on the essential bus and/or an SFAS test signal.

3. Verifying the diesel generator operates for ≥ 60 minutes while loaded to ≥ 2000 kw.

4. Verifying during shutdown that the auto-connected loads to each diesel generator do not exceed the 2000 hour rating of 2838 kw.

It is noted that by license amendment application dated August 20, 2004 (Serial Number 2957), FENOC requested deletion of SR 4.8.1.1.2.d.4. The changes being proposed by the current application do not affect the previously submitted application. Should the August 20, 2004 amendment application be approved prior to the current application, the change to SR 4.8.1.1.2.d.4 would no longer be necessary since SR 4.8.1.1.2.d.4 would have been deleted.

In summary, the proposed changes would revise Technical Specification (TS) 3/4.8.1.1, "A. C. Sources - Operating," to adopt a more recent standard for diesel fuel oil testing and remove the restriction that certain surveillance requirements be performed during shutdown. Specifically, the proposed amendment would revise TS Surveillance Requirement (SR) 4.8.1.1.2.b to replace American Society for Testing and Materials (ASTM) Standard D 975-68 with more recent version ASTM D 975-98b. Additionally, the proposed change would revise SR 4.8.1.1.2.d to eliminate the requirement to perform SR 4.8.1.1.2.d.1 and SR 4.8.1.1.2.d.3 during shutdown.

No associated change to the Technical Specification Bases is being made.

3.0 BACKGROUND

Emergency Diesel Generator (EDG) Fuel Oil

The EDG diesel oil system includes seven days' storage of fuel oil for each emergency diesel generator. This system consists of the emergency diesel generator day tank, bulk storage (week) tank, pumps, and associated piping and valves to the respective diesel generator. TS-required surveillance testing of the fuel oil for viscosity, water, and sediment is currently performed in accordance with ASTM D 975-68, "Standard Classification of Diesel Fuel Oils." The proposed change would require use of ASTM D 975-98b, "Standard Specification for Diesel Fuel Oils," for testing the fuel oil for viscosity, water, and sediment. Both ASTM D 975-68 and D 975-98b require use of the same test methods for determining viscosity. ASTM D 975-68 specifies use of ASTM D 1796, "Water and Sediment in Crude Oils and Fuel Oils by Centrifuge," for measuring water and sediment. ASTM D 975-98b would require use of ASTM D 2709, "Test Method for Water and Sediment in Distillate Fuels by Centrifuge," for measuring water and sediment. The reason for the requesting the proposed change to SR 4.8.1.1.2.b is to allow use of ASTM D 2709 for measuring water and sediment. ASTM D 2709 reports water and sediment volume to the nearest 0.005% whereas ASTM D 1796 reports results to no better than the nearest 0.025%. This would alert personnel earlier of diesel fuel degradation, enabling the plant to take corrective action prior to exceeding diesel manufacturer action limits.

Emergency Diesel Generators and Electrical Distribution System

The emergency diesel generators are part of the onsite electrical power systems. The onsite power systems are described in USAR Section 8.3, "Onsite Power Systems." The onsite electrical distribution systems include the 13.8 kV, the 4160 V, and low voltage distribution systems. Two redundant emergency diesel generator units, one connected to each of two essential 4160 V busses, are provided as onsite standby power sources to supply their respective essential busses upon loss of the normal and the reserve power sources.

The EDG units are designed for testing during normal plant operations. Each EDG may be started, synchronized, and loaded without interfering with normal plant operations. However, when synchronized to the grid, the EDG could become overloaded upon receipt of a Safety Features Actuation System (SFAS) signal or in the event of a loss of offsite power. In the case of an SFAS signal without loss of offsite power, the overload condition would be caused by the EDG governor and voltage regulator shifting from the droop mode of operation to the isochronous mode of operation. In the case of a loss of offsite power, the potential overload is caused by the EDG attempting to power the 4160 V essential bus and potentially the non-essential 4160 V and 13.8 kV buses. Procedures instruct the operators to isolate the essential bus from the non-essential buses upon receipt of an SFAS signal or in the event of a loss of offsite power to mitigate the potential overload condition. Additionally, operators would have to manually return voltage and frequency (which are adjusted to provide the desired load and voltage while synchronized to the grid) back to the nominal desired values. These operator actions are not credited with maintaining the EDG functional, and therefore, the EDG is considered inoperable and unavailable when synchronized to the grid.

The proposed amendment would revise SR 4.8.1.1.2.d to allow performance of EDG load rejection testing and a 60-minute loaded run of the EDG during plant operation. The removal of the restriction to perform these tests during shutdown would allow this testing to be scheduled when the unit is online. This allows greater flexibility in outage planning by freeing up resources that would otherwise be dedicated to test performance during the outage. As an added benefit, it is expected that EDG unavailability during a short duration refueling outage in addition to overall EDG unavailability would be reduced by coordinating performance of these tests with testing that is already performed during plant operation. EDG inoperability would continue to be managed in accordance with existing TS requirements.

4.0 TECHNICAL ANALYSIS

Diesel Fuel Oil Testing

The proposed amendment would revise SR 4.8.1.1.2.b to replace the existing reference to ASTM D 975-68 with a reference to ASTM D 975-98b. This change is solely an adoption of a more

recent edition of an accepted standard. Adoption of ASTM D 975-98b would allow an improvement in the detectable levels of water and sediment, which would alert personnel earlier to diesel fuel degradation. The ASTM is a recognized authority for developing standards including those for diesel fuel oil testing. Adoption of a more recent standard does not affect the capability of the diesel fuel oil to perform its required function. The proposed change would have no adverse effect on nuclear safety.

Load Rejection Testing

SR 4.8.1.1.2.d.1 requires verifying the EDG can reject a load equal to the largest single emergency load supplied by the generator without tripping. Presently, this test is performed during shutdown as required by Technical Specifications. Prior to performing the load rejection test, the essential bus is powered by the EDG and isolated from offsite power sources. In performing the test, a few large loads (typically two pump motors) are simultaneously tripped, leaving the EDG breaker still closed and the EDG powering the essential bus. The proposed amendment would allow performance of the load rejection test online. In order to perform the test online without interrupting normal plant operations, a different test methodology would be used. This test methodology will be implemented for any performance of SR 4.8.1.1.2.d.1 online. The revised test methodology would involve tripping the EDG output breaker with the EDG carrying greater than or equal to its associated single largest emergency load while paralleled to offsite power. This test method is consistent with one of the methods described in the Bases of SR 3.8.1.9 of NUREG-1430, *Standard Technical Specifications - Babcock and Wilcox Plants.*

An evaluation was performed to determine if performance of the load rejection test would adversely impact the electrical system reliability. The evaluation conservatively assumed the EDG was loaded to 2600 kW (substantially greater than the minimum required load to reject of 650 kW) and then the EDG output breaker was opened. The evaluation examined the voltage and current variations as a result of test performance. The evaluation determined that performance of the test would result in no abnormal voltages or currents. The evaluation concluded that the reliability of the electrical system would not be impacted by the performance of the load rejection test online.

SR 3.8.1.9 of NUREG-1430 contains a restriction on performance of load rejection testing in Modes 1 and 2. However, a reviewer's note is provided that states:

> The above MODE restrictions may be deleted if it can be demonstrated to the staff, on a plant specific basis, that performing the SR with the reactor in any of the restricted MODES can satisfy the following criteria, as applicable:
>
> a. Performance of the SR will not render any safety system or component inoperable,

b. Performance of the SR will not cause perturbations to any of the electrical distribution systems that could result in a challenge to steady state operation or to plant safety systems, and

c. Performance of the SR, or failure of the SR, will not cause, or result in, an AOO [Anticipated Operational Occurrence] with attendant challenge to plant safety systems.

The first criterion specifies that performance of the SR will not render any safety system or component inoperable. As discussed above, an evaluation was performed that concluded that the reliability of the electrical system would not be impacted by the performance of the load rejection test. Therefore, loads supplied by the electrical system would remain operable during the test. An EDG is considered inoperable and unavailable when it is synchronized to the grid since the EDG may be overloaded in the event of a Safety Features Actuation System actuation or a loss of offsite power. Therefore, for the period of time the EDG is synchronized to the grid prior to the opening of the EDG output breaker, the EDG is inoperable. However, it is FENOC's intent to coordinate performance of the load rejection test with performance of other required testing so as to not increase the time that the EDG is inoperable and unavailable. For example, SR 4.8.1.1.2.a.5 requires performance of a monthly 60-minute loaded run at greater than or equal to 1000 kW. Following successful performance of this loaded run, the EDG load is reduced to approximately 300 kW and the EDG output breaker is opened. To incorporate performance of SR 4.8.1.1.2.d.1, the test procedure could be modified to at least once per refueling interval only reduce EDG load to the minimum required by SR 4.8.1.1.2.d.1 prior to opening the EDG output breaker and then verifying the EDG does not trip. By coordinating performance of the load rejection test with performance of the 60-minute loaded run, this testing could be performed online without an additional accumulation of time when the EDG is inoperable or unavailable.

The second criterion of the reviewer's note specifies that performance of the SR will not cause perturbations to any of the electrical distribution systems that could result in a challenge to steady state operation or to plant safety systems. As discussed above, an evaluation was performed that concluded that performance of the test would not result in any abnormal voltages or currents and that no abnormal actuation of protective devices would occur. Therefore, performance of the SR would not cause perturbations to any of the electrical distribution systems that could result in a challenge to steady state operation or to plant safety systems.

The third criterion of the reviewer's note specifies that performance of the SR, or failure of the SR, will not cause, or result in, an AOO with attendant challenge to plant safety systems. Performance of the test using the methodology described above would isolate the EDG from the electrical distribution system by opening the EDG output breaker. Successful performance of the SR would result in the EDG continuing to run while isolated from the electrical distribution system. The result of a test failure would be the tripping of the EDG following opening of the output breaker. After the output breaker trips, the EDG would be isolated from the electrical distribution system, so the EDG status would not cause or result in an AOO. In the case of either

a test success or failure, the effect on the electrical distribution system would be the same. As discussed above, an evaluation concluded that performance of the test would not result in any abnormal voltages or currents and that no abnormal actuation of protective devices would occur. Therefore, performance of the SR, or failure of the SR, would not cause, or result in, an AOO with attendant challenge to plant safety systems.

The proposed amendment would allow performance of the load rejection test online. The proposed change would not adversely impact the reliability of the electrical system. Load rejection testing could be performed online without any additional accumulation of time when the EDG is inoperable or unavailable. Therefore, the proposed change would have no adverse effect on nuclear safety.

Sixty Minute Loaded Run at Greater than or Equal to 2000 kW

SR 4.8.1.1.2.d.3 requires performance of a 60-minute run of the EDG during shutdown while loaded to greater than or equal to 2000 kW. This surveillance requirement is satisfied by performance of the same test procedures that satisfy SR 4.8.1.1.2.a.5 (monthly loaded run) and SR 4.8.1.1.2.c.5 (semi-annual loaded run). Although SR 4.8.1.1.2.a.5 and SR 4.8.1.1.2.c.5 are only required to be performed at a load of greater than or equal to 1000 kW, the testing is actually performed at a load of greater than 2000 kW since operation at lower power levels may result in greater wear on the turbocharger drive train. Hence, the testing performed online to satisfy SR 4.8.1.1.2.a.5 and SR 4.8.1.1.2.c.5 would also satisfy SR 4.8.1.1.2.d.3 except for the restriction that SR 4.8.1.1.2.d.3 must be performed during shutdown.

Performance of SR 4.8.1.1.2.d.3 renders the EDG inoperable while synchronized to the grid. By eliminating the restriction to perform SR 4.8.1.1.2.d.3 during shutdown, the proposed change would allow testing performed to satisfy SR 4.8.1.1.2.a.5 and SR 4.8.1.1.2.c.5 to also satisfy SR 4.8.1.1.2.d.3. Since performance of SR 4.8.1.1.2.d.3 online would not result in any additional testing, the accumulated time that the EDG is inoperable and unavailable would not increase.

As noted above, testing that would satisfy SR 4.8.1.1.2.d.3 is already performed online as part of monthly and semi-annual testing. Loading of the EDG during monthly and semi-annual testing does not result in a significant perturbation of the electrical distribution system or an AOO. In order to minimize risk, station procedures prohibit the testing of the other EDG and Station Blackout Diesel Generator while an EDG is synched to the grid. This provides added assurance alternative power supplies are available in the event of a loss of offsite power.

In summary, the proposed change to SR 4.8.1.1.2.d.3 would not result in any new or different testing. The proposed change would not result in any additional accumulated time during which the EDG is inoperable and unavailable. Performance of SR 4.8.1.1.2.d.3 online does not impact the reliability of the electrical distribution system. Therefore, the proposed change would have no adverse effect on nuclear safety.

5.0 REGULATORY SAFETY ANALYSIS

5.1 No Significant Hazards Consideration

The proposed changes would revise Technical Specification (TS) 3/4.8.1.1, "A. C. Sources - Operating," to adopt a more recent standard for diesel fuel oil testing and remove the restriction that certain surveillance requirements be performed during shutdown. Specifically, the proposed amendment would revise TS Surveillance Requirement (SR) 4.8.1.1.2.b to replace American Society for Testing and Materials (ASTM) Standard D 975-68 with more recent version ASTM D 975-98b. Additionally, the proposed change would revise SR 4.8.1.1.2.d to remove the restriction that SR 4.8.1.1.2.d.1 (load rejection testing) and SR 4.8.1.1.2.d.3 (60-minute loaded run) be performed during shutdown.

An evaluation has been performed to determine whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed change to TS SR 4.8.1.1.2.b affects the testing standard for the fuel oil supply for the emergency diesel generators (EDGs). The fuel oil supply is not an initiator of any accident previously evaluated. The fuel oil supply supports the accident mitigation functions of the EDGs, which serve as the standby source for A.C. power in the event of a loss of offsite power. Adoption of a more recent standard does not affect the capability of the diesel fuel oil to perform its required function. Therefore, the proposed change to SR 4.8.1.1.2.b does not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed change to TS SR 4.8.1.1.2.d affects the performance of load rejection testing and the 60-minute loaded run at greater than or equal to 2000 kW. Evaluations and operating history have demonstrated that performance of these tests online will not impact electrical distribution system reliability. No anticipated operational occurrence or accident would occur as a result of performing these tests online. Although the EDGs are rendered inoperable and unavailable during performance of these tests, these tests would be performed in conjunction with testing required by other specifications; therefore, the accumulated time of EDG

inoperabilty and unavailability would not increase. The proposed change to SR 4.8.1.1.2.d does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change to TS SR 4.8.1.1.2.b affects the testing standard for the fuel oil supply for EDGs. Applying the more recent standard for fuel oil testing does not create any new or different accident initiators because adoption of a more recent standard does not affect the capability of the diesel fuel oil to perform its required function.

The proposed change to TS SR 4.8.1.1.2.d affects the performance of load rejection testing and the 60-minute loaded run at greater than or equal to 2000 kW. Evaluations and operating experience have demonstrated that performance of these tests online will not impact electrical distribution system reliability. No new or different accidents could occur as a result of performing these tests online. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed change to TS SR 4.8.1.1.2.b affects the testing standard for the fuel oil supply for EDGs. Adoption of a more recent standard does not affect the capability of the diesel fuel oil to perform its required function.

The proposed change to TS SR 4.8.1.1.2.d affects the performance of load rejection testing and the 60-minute loaded run at greater than or equal to 2000 kW. Evaluations and operating experience have demonstrated that performance of these tests online regardless of the test outcome will not impact electrical distribution system reliability. The required testing will continue to demonstrate acceptable EDG performance. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is acceptable.

5.2 Applicable Regulatory Requirements/Criteria

The design criteria for the Emergency Diesel Generators (EDGs) and the electrical distribution system are specified in USAR Section 3D.1.13, "Criterion 17 - Electric Power Systems," and USAR Section 3D.1.14, "Criterion 18 - Inspection and Testing of Electric Power Systems." USAR Section 3D.1.13 states, in part:

> The onsite electric distribution system arrangement minimizes the vulnerability of essential circuits to physical damage. Two onsite emergency diesel generators are provided as standby power sources. Each diesel engine is designed for an approximate starting time of 10 seconds from receipt of a starting signal to production of rated voltage and frequency. Normally, the 4160-volt essential buses are fed from the unit auxiliary transformer as the normal source. Upon loss of the normal and reserve (offsite) power sources, the two 4160-volt essential buses are energized from their respective emergency diesel-generators. The essential buses are cleared of all ties prior to application of the emergency diesel generators. This protects each emergency diesel generator system from external faults.

USAR Section 3D.1.14 states, in part:

> Electric power systems important to safety shall be designed to permit appropriate periodic inspection and testing of important areas and features, such as wiring, insulation, connection, and switchboards, to assess the continuity of the systems and the condition of their components. The systems are designed with a capability to test periodically (1) the operability and functional performance of the components of the systems, such as onsite power sources, relays, switches, and buses, and (2) the operability of the systems as a whole and, under conditions as close to design as practical, the full operational sequence that brings the systems into operation, including operation of applicable portions of the protection system, and the transfer of power among the nuclear power unit, the offsite power system, and the onsite power system.

The proposed amendment does not alter the design of the electric power systems. When an EDG is synchronized to the grid for testing, the test configuration differs

from the normal operating configuration described in USAR Section 3D.1.13 since the essential buses are not cleared of all ties prior to application of the emergency diesel generators. This is acceptable since the EDGs are considered inoperable when synchronized to the grid and the appropriate actions required by the Technical Specifications are followed. The revised testing requirements continue to ensure reliable performance of the EDGs and the onsite electrical power sources.

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

6.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

7.0 REFERENCES

1. DBNPS Operating License NPF-3, Appendix A Technical Specifications through Amendment 263

2. DBNPS Updated Safety Analysis Report through Revision 24.

3. ASTM D 975-68, "Standard Classification of Diesel Fuel Oils."

4. ASTM D 975-98b, "Standard Specification for Diesel Fuel Oils."

5. ASTM D 1796, "Water and Sediment in Crude Oils and Fuel Oils by Centrifuge."

6. ASTM D 2709, "Test Method for Water and Sediment in Distillate Fuels by Centrifuge."

7. NUREG-1430, *Standard Technical Specifications - Babcock and Wilcox Plants*, Revision 3.

8.0 ATTACHMENTS

1. Proposed Mark-Up Of Technical Specification Pages

2. Proposed Retyped Technical Specification Pages

3. Technical Specification Bases Pages

Docket Number 50-346
License Number NPF-3
Serial Number 3158
Enclosure 1
Attachment 1

PROPOSED MARK-UP
OF
TECHNICAL SPECIFICATION PAGES

(5 pages follow)

3/4.8 ELECTRICAL POWER SYSTEMS

Information Only

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

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

a. Two qualified circuits between the offsite transmission network and the onsite Class 1E A.C. electrical power distribution system, and

b. Two separate and independent diesel generators each with:

1. A separate day fuel tank containing a minimum volume of 4000 gallons of fuel,

2. A separate fuel storage system containing a minimum volume of 32,000 gallons of fuel, and

3. A separate fuel transfer pump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter and by performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours. Restore at least two offsite circuits 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.

b. With one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter and by performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours. Restore at least two diesel generators to OPERABLE status within 7 days or be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With one offsite circuit and one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter and by performing Surveillance

Information Only

ACTION (Continued)

Requirement 4.8.1.1.2.a.4 within 8 hours. Restore at least 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. With the inoperable offsite source restored, restore two diesel generators to OPERABLE status within 7 days from the time of the initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. With the inoperable diesel generator restored, restore two offsite power sources to OPERABLE status within 72 hours from the time of the initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

d. With two of the above required offsite A.C. circuits inoperable, demonstrate the OPERABILITY of two diesel generators by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours and at least once per 8 hours thereafter, unless the diesel generators are already operating; restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite source restored, restore at least two offsite circuits to OPERABLE status within 72 hours from time of initial loss or 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 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 at least 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. Restore at least two diesel generators to OPERABLE status within 7 days from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required qualified circuits between the offsite transmission network and the onsite Class 1E A.C. electrical power distribution system shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability, and

b. Demonstrated OPERABLE at least once each REFUELING INTERVAL during shutdown by transferring (manually and automatically) unit power supply to each of the offsite circuits.

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:

a. At least once per 31 days, if Surveillance Requirement 4.8.1.1.2.c has not been performed within the previous 31 days, by:

SURVEILLANCE REQUIREMENTS (Continued)

1. Verifying the fuel level in the day fuel tank.

2. Verifying the fuel level in the fuel storage tank.

3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank.

4. Verifying the diesel starts and accelerates up to 900 rpm, preceded by an engine prelube and/or appropriate other warmup procedures.

5. Verifying the generator is synchronized, loaded to ≥ 1000 kw, and operates for ≥ 60 minutes.

6. Verifying the diesel generator is aligned to provide standby power to the associated essential busses.

7. Verifying that the automatic load sequence timer is OPERABLE with each load sequence time within ± 10% of its required value.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank is within the acceptable limits specified in Table 1 of ASTM D975-~~68~~ 98b when checked for viscosity, water and sediment.

c. At least once per 184 days by:

1. Verifying the fuel level in the day fuel tank.

2. Verifying the fuel level in the fuel storage tank.

3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank.

4. Verifying the diesel starts from ambient condition and accelerates to at least 900 rpm in ≤ 10 seconds.

5. Verifying the generator is synchronized, loaded to ≥ 1000 kw, and operates for ≥ 60 minutes.

6. Verifying the diesel generator is aligned to provide standby power to the associated essential busses.

7. Verifying that the automatic load sequence timer is OPERABLE with each load sequence time within ± 10% of its required value.

ADDITIONAL CHANGES
PREVIOUSLY PROPOSED BY
LETTER
Serial No. 2957 Dated 08/20/04

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

d. At least once each REFUELING INTERVAL ~~during shutdown~~ by:

1. Verifying the generator capability to reject a load equal to the largest single emergency load supplied by the generator without tripping.

2. Simulating during shutdown a loss of offsite power in conjunction with a safety features actuation system (SFAS) test signal, and:

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

(b) Verifying the diesel starts from ambient condition on the auto-start signal, energizes the essential busses with permanently connected loads, energizes the auto-connected essential loads through the load sequencer and operates for ≥ 5 minutes while its generator is loaded with the essential loads.

(c) Verifying that all diesel generator trips, except engine overspeed and generator differential, are automatically bypassed upon loss of voltage on the essential bus and/or an SFAS test signal.

3. Verifying the diesel generator operates for ≥ 60 minutes while loaded to ≥ 2000 kw.

4. Verifying during shutdown that the auto-connected loads to each diesel generator do not exceed the 2000 hour rating of 2838 kw.

e. At least once per 30 months by subjecting the diesels to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendation for this class of standby service.*

* The provisions of Specification 4.0.2 are not applicable.

Information Only

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 qualified circuit between the offsite transmission network and the onsite Class 1E A.C. electrical power distribution system, and

b. One diesel generator with:

1. Day fuel tank containing a minimum volume of 4000 gallons of fuel,

2. A fuel storage system containing a minimum volume of 32,000 gallons of fuel, and

3. A fuel transfer pump.

APPLICABILITY: MODES 5 and 6.

ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes until the minimum required A.C. electrical power sources are restored to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1 and 4.8.1.1.2 except for requirements 4.8.1.1.2.a.5, 4.8.1.1.2.a.7, 4.8.1.1.2.c.5 and 4.8.1.1.2.c.7.

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Enclosure 1
Attachment 2

PROPOSED RETYPED
TECHNICAL SPECIFICATION PAGES

(2 pages follow)

SURVEILLANCE REQUIREMENTS (Continued)

1. Verifying the fuel level in the day fuel tank.

2. Verifying the fuel level in the fuel storage tank.

3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank.

4. Verifying the diesel starts and accelerates up to 900 rpm, preceded by an engine prelube and/or appropriate other warmup procedures.

5. Verifying the generator is synchronized, loaded to ≥ 1000 kw, and operates for ≥ 60 minutes.

6. Verifying the diesel generator is aligned to provide standby power to the associated essential busses.

7. Verifying that the automatic load sequence timer is OPERABLE with each load sequence time within ± 10% of its required value.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank is within the acceptable limits specified in Table 1 of ASTM D975-98b when checked for viscosity, water and sediment.

c. At least once per 184 days by:

1. Verifying the fuel level in the day fuel tank.

2. Verifying the fuel level in the fuel storage tank.

3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank.

4. Verifying the diesel starts from ambient condition and accelerates to at least 900 rpm in ≤ 10 seconds.

5. Verifying the generator is synchronized, loaded to ≥ 1000 kw, and operates for ≥ 60 minutes.

6. Verifying the diesel generator is aligned to provide standby power to the associated essential busses.

7. Verifying that the automatic load sequence timer is OPERABLE with each load sequence time within ± 10% of its required value.

ADDITIONAL CHANGES
PREVIOUSLY PROPOSED BY
LETTER
Serial No. 2957 Dated 08/20/04

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

d. At least once each REFUELING INTERVAL by:

1. Verifying the generator capability to reject a load equal to the largest single emergency load supplied by the generator without tripping.

2. Simulating during shutdown a loss of offsite power in conjunction with a safety features actuation system (SFAS) test signal, and:

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

(b) Verifying the diesel starts from ambient condition on the auto-start signal, energizes the essential busses with permanently connected loads, energizes the auto-connected essential loads through the load sequencer and operates for ≥ 5 minutes while its generator is loaded with the essential loads.

(c) Verifying that all diesel generator trips, except engine overspeed and generator differential, are automatically bypassed upon loss of voltage on the essential bus and/or an SFAS test signal.

3. Verifying the diesel generator operates for ≥ 60 minutes while loaded to ≥ 2000 kw.

4. Verifying during shutdown that the auto-connected loads to each diesel generator do not exceed the 2000 hour rating of 2838 kw.

e. At least once per 30 months by subjecting the diesels to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendation for this class of standby service.*

* The provisions of Specification 4.0.2 are not applicable.

Docket Number 50-346
License Number NPF-3
Serial Number 3158
Enclosure 1
Attachment 3

TECHNICAL SPECIFICATION BASES PAGES

(4 pages follow)

Note: The Bases pages are provided for information only.

3/4.8 ELECTRICAL POWER SYSTEMS

BASES

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 50.

Qualified offsite to onsite circuits are those that are described in the USAR and are part of the licensing basis for the plant.

An OPERABLE qualified offsite to onsite circuit consists of all breakers, transformers, switches, interrupting devices, cabling, and controls required to transmit power from the offsite transmission network to the onsite Class 1E essential buses.

An OPERABLE qualified offsite to onsite circuit consists of:

1. One OPERABLE 345 kV transmission line
2. One OPERABLE 345 - 13.8 kV startup transformer, or an OPERABLE main transformer and unit auxiliary transformer with the generator links removed ("backfeed" alignment), as described below
3. One OPERABLE 13.8 kV bus, and
4. One OPERABLE 13.8 - 4.16 kV bus tie transformer as described below.

An OPERABLE qualified circuit from the transmission line through the main transformer and unit auxiliary transformer exists when the following conditions are met:

1. The plant is in MODE 3, 4, 5, or 6.
2. Each OPERABLE 13.8 kV bus is powered from the unit auxiliary transformer, and
3. If a startup transformer is OPERABLE, each OPERABLE 13.8 kV bus is configured to permit automatic transfer to an OPERABLE 345 - 13.8 kV startup transformer.

Typically, the electrical power reserve source selector switches are selected to the two different startup transformers. However, under certain conditions it is appropriate to select both switches to the same startup transformer. The circuit in which the startup transformer does not have a reserve source selector switch pre-selected to it must still meet the requirements of having its 345 kV transmission line, startup transformer, 13.8 kV bus and bus tie transformer OPERABLE (unless backfeeding through the unit auxiliary transformer).

In the case where a 13.8 kV bus is powered from a startup transformer, the reserve source selector switch should be selected to the opposite startup transformer (when that transformer is OPERABLE).

In MODES 1, 2, 3, and 4, additional restrictions apply to the configuration of the electrical power distribution system to ensure that adequate voltage is available for each of the required loads. Any time less than two 345 kV - 13.8 kV transformer circuits or less than two 13.8 kV - 4.16 kV transformers are OPERABLE, at least one qualified offsite to onsite circuit is not OPERABLE, and the appropriate ACTION statement must be entered:

Number of OPERABLE 345 kV – 13.8 kV Transformer Circuits	Number of OPERABLE 13.8 kV – 4.16 kV Bus Tie Transformers	Number of OPERABLE Qualified Offsite to Onsite Circuits MODES 1, 2, 3, 4	Number of OPERABLE Qualified Offsite to Onsite Circuits MODES 5, 6
2	1	1	1
2	0	0	0
1	2	1	1
1	1	0	1
1	0	0	0
0	0, 1, 2	0	0

The essential 4.16 kV buses remain OPERABLE while energized with one 13.8 kV - 4.16 kV bus tie transformer inoperable. The electrical circuit created between essential 4.16 kV buses C1 and D1, when both buses are powered off the same bus tie transformer, is not a bus tie under LCO 3.8.2.1. Therefore, the breakers supporting this circuit are not "tie breakers" and need not be open in order to satisfy the requirements of LCO 3.8.2.1.

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 of each of the 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.

Surveillance Requirement 4.8.1.1.1.b is performed at least once each REFUELING INTERVAL during shutdown by (1) demonstrating the capability of transferring (both manually from the control room and automatically) each 13.8 kV bus power supply from the unit auxiliary transformer to each startup transformer circuit, and from each startup transformer circuit to the other startup transformer circuit, and (2) demonstrating the capability of transferring manually from each startup transformer circuit to the circuit through the main transformer and unit auxiliary transformer.

Surveillance Requirements 4.8.1.1.2.a.4 and 4.8.1.1.2.c.4 verify proper starting of the Emergency Diesel Generators from standby conditions. Verification that an Emergency Diesel Generator has achieved a frequency of 60 Hz within the required time constraints meets the requirement for verifying the Emergency Diesel Generator has accelerated to 900 RPM.

NRC Log Number 5668, dated May 31, 2000, provides guidance relative to the operability of the offsite A.C. electrical power sources. In summary, whenever switchyard equipment is removed from service or switchyard breakers are opened that leaves the remaining switchyard equipment vulnerable to a single point failure that would result in a loss of offsite power, TS 3.8.1.1 Action a must be entered and the appropriate actions taken as specified. For example, with either the Lemoyne line or the BayShore line out of service, the remaining two circuits are susceptible to a single event, and TS 3.8.1.1 Action a entry is appropriate. With the Ohio Edison line out of service, unless startup transformer No. 2 is also out of service, TS 3.8.1.1 Action a entry is not required.

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 facility status.

In Modes 1-4, a single 120V A.C. Vital Instrument Bus (VIB) may be energized from a non-inverter supplied power source (either the essential alternate or non-essential alternate) for up to 24 hours. This condition is only acceptable if all other 120V A.C. VIBs are operable and powered from their associated inverter supplied Class 1E power sources. In Modes 5 and 6, at least one 120V A.C. VIB (Y1 or Y2) must be energized from an essential power source (from the inverter or the essential alternate). This power source must be in the operable A.C./D.C. train. The remaining required 120V A.C. VIBs may be energized from any power source.

A May 30, 1984 NRC internal memorandum from the NRC Director, Division of Licensing, Office of Nuclear Reactor Regulation (D. G. Eisenhut to C. E. Norelius, EXT 04-00414) stated, "We conclude that Action Statement 3.8.2.1 of the Davis-Besse Technical Specifications is not invoked when the AC Vital Buses are powered from non Class 1E power sources."

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. 450-1995, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead - Acid Batteries for Stationary Applications," except that certain tests will be performed at least once each REFUELING INTERVAL.

Battery degradation is indicated when the battery capacity drops more than 10% from its capacity on the previous performance discharge or modified performance discharge test, or is below 90% of the manufacturer's rated capacity.

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 4.8-1 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 .015 below the manufacturer's full charge specific gravity or a battery charger current of less than two amps 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 .020 below the manufacturer's full charge specific gravity with an average specific gravity of all the connected cells not more than .010 below the manufacturer's full charge specific gravity, ensures the OPERABILITY and capability of the battery. Exceptions to the specific gravity requirements are taken to allow for the normal deviations experienced after a battery discharge and subsequent recharge associated with a service, performance discharge, or modified performance discharge test. The specific gravity deviations are recognized and discussed in IEEE Std. 450-1995.

Operation with a battery cell's parameter outside the normal limit but within the allowable value specified in Table 4.8-1 is permitted for up to seven days. During this seven-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 .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 .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.

Docket Number 50-346
License Number NPF-3
Serial Number 3158
Enclosure 2

COMMITMENT LIST

The following list identifies those actions committed to by the Davis-Besse Nuclear Power Station (DBNPS) in this document. Any other actions discussed in the submittal represent intended or planned actions by the DBNPS. They are described only for information and are not regulatory commitments. Please notify the Supervisor – Fleet Licensing (330-315-6944) of any questions regarding this document or any associated regulatory commitments.

COMMITMENTS	DUE DATE
In order to perform the test online without interrupting normal plant operations, a different test methodology would be used. This test methodology will be implemented for any performance of SR 4.8.1.1.2.d.1 online. The revised test methodology would involve tripping the EDG output breaker with the EDG carrying greater than or equal to its associated single largest emergency load while paralleled to offsite power.	N/A