Indiana Michigan
Power Company
500 Circle Drive
Buchanan, MI 49107 1373

INDIANA MICHIGAN POWER

April 9, 2002
AEP:NRC:2382
10 CFR 50.90

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Stop O-P1-17
Washington, DC 20555-0001

SUBJECT: Donald C. Cook Nuclear Plant Units 1 and 2
Docket Nos. 50-315 and 50-316
License Amendment Request for
Battery Surveillance Requirement

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, Indiana Michigan Power Company (I&M), the licensee for Donald C. Cook Nuclear Plant (CNP) Unit 1 and Unit 2, proposes to amend Appendix A, Technical Specifications (TS), of Facility Operating Licenses DPR-58 and DPR-74. I&M proposes to revise the Surveillance Requirements for the Train AB, CD, and N batteries in TS 4.8.2.3.2.c.1 and TS 4.8.2.5.2.c.1. The proposed amendment affects the requirement to verify that battery cells, cell plates and racks show no visual indication of physical damage or abnormal deterioration. The proposed amendment would allow the operability of batteries exhibiting such damage or deterioration to be determined by an evaluation. The proposed amendment is consistent with a Nuclear Regulatory Commission (NRC) approved change to the Standard Technical Specifications for Westinghouse plants (NUREG 1431, Revision 1) as documented in Technical Specification Task Force Standard Technical Specification Change Traveler-38.

As described in Section 4.0 of Enclosure 2 to this letter, I&M was recently granted Enforcement Discretion in accordance with NRC Manual Chapter 9900 to preclude an unnecessary plant shutdown due to conditions that resulted in the existing TS being overly restrictive. These conditions involved the discovery of cracks in battery top covers that did not impair the ability of the battery to perform its safety function. I&M considers that cracking on additional cells may be identified in the near future, since there are other battery cells that have

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exhibited characteristics similar to those that are believed to have been a factor in the cracking. Therefore, I&M requests approval of the proposed amendment by May 17, 2002. Once approved, the amendment will be implemented within 7 days.

Enclosure 1 to this letter provides an oath and affirmation affidavit pertaining to the requested amendment. Enclosure 2 provides a detailed description and safety analysis to support the proposed amendment, including an evaluation of significant hazards considerations pursuant to 10 CFR 50.92(c), and an environmental assessment. Attachments 1A and 1B provide TS pages that are marked to show the proposed changes for Unit 1 and Unit 2, respectively. Attachments 2A and 2B provide TS pages with the proposed changes incorporated for Unit 1 and Unit 2, respectively. There are no new commitments in this letter.

No pending amendment requests affect the TS pages that are submitted in this request. If any future submittals affect these TS pages, I&M will coordinate the changes to the pages with the NRC Project Manager to ensure proper TS page control when the associated license amendment requests are approved.

If you have any questions or require additional information, please contact Mr. Gordon P. Arent, Manager of Regulatory Affairs, at (616) 697-5553.

Sincerely,

J. E. Pollock
Site Vice President

/dmb

Enclosures:
1 Affidavit
2 Evaluation of the Proposed Changes

Attachments:
1A and 1B Technical Specification Pages Marked To Show Proposed Changes
2A and 2B Proposed Technical Specification Pages

c: K. D. Curry
J. E. Dyer
MDEQ - DW & RPD
NRC Resident Inspector
R. Whale

AFFIRMATION

I, Joseph E. Pollock, being duly sworn, state that I am Site Vice President of Indiana Michigan Power Company (I&M), that I am authorized to sign and file this request with the Nuclear Regulatory Commission on behalf of I&M, and that the statements made and the matters set forth herein pertaining to I&M are true and correct to the best of my knowledge, information, and belief.

American Electric Power Service Corporation

J. E. Pollock
Site Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 9 DAY OF APRIL, 2002

Jennifer L Kurowsky
Notary Public

My Commission Expires 5/26/05

Application for Amendment
License Amendment Request for Battery Surveillance Requirement

1.0 DESCRIPTION

Pursuant to 10 CFR 50.90, Indiana Michigan Power Company (I&M), the licensee for Donald C. Cook Nuclear Plant (CNP) Unit 1 and Unit 2, proposes to amend Appendix A, Technical Specifications (TS), of Facility Operating Licenses DPR-58 and DPR-74. I&M proposes to revise the Surveillance Requirements for the Train AB, CD, and N batteries. The proposed amendment affects the requirement to verify that battery cells, cell plates and racks show no visual indication of physical damage or abnormal deterioration. The proposed amendment would allow the operability of batteries exhibiting such damage or deterioration to be determined by an evaluation. The proposed amendment is consistent with a Nuclear Regulatory Commission (NRC) approved change to the Standard Technical Specifications for Westinghouse plants (NUREG 1431, Revision 1) as documented in Technical Specification Task Force (TSTF) Standard Technical Specification (STS) Change Traveler-38.

2.0 PROPOSED CHANGE

The proposed amendment would modify the Surveillance Requirements of TS 4.8.2.3.2.c.1 and TS 4.8.2.5.2.c.1 to indicate that physical damage or abnormal deterioration to Train AB, CD, or N battery cells, cell plates, and racks would not render the batteries inoperable unless the damage or deterioration could degrade battery performance. The proposed amendment would also modify the Unit 1 and Unit 2 TS Bases to describe the reason for the Surveillance Requirements and the criteria for determining operability. Attachments 1A and 1B provide TS pages that are marked to show the proposed changes for Unit 1 and Unit 2, respectively. Attachments 2A and 2B provide TS pages with the proposed changes incorporated for Unit 1 and Unit 2, respectively.

3.0 BACKGROUND

The Train AB & CD batteries supply 250-volt dc power for operation of turbine generator emergency auxiliaries, switchgear, annunciators, vital bus inverters, motor operated valves, and emergency lighting. The batteries are central power station type designed for continuous duty. The battery system for each unit consists of two separately located sets of 116 lead acid cells connected in series. Each cell is of the sealed type, assembled in a shock absorbing clear plastic container, with covers bonded in place to form a leakproof seal. The batteries are mounted on protected, corrosion resistant steel racks for security and to facilitate maintenance. The Train AB & CD battery each has its own active normal charger and a wired standby charger.

The Train N battery supplies 250-volt dc power for the operation of the turbine driven auxiliary feedwater (AFW) system and the Anticipated Transient Without Scram Mitigation System

Actuation Circuitry inverter. The battery is a central power station type designed for continuous duty. The battery consists of 117 lead acid cells connected in series. The battery is of the sealed type, assembled in a shock absorbing, clear plastic container, with covers bonded in place to form a leak proof seal. The battery is mounted on protected, corrosion resistant steel racks for security and to facilitate maintenance. The battery system contains two battery chargers. Transfer from one charger to the other is manual. No automatic transfer between chargers is provided. The Train N battery is physically and electrically isolated from the other plant batteries.

The Train AB, CD and N batteries and associated systems are described in detail in Chapter 8 of the CNP Updated Final Safety Analysis Report (UFSAR).

Current Requirements

TS 4.8.2.3.2.c.1 and TS 4.8.2.5.2.c.1 currently require verification at least once per 18 months that the Train AB, CD, and N battery cells, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration. Compliance with this requirement results in the battery being declared inoperable if any physical damage or abnormal deterioration is observed, regardless of the actual effect on battery performance.

If a Train AB or CD battery is declared inoperable and not restored to an operable status within 2 hours, the Action Statement for TS 3.8.2.3 requires that the unit be in Hot Standby (Mode 3) within 6 hours, and in Cold Shutdown (Mode 6) within the following 30 hours.

If a Train N battery is declared inoperable, the Action statement for TS 3.8.2.5 requires that the turbine driven AFW pump be declared inoperable and the Action statement of TS 3.7.1.2 be followed. The Action statement of TS 3.7.1.2 requires that, with one AFW pump inoperable and not restored to an operable status within 72 hours, the unit must be in Hot Standby within 6 hours, and in Hot Shutdown (Mode 4) within the following 30 hours.

Basis for Current Requirements

The operability of the DC 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. Visual inspection of the battery cells, cell plates, and battery racks provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance.

Reason for Requesting Amendment

I&M is requesting this amendment to preclude unnecessary plant shutdowns or requests for Enforcement Discretion. As described below, I&M recently requested and received Enforcement Discretion to preclude an unnecessary shutdown of Unit 2 due to abnormal deterioration on the Train AB battery that did not impair the safety function of the battery, but nonetheless, required declaring the battery inoperable. Approval of the proposed amendment will allow I&M to determine the operability of a battery exhibiting physical damage or abnormal deterioration, thereby eliminating an unnecessary plant shutdown or request for Enforcement Discretion.

4.0 TECHNICAL ANALYSIS

The proposed amendment would eliminate the requirement to declare the Train AB, CD, or N battery inoperable due to physical damage or abnormal deterioration of the cells, cell plates, or racks if the damage or deterioration would not degrade battery performance. The proposed amendment would also require that a decision to not declare the battery inoperable be based on an evaluation of the physical damage or abnormal deterioration. In this manner, the proposed amendment would modify the current TS requirements that, under some conditions, can be overly restrictive. A recent occurrence at CNP provides an example of such conditions.

Cover Cracks in Unit 2 Train AB Battery

In April 2002, plant personnel identified cracks in the top cover of three cells in the Unit 2 Train AB battery that extended radially outward from the terminal post. I&M consulted the battery manufacturer representative who concurred that the condition constituted abnormal degradation. The manufacturer's representative indicated that the cover cracks are the result of the presence of corrosion material on the lead ring of the post seal of the positive post of the cell. The corrosion is occurring on the post seal and not the cell post. As the corrosion material displaces more are than does the original lead, the extra material displacement has resulted in displacement of the lead ring of the post seal and in the distortion and cracking of the cell cover.

The design of the post seal is such that the insert rather than the post corrodes, thus catastrophic failure, i.e., inability of the cell to carry the load, is avoided. Failure of the coating between the insert and the bushing has resulted in the corrosion of the lead insert. The corrosion product occupies a larger volume than the original lead component. The stress of the extra displacement of the corrosion material caused cracked covers and can distort the rubber in the post seal area. The crack in the cell cover does not affect the functionality of the cell. The plates are not suspended from the cell cover. The internal assembly of the cell element, i.e., positive plates, negative plates, and separators, are supported from the bottom of the cell container. The negative plate alignment feet rest on a support bridge on the bottom of the cell. The positive plates are supported by the negative element via plastic support comb and rod. Additionally, I&M determined that crack propagation would terminate at the end of the cover and be localized to the

cover itself with no impact on the battery cell case. Therefore, a failure of the cover would not affect the ability of the battery seismic restraints to perform their intended function. The only potential hazard of operating with a crack is the possibility that hydrogen gas may bypass the flame arrestor. However, the noted cracks were small enough that existing plant hydrogen safety controls were considered to be adequate.

The manufacturer's representative concluded that the crack would not affect the functionality of the cell, and documented this conclusion in a letter to I&M. Based on this information, I&M determined that the ability of the battery to perform its intended safety function was not impaired by the crack. However, since the current wording of TS 4.8.2.3.2.c.1 allows no physical damage or abnormal deterioration whatsoever, it was necessary to declare the battery inoperable. On April 5, 2002, I&M was granted Enforcement Discretion to extend the 2 hour allowed outage time of TS 3.8.2.3 to 13 hours to allow replacement of the affected cells, even though the cells were functional. On April 6, 2002, another Unit 2 Train AB battery cell was identified as exhibiting a potential crack. This cell was replaced within the 2 hours allowed by TS 3.8.2.3.a.

Current Condition of Battery

In accordance with TS 4.8.2.3.2 and TS 4.8.2.5.2, Surveillance Requirements are performed weekly, quarterly, every 18 months, and every 60 months on the Train AB, CD, and N batteries. The weekly Surveillance Requirements include checks of the battery pilot cell voltages and specific gravity. The quarterly Surveillance Requirements include checks of cell voltages and specific gravity on all cells. The 18-month Surveillance Requirements include a detailed material condition inspection of the battery and performance of a battery service test. The most recent weekly and quarterly surveillance results show all battery cell parameters to be in specification. The current weekly and quarterly surveillance procedures do not presently require visual inspections of the batteries for material condition; however, revisions to these procedures are being processed to include a note to inspect for damage and deterioration such as cracked covers and corrosion.

The most recent 18-month surveillance of the 2AB battery was performed in September 2001. This surveillance did not detect any physical damage or abnormal deterioration of the battery. The Unit 2 Train AB battery also successfully passed its service test. As indicated in Reference 1, the Unit 2 Train AB 60 month battery capacity test demonstrated a capacity greater than 105% in its most recent (1999) capacity test.

Implementation of Proposed Amendment

Following approval of the proposed amendment, the discovery of physical damage or abnormal deterioration on a battery would be addressed through the CNP corrective action program. That program contains provisions for promptly determining operability consistent with the guidance in NRC Generic Letter 91-18, "Information To Licensees Regarding Two NRC Inspection Manual

Sections on Resolution of Degraded and Nonconforming Conditions and on Operability." These evaluations would be driven by the nature and extent of the material condition identified. The damage or deterioration would be evaluated based on its severity and its relation to the critical parts of the battery and its performance requirements, and would involve the manufacturer's representative as appropriate.

Applicability of TSTF-38

The proposed amendment is consistent with TSTF-38. TSTF-38 clarifies the requirements in STS Surveillance Requirement 3.8.4.3 on the battery visual inspection to be consistent with the intent and the wording of the STS Bases for the Surveillance Requirement. The justification for TSTF-38 is that the STS Bases for the battery visual inspection is to provide an indication of physical damage or abnormal deterioration that could potentially degrade battery performance. As a result, the physical damage or abnormal deterioration has to be of a type that could degrade battery performance before the Surveillance Requirement would not be satisfied. The presence of physical damage or deterioration does not necessarily represent a failure of the Surveillance Requirement, provided an evaluation determines that the physical damage or deterioration does not affect the operability of the battery (its ability to perform its safety function). Therefore, for consistency with the STS Bases, the statement in the Surveillance Requirement can be changed to include the phrase "that could degrade battery performance" for clarity. Additionally, the STS Bases for the Surveillance Requirement can be revised to clarify the measures to be taken in the event physical damage or deterioration is discovered.

The provisions of TSTF-38 are applicable to CNP Units 1 and 2. The wording of CNP TS 4.8.2.3.2.c.1 and TS 4.8.2.5.2.c.1 is virtually identical to that of the corresponding STS Surveillance Requirement. Although the current CNP TS Bases do not specifically address CNP TS 4.8.2.3.2.c.1 and TS 4.8.2.5.2.c.1, the STS Bases for the corresponding Surveillance Requirement is valid for the CNP Surveillance Requirements. Therefore, it is appropriate to apply the provisions of TSTF-38 to the CNP TS.

5.0 Regulatory Safety Analysis

5.1 No Significant Hazards Consideration

I&M has evaluated whether or not a significant hazards consideration is involved with the proposed change 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 of occurrence or consequences of an accident previously evaluated?

Response: No

Probability of Occurrence of an Accident Previously Evaluated -

The proposed change would eliminate the requirement to declare the Train AB, CD, or N battery inoperable due to physical damage or abnormal deterioration of the cells, cell plates, or racks if the damage or deterioration would not degrade battery performance. The proposed change would also require that a decision to not declare a battery inoperable be based on an evaluation of the physical damage or abnormal deterioration. The proposed change does not affect any existing accident initiators or precursors. The safety function of the batteries is to provide power to systems and components that mitigate an accident. There is no design basis accident that is initiated by a failure of a battery to perform its safety function. The proposed change will not create any adverse interactions with other systems that could result in initiation of a design basis accident. Therefore, the probability of occurrence of an accident previously evaluated is not significantly increased.

Consequences of an Accident Previously Evaluated -

The proposed change does not reduce the ability of the batteries to perform their safety function. The TS will continue to require that a battery be declared inoperable if physical damage or abnormal deterioration that impairs the ability of a battery to perform its safety function is observed. As a result, the ability of the batteries to perform their safety function is unaffected by the proposed change. Therefore, the safety related systems and components that are supported by the batteries and mitigate the consequences of an accident are not affected by the proposed change.

In summary, the probability of occurrence and the consequences of an accident previously evaluated are not significantly increased.

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 does not create any new or different accident initiators or precursors. The batteries will continue to function as before the change, and will continue to be declared inoperable if physical damage or abnormal deterioration that impairs the ability of a battery to perform its safety function is observed. The proposed change does not create any new failure modes for the batteries and does not affect the interaction between the batteries and any other system. Thus, the

proposed changes do 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 margins of safety associated with a battery are those pertaining to its performance. The TSs will continue to require that a battery be declared inoperable if physical damage or abnormal deterioration of the cells, cell plates, or racks that would degrade battery performance is observed. As a result, the proposed change does not affect the capability of the batteries to perform in accordance with established safety margins. Therefore, the proposed change does not involve a significant reduction in margin of safety.

In summary, based upon the above evaluation, I&M has concluded that the proposed changes involve 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 justified.

5.2 Applicable Regulatory Requirements/Criteria

5.2.1 Regulations

TS 4.8.2.3.2.c.1 and TS 4.8.2.5.2.c.1 currently require verification at least once per 18 months that the Train AB, CD, and N battery cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration. I&M is proposing a license amendment that would modify these TSs to indicate that physical damage or abnormal deterioration to Train AB, CD, or N battery cells, cell plates, and racks would not render the batteries inoperable unless the damage or deterioration could degrade battery performance. The proposed amendment would also modify the Unit 1 and Unit 2 TS Bases to describe the reason for the Surveillance Requirements and the criteria for determining operability. The Technical Analysis for the proposed license amendment demonstrates that, under some conditions, the current TSs are overly restrictive, and demonstrates that the NRC approved TSTF to address such conditions is appropriate for implementation at CNP. The Technical Analysis provides the basis for I&M's determination that the proposed amendment does not involve significant hazards considerations as described in 10 CFR 50.92.

No other regulations or TS will be affected by the proposed amendment.

5.2.2 UFSAR

UFSAR Section 8.0, "Electrical Systems," provides licensing basis information for the Unit 1 and Unit 2 AC and DC electric power systems. Subsections 8.3.4 and 8.3.5 describe the safety function and performance requirements for the Train AB, CD, and N batteries. These functions and performance requirements are unaffected by the proposed amendment since it continues to provide assurance that a battery exhibiting physical damage or abnormal deterioration that impairs its ability to perform its safety function will be declared inoperable.

UFSAR Section 14, "Safety Analysis," for Unit 1 and Unit 2 provides descriptions of the licensing basis accident analyses for the respective units, including the structures, systems, and components credited with mitigating the accidents. The proposed amendment does not affect the ability of the batteries to fulfill their safety function of supporting the structures systems and components credited with mitigating the accidents.

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 Considerations

I&M has evaluated this license amendment request against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.21. I&M 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 needs to be prepared concerning the proposed amendment.

7.0 Precedent Licensing Actions

The NRC has approved implementation of TSTF-38 for Grand Gulf Nuclear Station, Unit 1 (Reference 2) and Perry Nuclear Power Plant, Unit 1 (Reference 3). Grand Gulf and Perry are boiling water reactors; however, TSTF-38 has been approved for all boiling and pressurized water reactors.

8.0 References

1. Letter from R. P. Powers, I&M, to NRC Document Control Desk, "License Amendment Request Extension of Emergency Diesel Generator Engine and Battery Surveillance Requirements," dated January 19, 2001.

2. Letter from S. P. Sekerak, NRC, to W. A. Eaton, Entergy Operations Inc., "Grand Gulf Nuclear Station, Unit 1 – Issuance of Amendment re: Generic Changes to Improved Standard Technical Specifications (TAC No. MA6765)," dated June 30, 2000.

3. Letter from D. V. Pickett, NRC, to J. K. Wood, First Energy Nuclear Operating Company, "Perry Nuclear Power Plant, Unit 1 – Issuance of Amendment re: Incorporation of Technical Specification Task Force Process Changes (TAC Nos. MB0525 through MB0538)," dated May 15, 2001.

Attachment 1A to AEP:NRC:2382

TECHNICAL SPECIFICATIONS PAGES
MARKED TO SHOW PROPOSED CHANGES

REVISED PAGES
UNIT 1

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SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 92 days by verifying that:

1. The voltage of each connected cell is greater than or equal to 2.13 volts under float charge.

2. The specific gravity, corrected to 77°F, and full electrolyte level (fluid at the bottom of the maximum level indication mark), of each connected cell is greater than or equal to 1.200 and has not decreased more than 0.03 from the value observed during the previous test, and

3. The electrolyte level of each connected cell is between the top of the minimum level indication mark and the bottom of the maximum level indication mark.

c. At least once per 18 months by:

1. Verifying that the cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance,

2. Removing visible corrosion and verifying that the cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material,

3. Verifying that the battery charger will supply at least 300 amperes at greater than or equal to 250 volts for at least 4 hours.

d. At least once per 18 months, perform a battery service test during shutdown (MODES 5 or 6), by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status the actual or simulated emergency loads for the design duty cycle. The battery charger will be disconnected throughout the test.

e. At least once per 60 months, conduct a performance test of battery capacity during shutdown (MODES 5 or 6), by verifying that the battery capacity is at least 80% of the manufacturer's rating. When this test is performed in place of a battery service test, a modified performance test shall be conducted.

Annual performance tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% from its capacity on the previous performance test, or is below 90% of the manufacturer's rating. If the battery has reached 85% of service life, delivers a capacity of 100% or greater of the manufacturer's rated capacity, and has shown no signs of degradation, performance testing at two year intervals is acceptable until the battery shows signs of degradation.

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 18 months by:

1. Verifying that the cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance.

2. Removing visible corrosion and verifying that the cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material.

3. Verifying that the battery charger will supply at least 25 amperes at greater than or equal to 250 volts for at least 4 hours.

d. At least once per 18 months perform a battery service test, during shutdown (MODES 5 or 6), by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status the actual or simulated emergency loads for the design duty cycle with the battery charger disconnected.

e. At least once per 60 months, conduct a performance test of battery capacity during shutdown (MODES 5 or 6), by verifying that the battery capacity is at least 80% of the manufacturer's rating. When this test is performed in place of a battery service test, a modified performance test shall be conducted.

Annual performance tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% from its capacity on the previous performance test, or is below 90% of the manufacturer's rating. If the battery has reached 85% of service life, delivers a capacity of 100% or greater of the manufacturer's rated capacity, and has shown no signs of degradation, performance testing at two year intervals is acceptable until the battery shows signs of degradation.

The train N station battery system provides an independent 250 volt DC power supply for power and control of the turbine driven auxiliary feedwater pump train. The limiting conditions of operation for the train N battery are consistent with the requirements of the auxiliary feedwater system. The surveillance requirements for the train N battery system are consistent with the requirements of the AB and CD station batteries. The train N battery loads are derived from equipment in the turbine driven auxiliary feedwater pump train and battery sizing is consistent with the functional requirements of these components. Simulated loads for battery tests are loads equivalent to measured actual loads.

Visual inspection of the battery cells, cell plates, and battery racks provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance. The presence of physical damage or deterioration does not necessarily represent a failure of SR 4.8.2.3.2.c.1 or 4.8.2.5.2.c.1, provided an evaluation determines that the physical damage or deterioration does not affect the OPERABILITY of the battery (its ability to perform its design function).

The removal of visible corrosion is a preventive maintenance SR. The presence of visible corrosion does not necessarily represent a failure of this SR provided visible corrosion is removed during the performance of SRs 4.8.2.3.2.c.2 and 4.8.2.5.2.c.2.

Removal of accumulated water as required by 4.8.1.1.2.b.2 is performed by drawing the contents off the bottom of the tank until acceptable results are obtained for either a tape test or a water and sediment test. An acceptable result for the water and sediment content is a measured value less than 0.05 percent volume.

The "proper color" criterion of Surveillance Requirement 4.8.1.1.2.c.3 ensures the translucence of the fuel oil sample will allow observation of water or sediment when analyzed in accordance with ASTM D4176-82. Fuel oil is considered to have proper color if it measures less than or equal to five per ASTM D1500. The addition of visible dyes to fuel oil may interfere with the ASTM D1500 analysis.

The sample specified in 4.8.1.1.2.c.4 is sent offsite for testing. A serious attempt will be made to meet the 31-day limit on the offsite tests; however, if for some reason this limit is not met (e.g., if the sample is lost or broken or if the results are not received in 31 days), the diesel generators should not be considered inoperable. If the sample is lost, broken, or fails the offsite tests and the new oil has already been put into the storage tank, the offsite tests will be performed on a sample taken from the storage tank. If the results on the subsequent storage tank sample are not within specified limits, the diesel generators should be considered OPERABLE and the out-of-spec properties should be returned to within specification as soon as possible.

If the monthly storage tank sample taken in accordance with Specification 4.8.1.1.2.d fails the particulate contamination test, the diesel generators should be considered OPERABLE and the contamination level should be restored to below 10 mg/liter as soon as possible.

The precision leak-detection test described in Surveillance Requirement 4.8.1.1.2.f.2 should be performed as described in NFPA (National Fire Protection Association) -329. As NFPA-329 is revised, the precision leak-detection test may be modified to incorporate changes to the test as described in the revisions to NFPA-329.

The minimum required diesel fuel oil volume is 43,240 gallons. This volume is consistent with operation of one diesel generator continuously for 7 days at rated load, as recommended in Regulatory Guide 1.137, entitled "Fuel Oil System for Standby Diesel Generators." The Technical Specifications require a minimum of 46,000 gallons of fuel. The 46,000 gallons is an indicated volume. This amount includes margin for characteristics such as location of the tank discharge pipes and slope of the tanks.

Attachment 1B to AEP:NRC:2382

TECHNICAL SPECIFICATIONS PAGES
MARKED TO SHOW PROPOSED CHANGES

REVISED PAGES
UNIT 2

3/4 8-13
3/4 8-17
B3/4 8-2

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 92 days by verifying that:

1. The voltage of each connected cell is greater than or equal to 2.13 volts under float charge.

2. The specific gravity, corrected to 77°F, and full electrolyte level (fluid at the bottom of the maximum level indication mark), of each connected cell is greater than or equal to 1.200 and has not decreased more than 0.03 from the value observed during the previous test, and

3. The electrolyte level of each connected cell is between the top of the minimum level indication mark and the bottom of the maximum level indication mark.

c. At least once per 18 months by:

1. Verifying that the cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance,

2. Removing visible corrosion and verifying that the cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material,

3. Verifying that the battery charger will supply at least 300 amperes at greater than or equal to 250 volts for at least 4 hours.

d. At least once per 18 months, perform a battery service test during shutdown (MODES 5 or 6), by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status the actual or simulated emergency loads for the design duty cycle. The battery charger will be disconnected throughout the test.

e. At least once per 60 months, conduct a performance test of battery capacity during shutdown (MODES 5 or 6), by verifying that the battery capacity is at least 80% of the manufacturer's rating. When this test is performed in place of a battery service test, a modified performance test shall be conducted.

Annual performance tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% from its capacity on the previous performance test, or is below 90% of the manufacturer's rating. If the battery has reached 85% of service life, delivers a capacity of 100% or greater of the manufacturer's rated capacity, and has shown no signs of degradation, performance testing at two year intervals is acceptable until the battery shows signs of degradation.

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 18 months by:

1. Verifying that the cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance.

2. Removing visible corrosion and verifying that the cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material.

3. Verifying that the battery charger will supply at least 25 amperes at greater than or equal to 250 volts for at least 4 hours.

d. At least once per 18 months perform a battery service test, during shutdown (MODES 5 or 6), by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status the actual or simulated emergency loads for the design duty cycle with the battery charger disconnected.

e. At least once per 60 months, conduct a performance test of battery capacity during shutdown (MODES 5 or 6), by verifying that the battery capacity is at least 80% of the manufacturer's rating. When this test is performed in place of a battery service test, a modified performance test shall be conducted.

Annual performance tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% from its capacity on the previous performance test, or is below 90% of the manufacturer's rating. If the battery has reached 85% of service life, delivers a capacity of 100% or greater of the manufacturer's rated capacity, and has shown no signs of degradation, performance testing at two year intervals is acceptable until the battery shows signs of degradation.

The train N station battery system provides an independent 250 volt DC power supply for power and control of the turbine driven auxiliary feedwater pump train. The limiting conditions of operation for the train N battery are consistent with the requirements of the auxiliary feedwater system. The surveillance requirements for the train N battery system are consistent with the requirements of the AB and CD station batteries. The train N battery loads are derived from equipment in the turbine driven auxiliary feedwater pump train and battery sizing is consistent with the functional requirements of these components. Simulated loads for battery tests are loads equivalent to measured actual loads.

Visual inspection of the battery cells, cell plates, and battery racks provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance. The presence of physical damage or deterioration does not necessarily represent a failure of SR 4.8.2.3.2.c.1 or 4.8.2.5.2.c.1, provided an evaluation determines that the physical damage or deterioration does not affect the OPERABILITY of the battery (its ability to perform its design function).

The removal of visible corrosion is a preventive maintenance SR. The presence of visible corrosion does not necessarily represent a failure of this SR provided visible corrosion is removed during the performance of SRs 4.8.2.3.2.c.2 and 4.8.2.5.2.c.2.

Removal of accumulated water as required by 4.8.1.1.2.b.2 is performed by drawing the contents off the bottom of the tank until acceptable results are obtained for either a tape test or a water and sediment test. An acceptable result for the water and sediment content is a measured value less than 0.05 percent volume.

The "proper color" criterion of Surveillance Requirement 4.8.1.1.2.c.3 ensures the translucence of the fuel oil sample will allow observation of water or sediment when analyzed in accordance with ASTM D4176-82. Fuel oil is considered to have proper color if it measures less than or equal to five per ASTM D1500. The addition of visible dyes to fuel oil may interfere with the ASTM D1500 analysis.

The sample specified in 4.8.1.1.2.c.4 is sent offsite for testing. A serious attempt will be made to meet the 31-day limit on the offsite tests; however, if for some reason this limit is not met (e.g., if the sample is lost or broken or if the results are not received in 31 days), the diesel generators should not be considered inoperable. If the sample is lost, broken, or fails the offsite tests and the new oil has already been put into the storage tank, the offsite tests will be performed on a sample taken from the storage tank. If the results on the subsequent storage tank sample are not within specified limits, the diesel generators should be considered OPERABLE and the out-of-spec properties should be returned to within specification as soon as possible.

If the monthly storage tank sample taken in accordance with Specification 4.8.1.1.2.d fails the particulate contamination test, the diesel generators should be considered OPERABLE and the contamination level should be restored to below 10 mg/liter as soon as possible.

The precision leak-detection test described in Surveillance Requirement 4.8.1.1.2.f.2 should be performed as described in NFPA (National Fire Protection Association) -329. As NFPA-329 is revised, the precision leak-detection test may be modified to incorporate changes to the test as described in the revisions to NFPA-329.

The minimum required diesel fuel oil volume is 43,240 gallons. This volume is consistent with operation of one diesel generator continuously for 7 days at rated load, as recommended in Regulatory Guide 1.137, entitled "Fuel Oil System for Standby Diesel Generators." The Technical Specifications require a minimum of 46,000 gallons of fuel. The 46,000 gallons is an indicated volume. This amount includes margin for characteristics such as location of the tank discharge pipes and slope of the tanks.

Attachment 2A to AEP:NRC:2382

PROPOSED TECHNICAL SPECIFICATIONS PAGES

REVISED PAGES
UNIT 1

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3/4 8-17
B3/4 8-2

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 92 days by verifying that:

1. The voltage of each connected cell is greater than or equal to 2.13 volts under float charge.

2. The specific gravity, corrected to 77°F, and full electrolyte level (fluid at the bottom of the maximum level indication mark), of each connected cell is greater than or equal to 1.200 and has not decreased more than 0.03 from the value observed during the previous test, and

3. The electrolyte level of each connected cell is between the top of the minimum level indication mark and the bottom of the maximum level indication mark.

c. At least once per 18 months by:

1. Verifying that the cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance,

2. Removing visible corrosion and verifying that the cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material,

3. Verifying that the battery charger will supply at least 300 amperes at greater than or equal to 250 volts for at least 4 hours.

d. At least once per 18 months, perform a battery service test during shutdown (MODES 5 or 6), by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status the actual or simulated emergency loads for the design duty cycle. The battery charger will be disconnected throughout the test.

e. At least once per 60 months, conduct a performance test of battery capacity during shutdown (MODES 5 or 6), by verifying that the battery capacity is at least 80% of the manufacturer's rating. When this test is performed in place of a battery service test, a modified performance test shall be conducted.

Annual performance tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% from its capacity on the previous performance test, or is below 90% of the manufacturer's rating. If the battery has reached 85% of service life, delivers a capacity of 100% or greater of the manufacturer's rated capacity, and has shown no signs of degradation, performance testing at two year intervals is acceptable until the battery shows signs of degradation.

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 18 months by:

1. Verifying that the cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance.

2. Removing visible corrosion and verifying that the cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material.

3. Verifying that the battery charger will supply at least 25 amperes at greater than or equal to 250 volts for at least 4 hours.

d. At least once per 18 months perform a battery service test, during shutdown (MODES 5 or 6), by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status the actual or simulated emergency loads for the design duty cycle with the battery charger disconnected.

e. At least once per 60 months, conduct a performance test of battery capacity during shutdown (MODES 5 or 6), by verifying that the battery capacity is at least 80% of the manufacturer's rating. When this test is performed in place of a battery service test, a modified performance test shall be conducted.

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The train N station battery system provides an independent 250 volt DC power supply for power and control of the turbine driven auxiliary feedwater pump train. The limiting conditions of operation for the train N battery are consistent with the requirements of the auxiliary feedwater system. The surveillance requirements for the train N battery system are consistent with the requirements of the AB and CD station batteries. The train N battery loads are derived from equipment in the turbine driven auxiliary feedwater pump train and battery sizing is consistent with the functional requirements of these components. Simulated loads for battery tests are loads equivalent to measured actual loads.

Visual inspection of the battery cells, cell plates, and battery racks provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance. The presence of physical damage or deterioration does not necessarily represent a failure of SR 4.8.2.3.2.c.1 or 4.8.2.5.2.c.1, provided an evaluation determines that the physical damage or deterioration does not affect the OPERABILITY of the battery (its ability to perform its design function).

The removal of visible corrosion is a preventive maintenance SR. The presence of visible corrosion does not necessarily represent a failure of this SR provided visible corrosion is removed during the performance of SRs 4.8.2.3.2.c.2 and 4.8.2.5.2.c.2.

Removal of accumulated water as required by 4.8.1.1.2.b.2 is performed by drawing the contents off the bottom of the tank until acceptable results are obtained for either a tape test or a water and sediment test. An acceptable result for the water and sediment content is a measured value less than 0.05 percent volume.

The "proper color" criterion of Surveillance Requirement 4.8.1.1.2.c.3 ensures the translucence of the fuel oil sample will allow observation of water or sediment when analyzed in accordance with ASTM D4176-82. Fuel oil is considered to have proper color if it measures less than or equal to five per ASTM D1500. The addition of visible dyes to fuel oil may interfere with the ASTM D1500 analysis.

The sample specified in 4.8.1.1.2.c.4 is sent offsite for testing. A serious attempt will be made to meet the 31-day limit on the offsite tests; however, if for some reason this limit is not met (e.g., if the sample is lost or broken or if the results are not received in 31 days), the diesel generators should not be considered inoperable. If the sample is lost, broken, or fails the offsite tests and the new oil has already been put into the storage tank, the offsite tests will be performed on a sample taken from the storage tank. If the results on the subsequent storage tank sample are not within specified limits, the diesel generators should be considered OPERABLE and the out-of-spec properties should be returned to within specification as soon as possible.

If the monthly storage tank sample taken in accordance with Specification 4.8.1.1.2.d fails the particulate contamination test, the diesel generators should be considered OPERABLE and the contamination level should be restored to below 10 mg/liter as soon as possible.

The precision leak-detection test described in Surveillance Requirement 4.8.1.1.2.f.2 should be performed as described in NFPA (National Fire Protection Association) -329. As NFPA-329 is revised, the precision leak-detection test may be modified to incorporate changes to the test as described in the revisions to NFPA-329.

The minimum required diesel fuel oil volume is 43,240 gallons. This volume is consistent with operation of one diesel generator continuously for 7 days at rated load, as recommended in Regulatory Guide 1.137, entitled "Fuel Oil System for Standby Diesel Generators." The Technical Specifications require a minimum of 46,000 gallons of fuel. The 46,000 gallons is an indicated volume. This amount includes margin for characteristics such as location of the tank discharge pipes and slope of the tanks.

Attachment 2B to AEP:NRC:2382

PROPOSED TECHNICAL SPECIFICATIONS PAGES

REVISED PAGES
UNIT 2

3/4 8-13
3/4 8-17
B3/4 8-2

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 92 days by verifying that:

1. The voltage of each connected cell is greater than or equal to 2.13 volts under float charge.

2. The specific gravity, corrected to 77°F, and full electrolyte level (fluid at the bottom of the maximum level indication mark), of each connected cell is greater than or equal to 1.200 and has not decreased more than 0.03 from the value observed during the previous test, and

3. The electrolyte level of each connected cell is between the top of the minimum level indication mark and the bottom of the maximum level indication mark.

c. At least once per 18 months by:

1. Verifying that the cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance,

2. Removing visible corrosion and verifying that the cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material,

3. Verifying that the battery charger will supply at least 300 amperes at greater than or equal to 250 volts for at least 4 hours.

d. At least once per 18 months, perform a battery service test during shutdown (MODES 5 or 6), by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status the actual or simulated emergency loads for the design duty cycle. The battery charger will be disconnected throughout the test.

e. At least once per 60 months, conduct a performance test of battery capacity during shutdown (MODES 5 or 6), by verifying that the battery capacity is at least 80% of the manufacturer's rating. When this test is performed in place of a battery service test, a modified performance test shall be conducted.

Annual performance tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% from its capacity on the previous performance test, or is below 90% of the manufacturer's rating. If the battery has reached 85% of service life, delivers a capacity of 100% or greater of the manufacturer's rated capacity, and has shown no signs of degradation, performance testing at two year intervals is acceptable until the battery shows signs of degradation.

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 18 months by:

1. Verifying that the cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance.

2. Removing visible corrosion and verifying that the cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material.

3. Verifying that the battery charger will supply at least 25 amperes at greater than or equal to 250 volts for at least 4 hours.

d. At least once per 18 months perform a battery service test, during shutdown (MODES 5 or 6), by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status the actual or simulated emergency loads for the design duty cycle with the battery charger disconnected.

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The train N station battery system provides an independent 250 volt DC power supply for power and control of the turbine driven auxiliary feedwater pump train. The limiting conditions of operation for the train N battery are consistent with the requirements of the auxiliary feedwater system. The surveillance requirements for the train N battery system are consistent with the requirements of the AB and CD station batteries. The train N battery loads are derived from equipment in the turbine driven auxiliary feedwater pump train and battery sizing is consistent with the functional requirements of these components. Simulated loads for battery tests are loads equivalent to measured actual loads.

Visual inspection of the battery cells, cell plates, and battery racks provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance. The presence of physical damage or deterioration does not necessarily represent a failure of SR 4.8.2.3.2.c.1 or 4.8.2.5.2.c.1, provided an evaluation determines that the physical damage or deterioration does not affect the OPERABILITY of the battery (its ability to perform its design function).

The removal of visible corrosion is a preventive maintenance SR. The presence of visible corrosion does not necessarily represent a failure of this SR provided visible corrosion is removed during the performance of SRs 4.8.2.3.2.c.2 and 4.8.2.5.2.c.2.

Removal of accumulated water as required by 4.8.1.1.2.b.2 is performed by drawing the contents off the bottom of the tank until acceptable results are obtained for either a tape test or a water and sediment test. An acceptable result for the water and sediment content is a measured value less than 0.05 percent volume.

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If the monthly storage tank sample taken in accordance with Specification 4.8.1.1.2.d fails the particulate contamination test, the diesel generators should be considered OPERABLE and the contamination level should be restored to below 10 mg/liter as soon as possible.

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