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984-229-2512

10 CFR 50.90

September 23, 2021
Serial: RA-21-0213

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Shearon Harris Nuclear Power Plant, Unit 1
Docket No. 50-400
Renewed License No. NPF-63

Subject: License Amendment Request to Remove Limitation to Perform Certain Surveillance Requirements During Shutdown

Ladies and Gentlemen:

In accordance with the provisions of 10 CFR 50.90, Duke Energy Progress, LLC (Duke Energy), hereby requests a revision to the Shearon Harris Nuclear Power Plant, Unit 1 (HNP), Technical Specifications (TS). The proposed amendment would revise certain surveillance requirements (SRs) for TS 3/4.8.1, "A.C. Sources – Operating," and TS 3/4.8.2, "D.C. Sources – Operating," to eliminate the condition that testing be conducted "during shutdown." The removal of this restriction would afford Duke Energy additional operational flexibility for planning and scheduling purposes by not limiting performance of certain surveillances to only during shutdown modes. Additionally, the proposed amendment would add Notes consistent with NRC-approved Technical Specification Task Force 283 (TSTF-283-A), Revision 3, "Modify Section 3.8 Mode Restriction Notes," to allow greater flexibility in performing SRs (or portions thereof) to reestablish operability provided an assessment determines the safety of the plant is maintained or enhanced. Duke Energy is also proposing the inclusion of the ability to use actual actuation signals in addition to the simulated actuation signals for select SRs to meet performance of the required tests, as well as some administrative changes to better align the HNP TS SRs with NUREG-1431, "Standard Technical Specifications – Westinghouse Plants" (Revision 4, ADAMS Accession No. ML12100A222).

The proposed change has been evaluated in accordance with 10 CFR 50.91(a)(1) using criteria in 10 CFR 50.92(c), and it has been concluded that the proposed change involves no significant hazards consideration.

The enclosure to this license amendment request provides Duke Energy's evaluation of the proposed change. In addition, Attachment 1 to the enclosure provides a copy of the existing TS pages marked with the proposed changes to the applicable surveillance requirements. Changes to the corresponding TS Bases will be implemented in accordance with the TS Bases Control Program upon implementation of the amendment.

Approval of the proposed license amendment is requested within twelve months of acceptance. The amendment shall be implemented within 90 days from approval.

In accordance with 10 CFR 50.91, a copy of this application, with enclosures, is being provided to the designated North Carolina State Official.

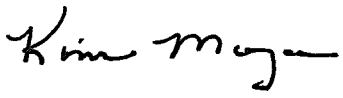
This letter contains no regulatory commitments.

Please refer any questions regarding this submittal to Art Zaremba, Manager – Nuclear Fleet Licensing, at (980) 373-2062.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on September 23, 2021.

Sincerely,



Kim Maza
Site Vice President
Harris Nuclear Plant

Enclosure: Evaluation of the Proposed Change

cc: J. Zeiler, NRC Sr. Resident Inspector, HNP
D. Crowley, Radioactive Materials Branch Manager, N.C. DHSR
M. Mahoney, NRC Project Manager, HNP
L. Dudes, NRC Regional Administrator, Region II

U.S. Nuclear Regulatory Commission
Serial: RA-21-0213
Enclosure

ENCLOSURE

EVALUATION OF THE PROPOSED CHANGE

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1

DOCKET NO. 50-400

RENEWED LICENSE NUMBER NPF-63

11 PAGES PLUS THE COVER

Evaluation of the Proposed Change

License Amendment Request to Remove Limitation to Perform Certain Surveillance Requirements During Shutdown

1.0 SUMMARY DESCRIPTION

In accordance with the provisions of 10 CFR 50.90, Duke Energy Progress, LLC (Duke Energy), is submitting a license amendment request (LAR) to revise the Shearon Harris Nuclear Power Plant, Unit 1 (HNP), Technical Specifications (TS). The proposed amendment would revise certain surveillance requirements (SRs) for TS 3/4.8.1, "A.C. Sources – Operating," and TS 3/4.8.2, "D.C. Sources – Operating," to eliminate the condition that testing be conducted "during shutdown." The removal of this restriction would afford Duke Energy additional operational flexibility for planning and scheduling purposes by not limiting performance of certain surveillances to only during shutdown modes. Additionally, the proposed amendment would add Notes consistent with NRC-approved Technical Specification Task Force 283 (TSTF-283-A), Revision 3, "Modify Section 3.8 Mode Restriction Notes," to allow greater flexibility in performing SRs (or portions thereof) to reestablish operability provided an assessment determines the safety of the plant is maintained or enhanced. Duke Energy is also proposing the inclusion of the ability to use actual actuation signals in addition to the simulated actuation signals for select SRs to meet performance of the required tests, as well as some administrative changes to better align the HNP TS SRs with NUREG-1431, "Standard Technical Specifications – Westinghouse Plants" (Revision 4, ADAMS Accession No. ML12100A222).

2.0 DETAILED DESCRIPTION

2.1 System Design and Operation

The proposed change involves SRs associated with the Electrical Power System components described below.

Emergency Diesel Generators (EDGs)

The function of the EDGs is to provide a reliable source of alternate power to the emergency 6.9-kilovolt (kV) buses for use in the event that normal sources of off-site power are not available. Each EDG unit can be started either manually for test or automatically upon receipt of a Loss of Off-site Power signal, Safety Injection Signal or a simulated accident signal. The existing onsite power system consists of two EDGs (1A-SA and 1B-SB) that are sufficient to supply reliable power to all safety-related loads in its respective division, as well as to those non-safety-related loads which it is desirable to have manually-loaded on the diesel generator. The EDGs are designed for fast starting and load acceptance, with a high degree of availability and reliability. Each EDG is capable of supplying all power needed for the safe shutdown of the plant under design emergency conditions.

Safety-Related 125-Volt Batteries

The D.C. Power System is designed to provide a source of reliable continuous power for the plant protection system, control and instrumentation and other loads for start-up, operation, and shutdown modes of plant operation. The D.C. Power System consists of three 60-cell, 125-volt batteries and one 120-cell, 250-volt battery, each with its own battery chargers, and D.C. load

center. Two banks of 125-volt batteries, designated 1A-SA and 1B-SB, and their associated load centers and distribution panels are arranged to feed the safety-related D.C. loads associated with divisions A and B, respectively. The safety-related D.C. loads are grouped into two redundant load groups such that loss of either group will not prevent the required safety functions from being performed. Each of the safety-related redundant 125-volt batteries are capable of supplying all D.C. power required to safely shut down the station and/or limit the consequences of a design basis accident.

The two redundant safety batteries and their related accessories are located in separate rooms in the Reactor Auxiliary Building, a Seismic Category I structure. Complete separation and independence are maintained between components and circuits of the two safety-related 125-volt D.C. systems, including raceways. Because of physical and electrical separation provided for the batteries, chargers, distribution equipment and wiring of the safety-related 125-volt D.C. systems, a single failure at any point in either system will not disable both systems.

2.2 Current TS Requirements

The HNP TS are based upon the format and content of the NUREG-0452, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors," series. As a result, the HNP TS numbers and associated Bases numbers differ from those contained in NUREG-1431.

HNP TS 3/4.8.1 addresses the operability of A.C. electrical power sources, with SRs 4.8.1.1.2.f and 4.8.1.1.2.g focused on testing the diesel generators, whereas HNP TS 3/4.8.2 addresses the operability of D.C. electrical sources, with SRs 4.8.2.1.d, 4.8.2.1.e, and 4.8.2.1.f focused on the 125-volt emergency batteries. Each SR contains a restriction that the test be performed “during shutdown.”

2.3 Reason for the Proposed Change

The proposed change is consistent with NUREG-1431 and would afford Duke Energy additional operational flexibility for planning and scheduling purposes by not limiting performance of certain surveillances to only during shutdown modes. Duke Energy programs ensure that the appropriate evaluation/assessment for plant safety and risk is performed whenever activities originally performed during shutdown are performed in modes other than shutdown. This is consistent with the guidance specified in Generic Letter (GL) 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," the provisions of the Maintenance Rule, 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," and Regulatory Guide 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants."

Additionally, the addition of Notes consistent with TSTF-283-A would allow greater flexibility in performing SRs (or portions thereof) to reestablish operability provided an assessment determines the safety of the plant is maintained or enhanced. The NRC approved the changes in TSTF-283-A, Revision 3, by incorporating them into Revision 2 of NUREG-1431 (April 2001, ADAMS Accession No. ML011090393).

As stated above, HNP TS are based upon the format and content of NUREG-0452. However, the NRC allows for selective incorporation of Improved Standard Technical Specifications

(ISTS) requirements (i.e., NUREG-1431 for Westinghouse Plants). As discussed in Section 16.0, Revision 3, "Technical Specifications," dated March 2010 (ADAMS Accession No. ML100351425), of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: Light Water Reactor (LWR) Edition," TS change requests for facilities with TS based on previous standard TS should comply with comparable provisions in current ISTS NUREGs to the extent possible or justify deviations from the ISTS. The proposed changes found in this license amendment request to remove the "during shutdown" restriction from HNP TS 3/4.8.1 and TS 3/4.8.2 are consistent with the corresponding requirements in the current ISTS. As to comply with comparable provisions in ISTS, this license amendment request provides for the inclusion of applicable Notes from the corresponding SRs in ISTS that specify the plant operating restrictions associated with performance of the tests. These Notes specify the modes in which the surveillances shall not normally be performed while also including a provision to allow performance of the test (or portions of the test) to reestablish operability, provided an assessment determines that plant safety is maintained or enhanced. Additionally, this license amendment request provides for additional flexibility in test performance by providing for the use of actual actuation signals for SRs in which a simulated signal is required for testing of EDG functions.

2.4 Description of the Proposed Change

For each of the SRs below, the limitation "during shutdown" is proposed to be removed. In addition to administrative changes to address editorial items that exist in the current SRs, applicable changes associated with the use of actual actuation signals and inclusion of Notes from the corresponding ISTS SRs in NUREG-1431 are proposed for incorporation. The Notes proposed for inclusion in TS 3/4.8.1, consistent with TSTF-283-A, are:

1 This Surveillance shall not normally be performed in MODE 1 or 2. However, this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.

2 This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.

3 This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.

1) SR 4.8.1.1.2.f.2 (ISTS equivalent - SR 3.8.1.9)
~~During shutdown,~~ [1] **V**erifying that, on rejection of a load of greater than or equal to 1078 kW, the voltage and frequency are maintained with 6900 ± 690 volts and 60 ± 6.75 Hz, with voltage stabilizing to 6900 ± 276 volts and frequency stabilizing to 60 ± 0.48 Hz within 10 seconds without any safety-related load tripping out or operating in a degraded condition.

2) SR 4.8.1.1.2.f.3 (ISTS equivalent – SR 3.8.1.18)
~~During shutdown,~~ [2]Verifying that the load sequencing timer is OPERABLE with the interval between each load block within 10% of its design interval.

3) SR 4.8.1.1.2.f.4 (ISTS equivalent – SR 3.8.1.11)
~~During shutdown, simulating a~~ [3]Verifying on an actual or simulated loss of offsite power **signal** by itself**~~, and~~**:
   a) **~~Verifying~~ D**e-energization of the emergency buses and load shedding from the emergency buses.
   b) **~~Verifying~~ T**he diesel starts** on the auto-start signal, energizing the emergency buses with permanently connected loads in less than or equal to 10 seconds, energizing the auto-connected shutdown loads through the load sequencer, and operating for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization of these loads, the safety-state voltage and frequency shall be maintained at 6900 ± 276 volts and 60 ± 0.48 Hz.

4) SR 4.8.1.1.2.f.5 (ISTS equivalent – SR 3.8.1.12)
~~During shutdown,~~ [1]Verifying that on a**n actual or simulated** safety injection **~~test~~** signal (without loss of power) the diesel generator starts** on the auto-start signal and operates on standby for greater than or equal to 5 minutes.

5) SR 4.8.1.1.2.f.6 (ISTS equivalent – SR 3.8.1.19)
~~During shutdown, simulating a~~ [3]Verifying on an actual or simulated loss of offsite power **signal** in conjunction with a**n actual or simulated** safety injection **~~test~~** signal**~~, and~~:**
   a) **~~Verifying~~ D**e-energization of the emergency buses and load shedding from the emergency buses.
   b) **~~Verifying~~ T**he diesel starts** on the auto-start signal, energizing the emergency buses with permanently connected loads in less than or equal to 10 seconds, energizing the auto-connected emergency (accident) loads through the sequencing timers, and operating for greater than or equal to 5 minutes and maintaining the steady-state voltage and frequency at 6900 ± 276 volts and 60 ± 0.48 Hz.
   c) DELETED.

6) SR 4.8.1.1.2.f.9 (ISTS equivalent – SR 3.8.1.16)
~~During shutdown,~~ [2]Verifying the diesel generator's capability to:
   a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power,
   b) Transfer its loads to the offsite power source, and
   c) Proceed through its shutdown sequence.

7) SR 4.8.1.1.2.f.11 (ISTS equivalent – SR 3.8.1.10)
~~During shutdown,~~ [1]Verifying the generator capability to reject a load of between 6200 and 6400 kW without tripping. The generator voltage shall not exceed 8280 volts during and following the load rejection**~~;~~.**

8) SR 4.8.1.1.2.f.12 (ISTS equivalent – SR 3.8.1.17)
~~**During shutdown,** **[3]**~~ **V**erifying that, with the diesel generator operating in a test mode and connected to its bus, a**n actual or** simulated Safety Injection signal overrides the test mode by: (1) returning the diesel generator to standby operation and (2) automatically energizing the emergency loads with offsite power.

9) SR 4.8.1.1.2.f.13 (ISTS equivalent – SR 3.8.1.13)
~~**During shutdown,** **[1]**~~ **V**erifying that all diesel generator trips, except engine overspeed, loss of generator potential transformer circuits, generator differential, and emergency bus differential are automatically bypassed on a simulated or actual loss of offsite power signal in conjunction with a safety injection signal.

10) SR 4.8.1.1.2.f.14 (ISTS equivalent – SR 3.8.1.15)
~~**During shutdown,** **V**~~erifying that within 5 minutes of shutting down the EDG, after the EDG has operated for at least 2 hours at an indicated load of 6200-6400 k**W**, the EDG starts and accelerates to a steady-state voltage and frequency of 6900 ± 276 volts and 60 ± 0.48 **H**z in 10 seconds or less.

11) SR 4.8.1.1.2.g (ISTS equivalent – SR 3.8.1.20)
At the frequency specified in the Surveillance Frequency Control Program or after any modifications which could affect diesel generator interdependence by starting** both diesel generators simultaneously~~**, during shutdown,**~~ **from standby condition** and verifying that both diesel generators accelerate to at least 450 rpm in less than or equal to 10 seconds.

The Note proposed for inclusion in TS 3/4.8.2, consistent with TSTF-283-A, is:

This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.

12) SR 4.8.2.1.d (ISTS equivalent – SR 3.8.4.3)
#At the frequency specified in the Surveillance Frequency Control Program~~**, during shutdown,**~~ by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for the design duty cycle when the battery is subjected to a battery service test;

13) SR 4.8.2.1.e (ISTS equivalent – SR 3.8.6.6)
#At the frequency specified in the Surveillance Frequency Control Program~~**, during shutdown,**~~ by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. At the frequency specified in the Surveillance Frequency Control Program, this performance discharge test may be performed in lieu of the battery service test required by Specification 4.8.2.1**.d**; and

14) SR 4.8.2.1.f (ISTS equivalent – SR 3.8.6.6)
#At least once per 18 months~~**, during shutdown,**~~ by giving performance discharge tests of battery capacity to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery

capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 90% of the manufacturer's rating.

These changes are consistent with Revision 4 of NUREG-1431.

3.0 TECHNICAL EVALUATION

The HNP TS contain a number of SRs that require performing the surveillance during shutdown. While the restriction is intended to ensure that the SRs are performed consistent with safe plant operation, many components affected by this restriction are capable of being safely tested in other modes. Furthermore, this consideration is valid for other surveillances that are performed during plant operation, plant startup, or shutdown, but is not addressed by restricting the conduct of these surveillances.

While the main focus of GL 91-04 relates to changes in TS surveillance intervals to accommodate the shift from an 18-month fuel cycle to a 24-month fuel cycle, it also specifically recommends the elimination of the condition "during shutdown" from SRs, stating:

> *The staff concludes that the TS need not restrict surveillances as only being performed during shutdown. Nevertheless, safety dictates that when refueling interval surveillances are performed during power operation, licensees give proper regard for their effect on the safe operation of the plant. If the performance of a refueling interval surveillance during plant operation would adversely affect safety, the licensee should postpone the surveillance until the unit is shut down for refueling or is in a condition or mode that is consistent with the safe conduct of that surveillance.*

In addition to the removal of the "during shutdown" restriction from the SRs, associated Notes from the corresponding ISTS SRs are being added to specify the plant operating restrictions associated with surveillance performance. These Notes specify that the surveillances shall not normally be performed in either Modes 1 through 2 or Modes 1 through 4, effectively replacing the "during shutdown" restriction. The Notes also include the provision to allow performance of the test (or portions thereof) to reestablish operability (e.g., post-work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated operability concerns), provided an assessment determines that plant safety is maintained or enhanced, consistent with TSTF-283-A. As a minimum, the assessment will consider the potential outcomes and transients associated with a failed partial surveillance, a successful partial surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial surveillance. It will also consider the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the surveillance are performed in the normally restricted modes. Risk insights or deterministic methods may be used for the assessment.

Duke Energy manages the overall risk associated with on-line and outage work activities and establishes appropriate risk management plans. In the case that performing a SR would result in an unacceptable level of risk, Duke Energy would reschedule the activity. Similarly, if a SR that is normally performed during shutdown would adversely affect safety if performed during plant operation, Duke Energy would continue to perform the SR during shutdown. Duke Energy will continue to evaluate the risk impact of performing SRs as required by 10 CFR 50.65(a)(4),

and SRs previously performed during shutdown will be performed during operation only when it is safe to do so.

The proposed change to remove the “during shutdown” restriction does not alter the intent or method by which the surveillance activities are conducted, does not involve any physical changes to the plant, does not alter the way any structure, system or component functions, and does not modify the manner in which the plant is operated. As such, the proposed changes to the SRs will not degrade the ability of each EDG and safety-related 125-volt battery to perform its intended function.

Duke Energy is also proposing the inclusion of the ability to use actual actuation signals in addition to the simulated actuation signals in SR 4.8.1.1.2.f.4, SR 4.8.1.1.2.f.5, SR 4.8.1.1.2.f.6, and SR 4.8.1.1.2.f.12 to meet performance of the test. This use of an actual actuation signal would provide an equivalent means of testing the EDG functions as a simulated signal and would provide additional flexibility in test performance. This change is also consistent with the corresponding SRs in ISTS.

Another change proposed to align the HNP TS SRs with those contained in ISTS includes the addition of “from standby condition” in HNP TS SR 4.8.1.1.2.g. This particular surveillance demonstrates that the EDG starting independence has not been compromised, as well as that each engine can achieve proper speed within the specified time when the EDGs are started simultaneously. For the purpose of this testing, the EDGs must be started from standby conditions. This means the engine coolant and oil is continuously circulated and temperature maintained consistent with manufacturer recommendations. As this surveillance requirement is already modified by a note that requires the test to be conducted in accordance with the manufacturer’s recommendations regarding engine prelube and warmup procedures, and as applicable regarding loading recommendations, the addition of “from standby condition” is strictly an administrative change to further align the HNP SR wording with the corresponding SR in ISTS as well as the basis of GL 84-15, “Proposed Staff Actions to Improve and Maintain Diesel Generator Reliability” to improve and maintain diesel generator reliability.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements and Guidance

10 CFR 50.36

The NRC's regulatory requirements related to the content of the TS are set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36, "Technical specifications." This regulation requires that the TS include items in the following five specific categories: (1) safety limits, limiting safety system settings, and limiting control settings, (2) limiting conditions for operation, (3) SRs, (4) design features, and (5) administrative controls. The regulation does not specify the particular requirements to be included in a plant's TS.

Per 10 CFR 50.36(c)(3), SRs are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met.

10 CFR 50.65

10 CFR 50.65, “Requirements for monitoring the effectiveness of maintenance at nuclear power plants,” requires in part that before performing maintenance activities (including by not limited to surveillance, post-maintenance testing, and corrective and preventative maintenance), the licensee shall assess and manage the increase in risk that may result from the proposed maintenance activities.

10 CFR 50, Appendix A, General Design Criterion 17 and 18

General Design Criterion 17, "Electric power systems," specifies that an onsite electric power system shall have sufficient independence, capacity, capability, redundancy, and testability to ensure that (1) specified acceptable nuclear fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded as a result of anticipated operational occurrences, and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents, assuming a single failure.

General Design Criterion 18, "Inspection and testing of electric power systems," specifies that electric power systems important to safety shall be designed to permit appropriate periodic inspection and testing to assess the continuity of the systems and the condition of their components.

Conclusion

Duke Energy has evaluated the proposed change against the applicable regulatory requirements described above. Based on this evaluation, there is reasonable assurance that the health and safety of the public will remain unaffected following the approval of the proposed change.

4.2 Precedents

The NRC has previously issued license amendments for the following sites to remove similar language on performing surveillance activities during shutdown:

- Shearon Harris Nuclear Power Plant, Unit 1 (ADAMS Accession No. ML020590045)
- Seabrook Station, Unit No. 1 (ADAMS Accession No. ML18247A538)
- Beaver Valley Power Station, Unit 2 (ADAMS Accession No. ML003750330)
- Donald C. Cook Nuclear Plant, Units 1 and 2 (ADAMS Accession No. ML030500450)

In each of these cases, the NRC staff concluded that removing the requirement to perform tests during shutdown was consistent with the ISTS for Westinghouse plants (i.e., NUREG-1431) and GL 91-04. During shutdown or at power, the licensees manage overall maintenance risk consistent with 10 CFR 50.65(a)(4).

Additionally, examples of plant-specific NRC approvals of the changes in TSTF-283-A and the inclusion of credit for unplanned events that satisfy the SR include:

- Catawba Nuclear Station, Units 1 and 2 (ADAMS Accession No. ML17178A234)
- McGuire Nuclear Station, Units 1 and 2 (ADAMS Accession No. ML17269A055)

4.3 Significant Hazards Consideration

Pursuant to 10 CFR 50.90, Duke Energy Progress, LLC (Duke Energy), hereby requests a revision to the Shearon Harris Nuclear Power Plant, Unit 1 (HNP), Technical Specifications (TS). The proposed amendment would revise certain surveillance requirements (SRs) for TS 3/4.8.1, "A.C. Sources – Operating," and TS 3/4.8.2, "D.C. Sources – Operating," to eliminate the condition that testing be conducted "during shutdown." The removal of this restriction would afford Duke Energy additional operational flexibility for planning and scheduling purposes by not limiting performance of certain surveillances to only during shutdown modes. Additionally, the proposed amendment would add Notes consistent with NRC-approved Technical Specification Task Force 283 (TSTF-283-A), Revision 3, "Modify Section 3.8 Mode Restriction Notes," to allow greater flexibility in performing SRs (or portions thereof) to reestablish operability provided an assessment determines the safety of the plant is maintained or enhanced. Duke Energy is also proposing the inclusion of the ability to use actual actuation signals in addition to the simulated actuation signals for select SRs to meet performance of the required tests, as well as some administrative changes to better align the HNP TS SRs with NUREG-1431, "Standard Technical Specifications – Westinghouse Plants" (Revision 4, ADAMS Accession No. ML12100A222).

Duke Energy has evaluated whether 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 amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The TS SRs associated with the proposed changes are not initiators of any previously evaluated accidents. As such, the probability of each of these previously evaluated accidents is not affected by the proposed changes.

The proposed changes do not alter the design, function, or operation of any plant structure, system, or component (SSC). The proposed changes do not alter or prevent the ability of any TS-required SSC from performing its intended function to mitigate the consequences on an initiating event with the assumed acceptance limits. The proposed changes do not affect the source term, containment isolation, or radiological release assumptions used in evaluating the radiological consequences of an accident previously evaluated. Further, the proposed changes do not increase the types and amounts of radioactive effluent that may be released offsite, nor significantly increase individual or cumulative occupational or public radiation exposure. As a result, the outcomes of accidents previously evaluated are unaffected.

Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

(2) Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed changes neither install or remove any plant equipment, nor alter the design, physical configuration, or mode of operation of any plant SSC. The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated in the Updated Final Safety Analysis Report. No new accident scenarios, failure mechanisms, or limiting single failures are introduced as a result of the proposed changes. Specifically, no new hardware is being added to the plant as part of the proposed changes, no existing equipment design or function is being modified, and no significant changes in operations are being introduced. No new equipment performance burdens are imposed.

Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

(3) Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No.

The proposed changes in this license amendment request do not alter the design, configuration, operation, or function of any plant SSC. The ability of any operable SSC to perform its designated safety function is unaffected by these changes. The proposed changes do not alter the manner in which safety limits, limiting safety system settings, or limiting conditions for operation are determined. They do not alter any safety analysis assumptions, initial conditions, or results of any accident analyses. The proposed changes will not result in plant operation in a configuration outside the design basis.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

Based upon the above evaluation, Duke Energy concludes 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 justified.

4.4 Conclusions

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.

5.0 ENVIRONMENTAL CONSIDERATIONS

Duke Energy 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

by 10 CFR 20, or it would change an inspection or surveillance requirement. However, the proposed changes do 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 be prepared in connection with the proposed amendment.

U.S. Nuclear Regulatory Commission
Serial: RA-21-0213
Enclosure

ATTACHMENT 1

PROPOSED TECHNICAL SPECIFICATION CHANGES (MARK-UP)

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1

DOCKET NO. 50-400

RENEWED LICENSE NUMBER NPF-63

11 PAGES PLUS THE COVER

No change proposed to this page. Included for information only.

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

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

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and

b. Two separate and independent diesel generators, each with:

1. A separate day tank containing a minimum of 1457 gallons of fuel,

2. A separate main fuel oil storage tank containing a minimum of 100,000 gallons of fuel, and

3. A separate fuel oil transfer pump.

c. Automatic Load Sequencers for Train A and Train B.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

----------NOTE----------

LCO 3.0.4.b is not applicable to diesel generators.

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a. With one offsite circuit of 3.8.1.1.a inoperable:

1. Perform Surveillance Requirement 4.8.1.1.1.a within 1 hour and once per 8 hours thereafter; and

2. Restore the offsite circuit to OPERABLE status within 72 hours or in accordance with the Risk-Informed Completion Time Program or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; and

3. Verify required feature(s) powered from the OPERABLE offsite A.C. source are OPERABLE. If required feature(s) powered from the OPERABLE offsite circuit are discovered to be inoperable at any time while in this condition, restore the required feature(s) to OPERABLE status within 24 hours from discovery of inoperable required feature(s) or declare the redundant required feature(s) powered from the inoperable A.C. source as inoperable.

b. With one diesel generator of 3.8.1.1.b inoperable:

1. Perform Surveillance Requirement 4.8.1.1.1.a within 1 hour and once per 8 hours thereafter; and

*2. Within 24 hours, determine the OPERABLE diesel generator is not inoperable due to a common cause failure or perform Surveillance Requirement 4.8.1.1.2.a.4#; and

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* This ACTION is required to be completed regardless of when the inoperable EDG is restored to OPERABILITY.

\# Activities that normally support testing pursuant to 4.8.1.1.2.a.4, which would render the diesel inoperable (e.g., air roll), shall not be performed for testing required by this ACTION statement.

No change proposed to this page. Included for information only.

LIMITING CONDITION FOR OPERATION

ACTION (Continued):

3. Restore the diesel generator to OPERABLE status within 72 hours or in accordance with the Risk-Informed Completion Time Program or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; and

4. Verify required feature(s) powered from the OPERABLE diesel generator are OPERABLE. If required feature(s) powered from the OPERABLE diesel generator are discovered to be inoperable at any time while in this condition, restore the required feature(s) to OPERABLE status within 4 hours from discovery of inoperable required feature(s) or declare the redundant required feature(s) powered from the inoperable A.C. source as inoperable.

c. With one offsite circuit and one diesel generator of 3.8.1.1 inoperable:

NOTE: Enter applicable Condition(s) and Required Action(s) of LCO 3/4.8.3, ONSITE POWER DISTRIBUTION - OPERATING, when this condition is entered with no A.C. power to one train.

1. Restore one of the inoperable A.C. sources to OPERABLE status within 12 hours or in accordance with the Risk-Informed Completion Time Program or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

2. Following restoration of one A.C. source (offsite circuit or diesel generator), restore the remaining inoperable A.C. source to OPERABLE status pursuant to requirements of either ACTION a or b, based on the time of initial loss of the remaining A.C. source.

No change proposed to this page. Included for information only.

LIMITING CONDITION FOR OPERATION

ACTION (Continued):

d. With two of the required offsite A.C. sources inoperable:

1. Restore one offsite circuit to OPERABLE status within 24 hours or in accordance with the Risk-Informed Completion Time Program or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; and

2. Verify required feature(s) are OPERABLE. If required feature(s) are discovered to be inoperable at any time while in this condition, restore the required feature(s) to OPERABLE status within 12 hours from discovery of inoperable required feature(s) or declare the redundant required feature(s) inoperable.

3. Following restoration of one offsite A.C. source, restore the remaining offsite A.C. source in accordance with the provisions of ACTION a with the time requirement of that ACTION based on the time of initial loss of the remaining inoperable A.C. source.

e. With two of the required diesel generators inoperable:

1. Perform Surveillance Requirement 4.8.1.1.1.a within 1 hour and once per 8 hours thereafter; and

#2. Restore one of the 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.

3. Following restoration of one diesel generator, restore the remaining diesel generator in accordance with the provisions of ACTION b with the time requirement of that ACTION based on the time of initial loss of the remaining inoperable diesel generator.

f. With three or more of the required A.C. sources inoperable:

1. Immediately enter Technical Specification 3.0.3.

2. Following restoration of one or more A.C. sources, restore the remaining inoperable A.C. sources in accordance with the provisions of ACTION a, b, c, d and/or e as applicable with the time requirement of that ACTION based on the time of initial loss of the remaining inoperable A.C. sources.

g. Deleted.

#Activities that normally support testing pursuant to 4.8.1.1.2.a.4, which would render the diesel inoperable (e.g., air roll), shall not be performed for testing required by this ACTION statement.

No change proposed to this page. Included for information only.

LIMITING CONDITION FOR OPERATION

ACTION (Continued):

h. With one automatic load sequencer inoperable:

1. Restore the automatic load sequencer to OPERABLE status within 24 hours or in accordance with the Risk-Informed Completion Time Program or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

a. Determined OPERABLE at the frequency specified in the Surveillance Frequency Control Program by verifying correct breaker alignment and power availability, and

b. Demonstrated OPERABLE at the frequency specified in the Surveillance Frequency Control Program by manually transferring the onsite Class 1E power supply from the unit auxiliary transformer to the startup auxiliary transformer.

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:

a. At the frequency specified in the Surveillance Frequency Control Program by:

1. Verifying the fuel level in the day tank,

2. Verifying the fuel level in the main fuel oil storage tank,

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

4. Verifying the diesel generator can start** and accelerate## to synchronous speed (450 rpm) with generator steady-state voltage and frequency 6900 ± 276 volts and 60 ± 0.48 Hz,

5. Verifying the diesel generator is synchronized, gradually loaded** to an indicated 6200-6400 kW*** and operates for at least 60 minutes,

6. Verifying the pressure in at least one air start receiver to be greater than or equal to 190 psig, and

7. Verifying the diesel generator is aligned to provide standby power to the associated emergency buses.

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

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

The voltage and frequency conditions shall be met within 10 seconds or gradual acceleration to no-load conditions per vendor recommendations will be an acceptable alternative.

No change proposed to this page. Included for information only.

SURVEILLANCE REQUIREMENTS (CONTINUED)

4.8.1.1.2 (Continued)

b. Check for and remove accumulated water:

1. From the day tank, at the frequency specified in the Surveillance Frequency Control Program and after each operation of the diesel where the period of operation was greater than 1 hour, and

2. From the main fuel oil storage tank, at the frequency specified in the Surveillance Frequency Control Program.

c. By verifying fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program, at frequencies in accordance with the Diesel Fuel Oil Testing Program.

d. DELETED.

e. At the frequency specified in the Surveillance Frequency Control Program, the diesel generators shall be started** and accelerated to at least 450 rpm in less than or equal to 10 seconds. The generator steady-state voltage and frequency shall be 6900 ± 276 volts and 60 ± 0.48 Hz in less than or equal to 10 seconds after the start signal.

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

SURVEILLANCE REQUIREMENTS (CONTINUED)

4.8.1.1.2 (Continued)

The generator shall be manually synchronized to its appropriate emergency bus, loaded to an indicated 6200-6400***kW, and operate for at least 60 minutes. The diesel generator shall be started for this test by using one of the following signals on a rotating basis:

1. Simulated loss of offsite power by itself, and
2. A Safety Injection test signal by itself.

This test, if it is performed so that it coincides with the testing required by Surveillance Requirement 4.8.1.1.2.a.4, may also serve to concurrently meet those requirements as well.

f. At the frequency specified in the Surveillance Frequency Control Program by:

1. DELETED
2. ~~During shutdown, verifying~~ that, on rejection of a load of greater than or equal to 1078 kW, the voltage and frequency are maintained with 6900 ± 690 volts and 60 ± 6.75 Hz, with voltage stabilizing to 6900 ± 276 volts and frequency stabilizing to 60 ± 0.48 Hz within 10 seconds without any safety-related load tripping out or operating in a degraded condition.
3. ~~During shutdown, verifying~~ that the load sequencing timer is OPERABLE with the interval between each load block within 10% of its design interval.
4. ~~During shutdown, simulating a~~ loss of offsite power by itself~~, and~~:

[1]Verifying

[2]Verifying

[3]Verifying on an actual or simulated

signal

ADD:

[1] This Surveillance shall not normally be performed in MODE 1 or 2. However, this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.

[2] This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.

[3] This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, portions of this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.

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

SURVEILLANCE REQUIREMENTS (Continued)

4.8.1.1.2 (Continued)

a) ~~Verifying de-energization~~ De-energization of the emergency buses and load shedding from the emergency buses.

b) ~~Verifying the~~ The diesel starts** on the auto-start signal, energizing the emergency buses with permanently connected loads in less than or equal to 10 seconds, energizing the auto-connected shutdown loads through the load sequencer, and operating for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization of these loads, the steady-state voltage and frequency shall be maintained at 6900 ± 276 volts and 60 ± 0.48 Hz.

5. ~~During shutdown, verifying~~ [1]Verifying that on an actual or simulated ~~a~~ safety injection ~~test~~ signal (without loss of power) the diesel generator starts** on the auto-start signal and operates on standby for greater than or equal to 5 minutes.

6. ~~During shutdown, simulating a~~ [3]Verifying on an actual or simulated loss of offsite power in conjunction with ~~a~~ safety injection ~~test~~ signal~~, and~~ :

a) ~~Verifying de-energization~~ De-energization of the emergency buses and load shedding from the emergency buses.

b) ~~Verifying the~~ The diesel starts** on the auto-start signal, energizing the emergency buses with permanently connected loads in less than or equal to 10 seconds, energizing the auto-connected emergency (accident) loads through the sequencing timers, and operating for greater than or equal to 5 minutes and maintaining the steady-state voltage and frequency at 6900 ± 276 volts and 60 ± 0.48 Hz.

c) DELETED

ADD:

[1] This Surveillance shall not normally be performed in MODE 1 or 2. However, this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.

[3] This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, portions of this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.

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

SURVEILLANCE REQUIREMENTS (Continued)

4.8.1.1.2 (Continued)

7. Verifying the diesel generator operates** for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to 6800-7000 kW*** and, during the remaining 22 hours of this test, the diesel generator shall be loaded to an indicated 6200-6400 kW***.

[2]Verifying

8. DELETED

9. ~~During shutdown, verifying~~ the diesel generator's capability to:

   a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power,

   b) Transfer its loads to the offsite power source, and

   c) Proceed through its shutdown sequence.

[1]Verifying

10. DELETED

11. ~~During shutdown, verifying~~ the generator capability to reject a load of between 6200 and 6400 kW without tripping. The generator voltage shall not exceed 8280 volts during and following the load rejection~~;~~ .

[3]Verifying

12. ~~During shutdown, verifying~~ that, with the diesel generator operating in a test mode and connected to its bus, a simulated Safety Injection signal overrides the test mode by: (1) returning the diesel generator to standby operation and (2) automatically energizing the emergency loads with offsite power.

an actual or

ADD:

[1] This Surveillance shall not normally be performed in MODE 1 or 2. However, this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.

[2] This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.

[3] This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, portions of this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.

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

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

SURVEILLANCE REQUIREMENTS (CONTINUED)

4.8.1.1.2 (Continued)

[1]Verifying

13. ~~During shutdown, verifying~~ that all diesel generator trips, except engine overspeed, loss of generator potential transformer circuits, generator differential, and emergency bus differential are automatically bypassed on a simulated or actual loss of offsite power signal in conjunction with a safety injection signal.

Verifying

kW

Hz

14. ~~During shutdown, verifying~~ that within 5 minutes of shutting down the EDG, after the EDG has operated for at least 2 hours at an indicated load of 6200-6400 ~~kw~~, the EDG starts and accelerates to a steady-state voltage and frequency of 6900 ± 276 volts and 60 ± 0.48 ~~hz~~ in 10 seconds or less.

g. At the frequency specified in the Surveillance Frequency Control Program or after any modifications which could affect diesel generator interdependence by starting** both diesel generators simultaneously~~, during shutdown,~~ and verifying that both diesel generators accelerate to at least 450 rpm in less than or equal to 10 seconds.

from standby condition

h. At the frequency specified in the Surveillance Frequency Control Program by:

1) DELETED.

2) Performing a pressure test, of those isolable portions of the diesel fuel oil piping system designed to Section III, subsection ND of the ASME Code, at a test pressure equal to 110% of the system design pressure.

ADD:

[1] This Surveillance shall not normally be performed in MODE 1 or 2. However, this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.

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

No change proposed to this page. Included for information only.

LIMITING CONDITION FOR OPERATION

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

a. 125-volt Emergency Battery Bank 1A-SA and either full capacity charger, 1A-SA or 1B-SA, and,

b. 125-volt Emergency Battery Bank 1B-SB and either full capacity charger, 1A-SB or 1B-SB.

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

ACTION:

With one of the required D.C. electrical sources inoperable, restore the inoperable D.C. electrical source to OPERABLE status within 2 hours or in accordance with the Risk-Informed Completion Time Program or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.1 Each 125-volt Emergency Battery and charger shall be demonstrated OPERABLE:

a. At the frequency specified in the Surveillance Frequency Control Program by verifying that:

1. The parameters in Table 4.8-2 meet the Category A limits, and

2. The total battery terminal voltage is greater than or equal to 129 volts on float charge.

b. At the frequency specified in the Surveillance Frequency Control Program and within 7 days after a battery discharge with battery terminal voltage below 110 volts, or battery overcharge with battery terminal voltage above 150 volts, by verifying that:

1. The parameters in Table 4.8-2 meet the Category B limits,

2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150×10^{-6} ohm, and

3. The average electrolyte temperature of 10 connected cells is above 70° F.

SURVEILLANCE REQUIREMENTS (CONTINUED)

c. At the frequency specified in the Surveillance Frequency Control Program by verifying that:

1. The cells, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration,
2. The cell-to-cell and terminal connections are clean, tight, and coated with anticorrosion material,
3. The resistance of each cell-to-cell and terminal connection is less than or equal to 150 x 10^{-6} ohm, and
4. The battery charger will supply at least 150 amperes at greater than or equal to 125 volts for at least 4 hours.

ADD: #

d. At the frequency specified in the Surveillance Frequency Control Program~~, during shutdown,~~ by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for the design duty cycle when the battery is subjected to a battery service test;

ADD: #

e. At the frequency specified in the Surveillance Frequency Control Program~~, during shutdown,~~ by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. At the frequency specified in the Surveillance Frequency Control Program, this performance discharge test may be performed in lieu of the battery service test required by Specification ~~4.8.2.1d~~.; and

Replace with: 4.8.2.1.d

ADD: #

f. At least once per 18 months~~, during shutdown,~~ by giving performance discharge tests of battery capacity to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 90% of the manufacturer's rating.

ADD:

This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, portions of this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.