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August 31, 2009

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555-0001

Subject: Duke Energy Carolinas, LLC
Oconee Nuclear Site, Units 1, 2, and 3
Docket Numbers 50-269, 50-270, and 50-287
License Amendment Request to Amend Technical Specification Required Action to
Permit Replacement of the 230 kV 125 Volt Switchyard Batteries
License Amendment Request No. 2006-20

Duke Energy Carolinas, LLC (Duke) hereby submits a license amendment request (LAR) for the Oconee Nuclear Station (ONS) Renewed Facility Operating License (FOL) pursuant to 10 CFR 50.90. The proposed amendment requests a change to Technical Specification (TS) 3.8.3, "DC Sources – Operating," Required Action D.1 to allow one of the two required 230 kV switchyard 125 VDC power sources (batteries) to be inoperable for up to ten (10) days for the purpose of replacing an entire battery bank and performing the required testing.

The batteries are approaching their end of life, and it will be necessary to replace the existing 230 kV switchyard 125 VDC batteries. Since it is expected that the replacement batteries will reach the end of their 20 year qualified life prior to the expiration of the ONS Renewed FOLs in 2033 and 2034, Duke anticipates that at least one additional replacement of both batteries will be required. Future performance issues that may require battery replacement prior to end of qualified life could also result in use of this provision. Therefore, Duke is requesting that this change be made permanent to permit future battery replacements and avoid the need for additional License Amendment Requests (LARs).

The existing 230 kV switchyard batteries were installed in 1992. Since TS requires both batteries to be operable and since the 230 kV switchyard DC system does not have a swing battery, a one-time TS amendment was requested and approved by the NRC in a Safety Evaluation dated August 26, 1992 to permit the battery and associated distribution panels to be inoperable for up to seven days for installation of a different battery and work on the associated distribution centers. This request is for a completion time of ten days to ensure that there is sufficient time to remove the existing battery; inspect, repair, or replace the battery rack; and install, charge, test, and recharge a new battery in accordance with the revised TS and the current procedural requirements. Additional time is being requested beyond the estimated completion

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time to ensure the work can be performed within the allowed time if contingencies were to arise.

The proposed change will not result in an undue risk to the health and safety of the public. There are no significant hazards considerations related to the proposed change. Also, no changes to the Updated Final Safety Analysis Report are required.

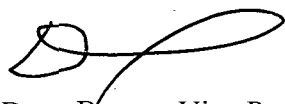
In accordance with Duke administrative procedures and the Quality Assurance Program Topical Report, these proposed changes have been reviewed and approved by the Oconee Plant Operations Review Committee and the Nuclear Safety Review Board. Additionally, a copy of this LAR is being sent to the State of South Carolina in accordance with 10 CFR 50.91 requirements.

No commitments are being made as a result of this amendment. Duke is requesting NRC review and approval of this LAR by August 31, 2010 to permit battery replacement prior to the end of qualified life.

Inquiries on this proposed amendment request should be directed to Sandra Severance of the Oconee Regulatory Compliance Group at (864) 873-3466.

I declare under penalty of perjury that the foregoing is true and correct. Executed on August 31, 2009.

Sincerely,



Dave Baxter, Vice President
Oconee Nuclear Site

Enclosures:

1. Evaluation of Proposed Change

Attachments:

1. Technical Specifications and Bases Changes – Printed Pages
2. Technical Specifications and Bases Changes – Mark Up

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bc w/enclosures and attachments:

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ENCLOSURE

EVALUATION OF PROPOSED CHANGE

Subject: License Amendment Request to Amend Technical Specification Required Action to
Permit Replacement of the 230 kV Switchyard 125 Volt Batteries

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1.0 DESCRIPTION

Duke has concluded that replacement of both 230 kV switchyard batteries is required. In accordance with current Technical Specifications (TS) 3.8.3 Condition D, the Completion Time (CT) for a single 230 kV switchyard battery to be inoperable is 24 hours. The note for Condition D permitting a battery to be out of service for up to 72 hours to perform an equalizing charge after completion of a performance test or service test does not permit a battery to be taken out of service for other purposes. The existing TS only provides 24 hours for one battery to be taken out of service which is not enough time to remove the existing battery; inspect, repair, or replace the battery rack; and install, charge, test, and recharge a new battery.

Therefore, TS changes are needed to allow for battery replacement. Duke requests NRC review and approval by August 31, 2010.

2.0 PROPOSED CHANGE

This request proposes to amend the Oconee Nuclear Station (ONS) Technical Specifications (TS) 3.8.3, “DC Sources – Operating,” to add an additional note to the Required Action for Condition D to allow one of the two required 230 kV switchyard 125 VDC power sources (battery SY-1 or SY-2) to be out of service for up to ten (10) days to replace a battery bank and perform the maintenance and surveillance testing required to return the battery bank to service.

Since the replacement batteries will reach the end of their 20 year qualified life prior to the expiration of the ONS Renewed FOL in 2033 and 2034, at least one additional battery replacement is anticipated. Therefore, Duke is requesting that this change be made permanent to avoid the need for additional similar LARs for this purpose.

Although the current plans are to replace the 230 kV Switchyard battery banks with all new battery cells of the same model, the proposed change does not limit future battery replacement if it becomes necessary to replace the battery with one of a different type or from a different vendor or if battery performance issues arise requiring replacement prior to end of qualified life.

3.0 BACKGROUND

The 230 kV switchyard has two independent 125 VDC power systems that provide power to the switchyard circuit breakers, protective and control relays, indicating lights, annunciators, carrier equipment, and other switchyard equipment requiring an uninterruptible power source.

The 230 kV switchyard batteries were replaced in 1992, and a one-time TS amendment was approved by the NRC in a letter dated August 26, 1992. The 1992 TS amendment permitted the batteries and associated distribution panels to be inoperable for up to seven days for installation of a different battery and other work on the associated distribution centers.

The 230 kV switchyard batteries are within the scope of the ONS Battery Discharge Testing Program and undergo periodic service and performance tests. The service test is designed to verify that the battery has sufficient capacity to meet the design basis battery duty cycle. The performance test is designed to determine battery capacity losses due to normal aging processes or other degradation mechanisms and to plan for battery replacement before battery capacity is reduced to an unacceptable level. Based on the most recent service and performance battery capacity tests, the existing batteries are capable of performing their design basis function. However, these batteries need to be replaced prior to the end of their 20 year qualified life in 2012.

Additionally, the replacement batteries will reach the end of their 20 year qualified life prior to the expiration of the ONS renewed license. Therefore Duke is requesting that this change be made permanent to permit future battery replacements and avoid the need for additional LARs.

4.0 TECHNICAL ANALYSIS

Each 230 kV switchyard 125 VDC system consists of a 125 VDC battery, battery charger, distribution center and panelboards, along with the associated control equipment and interconnecting cabling (Figure 1). Each battery is located in a separate room, and the associated battery chargers, distribution centers, and panelboards are installed on different walls of the 230 kV switchyard relay house. Additionally, a third standby battery charger is available to maintain battery float voltage when a normal battery charger is out of service.

A bus tie with breakers is provided between the distribution centers associated with each battery. The bus tie breakers allow a battery to be removed from service for maintenance or testing while its associated panelboards are powered from the other in-service DC system.

One battery supplies power through panelboards for primary control and protective relaying, and the second battery supplies power through panelboards for backup control and protective relaying. Dual feeds from the redundant panelboards are provided to each switchyard power circuit breaker (PCB) for closing and tripping control. Separate dual trip coils are provided for each PCB. Isolating diodes are provided for the redundant power feeds to the common closing coil circuit.

During normal operation, the 230 kV switchyard 125 VDC loads are powered from the battery chargers while maintaining the battery on float charge. Each charger has sufficient capacity for the steady state operation of connected loads required for normal operation while maintaining its battery bank in a fully charged state.

As discussed in Section 3.0, the NRC granted a one-time change in 1992 permitting one of the two 230 kV Switchyard batteries to be out of service for seven days for battery replacement. Approval of that change occurred under the Oconee custom technical specifications and the original plant license. Since that time Duke has been granted renewed operating licenses for Oconee and has implemented a conversion to the Improved Technical Specifications (ITS). With one of the 230 kV switchyard 125 VDC batteries out of service (LCO 3.8.3 not met), the ITS impose additional restrictions in TS 3.8.1, “AC Sources – Operating”. The Completion Times for TS 3.8.1 are reduced in Condition L by reference to TS 3.8.3 not being met with one 230 kV 125 VDC battery out of service.¹

Removing one of the two 230 kV switchyard 125 VDC batteries for replacement will not adversely affect the DC system except that the battery component of the 230 kV Switchyard DC system will not be single failure proof while the redundant battery is inoperable. Duke has determined that, during design basis events resulting in the loss of battery charger power, a single battery has sufficient capacity to supply uninterrupted power to both DC systems.

To support this position, an evaluation was conducted to determine the worst case load profile for the 230 kV Switchyard 125 VDC Control system, the minimum battery terminal voltage of the system during worst case operating conditions, and the worst case load voltage during the same conditions for both circuit breakers and relay loads. During this evaluation the following assumptions were established:

1. Loads such as relay coils, trip coils, and lights are resistive loads. The current required by these loads is assumed to vary directly with voltage.
2. Only one of the two batteries is operable, the operable battery has 58 out of 60 cells operable, and the two distribution centers are tied together.

¹ With one switchyard battery out of service and a Keowee Hydro Unit (KHU) or its required overhead power path inoperable for more than 72 hours, TS 3.8.1 Condition C.2.2.3 could not be met. TS 3.8.1 Condition L would be entered, with a four hour completion time, which also could not be met. Finally, TS 3.8.1 Condition M would be entered to begin shutdown of all three units. Likewise, during battery replacement, if both KHUs or their required power paths became inoperable for greater than one hour or if one or both required offsite AC power sources became inoperable for greater than one hour, all three units would be required to enter the shutdown requirements of Condition M within 4 hours.

3. The steady-state battery loads are the measured values obtained in support of this calculation.
4. All cables connecting the batteries with the distribution centers and the distribution centers with the panelboards are the same length for both strings of the system.
5. Calculations assume aging factor of 1.25 and temperature factor of 1.11. Load growth is accounted for by 10% load growth for steady-state loads and by including future PCB additions.
6. Connection diagrams, CO-600 cable sheets, layout drawings, and walkdowns are used to determine approximate cable lengths for each circuit. Conductor temperature of 90°C is used to determine cable resistance for added conservatism. Most cables are loaded far less than their 90°C rating.

Methodology: The evaluation then calculates the load profile for the 125 VDC system. The load profile consists of three distinct time periods: 0-1 minute, 1-59 minutes, and 59-60 minutes. The load profile for this evaluation includes a postulated switchyard isolate as the initiating event. The first minute loads are based on Power Circuit Breaker (PCB) operations and normal loads. This period is required for the 125 VDC System to perform its safety-related function. The following 58 minutes consist of normal switchyard loading. The 59-60 minute load consists of a postulated differential actuation of the non-safety switchyard bus and resulting bus lockout. The load profile for the non-safety switchyard bus lockout is conservatively calculated by assuming that the switchyard isolate has been reset and all PCBs have been closed.

The battery voltage profile is then determined for each period of the load profile. This voltage profile is based upon the assumption that one battery is inoperable and that the two distribution centers are tied to one battery, presenting the worst case load for the switchyard batteries.

Conclusion: The conclusion of the evaluation is that the load terminal voltages are adequate to ensure that the 230 kV Switchyard 125 VDC system will perform its design basis function under worst case load conditions (i.e., with one battery inoperable and the two distribution centers tied to one battery).

During the planned battery replacement, the loss of the remaining in-service battery would not immediately result in operation or miss-operation of switchyard equipment due to loss of DC power; however, the following switchyard functions would be affected:

1. 230 kV switchyard breaker indication and control (both onsite and offsite) and

protective relaying would be lost. The switchyard could not isolate a transmission line fault and generators could not be isolated from the grid in the event of a trip. Automatic fault and event recorders will be lost.

2. The Keowee overhead power path capability to feed ONS auxiliary loads will be unavailable due to loss of switchyard Yellow Bus isolation.
3. Degraded Grid isolation capability will be lost. ONS auxiliary loads will not be isolated at the normal setpoint from a degraded grid. Keowee will not autostart at initiation of a LOOP; however, after a 20 second delay, automatic start of Keowee using the Main Feeder Bus Monitor Panel (MFBM) Panel would occur.

The following functions would still be available after loss of 230 kV switchyard DC power:

1. The Keowee underground power path would be operable and function normally.
2. The Keowee Unit aligned to the overhead power path would be available to be manually aligned to the underground path.
3. The Lee Combustion power path through transformer CT-5 and the SL breakers would function normally.
4. The SSF and associated systems would function normally.
5. EPSL, undervoltage sensing, load shed, transfers, Keowee emergency start, N/E/S breakers would operate normally since they use a different DC power source (i.e., non-230 kV switchyard).
6. Provided the switchyard PCBs were in their normal closed state prior to loss of 230 kV switchyard DC power, offsite power would remain available to the ONS auxiliaries via the switchyard and CT-1/2/3 transformers.

Duke's risk management processes require administrative controls and additional oversight of risk significant activities at Duke nuclear sites. The strictest controls are required for infrequently performed tests and evolutions. The Plant Operations Review Committee (PORC) is responsible for final review of the management oversight plans associated with infrequently performed tests and evolutions and of critical activity plans. The 230 kV Switchyard 125 V Battery Replacement will be controlled by a Critical Evolution Plan, thus it will receive increased management oversight including PORC review and approval prior to implementation.

Based on the 1992 battery replacement and a plan developed by Site personnel, Duke

believes that ten (10) days provides sufficient time to replace a battery and perform the required tests necessary to return the battery to service. Ten days also includes sufficient time to inspect and complete any necessary maintenance, repairs, or replacement of the battery racks.

This change permits replacement of the 230 kV Switchyard Batteries to be undertaken under the normal plant maintenance or modification processes to restore the full capability and renew the expected design life of these batteries and assure their reliability. Permitting battery replacement without shutting down the plant eliminates those minimal risks that are associated with even a normal plant shutdown.

Because the ONS Switchyard batteries are not modeled in the PRA, the PRA relies on industry historical data. It is, therefore, difficult to quantify the importance of the switchyard batteries with typical metrics such as Core Damage Frequency (CDF). However, a qualitative evaluation has determined that there is minimal risk impact from taking one switchyard battery out of service for up to 10 days.

This activity will be managed in accordance with 10 CFR 50.65 a(4). No discretionary maintenance or testing will be performed in the switchyard during this work evolution. Additionally, surveillances on the remaining 230 kV switchyard 125 VDC battery equipment will be conducted prior to the initiation of the replacement activity, and the health of the remaining battery will be monitored during the replacement activity.

Duke has concluded that no commitments are needed to implement the changes requested by this LAR.

5.0 REGULATORY SAFETY ANALYSIS

5.1 No Significant Hazards Consideration

Pursuant to 10 CFR 50.91, Duke has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

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

No. This License Amendment Request (LAR) proposes to permit one of the two 230 kV switchyard 125 VDC batteries to be out of service for up to ten days when it is necessary to replace and test a complete battery (all cells of one battery bank). The capacity of each battery, needing only 58 of 60 cells to be

available (i.e., two cells can be jumpered out), is sufficient to carry the loads of both distribution centers during replacement.

The 230kV switchyard 125 VDC power system is credited to provide uninterrupted power to specified loads during certain design basis events. The probability of any of these events occurring is not impacted by removing one of the batteries for replacement. The consequences associated with permitting a 230 kV switchyard 125 VDC battery to be out of service for up to ten days for battery replacement have been evaluated. The likelihood of an event occurring during the additional time a battery bank will be out of service is essentially the same as that of an event occurring during the 24 hour period permitted by the existing completion time. Operation in accordance with the amendment authorizing this change would not involve any accident initiation sequences or radiological release pathways that could affect the consequences of any accident analyzed. Use of this additional time for battery replacement will be infrequent since battery replacement normally is performed at or near the end of the twenty year qualified life.

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

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

No. This License Amendment Request (LAR) proposes to permit one of the two 230 kV switchyard 125 VDC batteries to be out of service for up to ten days when it is necessary to replace and test a complete battery (all cells of one battery). Operation in accordance with this proposed amendment will not result in any new plant equipment, alter the present plant configuration, nor adversely affect how the plant is currently operated.

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

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

No. This License Amendment Request (LAR) proposes to permit one of the two 230 kV switchyard 125 VDC batteries to be out of service for up to ten days when it is necessary to replace and test a complete battery (all cells of one battery).

Since the proposed change will not physically alter the present plant

configuration nor adversely affect how the plant is currently operated, the proposed change does not adversely affect any plant safety limits, setpoints, or design parameters. The change also does not adversely affect the fuel, fuel cladding, Reactor Coolant System or containment integrity.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, Duke concludes that this 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.

5.2 Applicable Regulatory Requirements/Bases

The Oconee 230 kV Switchyard was designed to meet the AEC General Design Criteria for Nuclear Power Plant Construction Permits proposed for 10 CFR 50 Rulemaking published on July 11, 1967. Criterion 39 - Emergency Power for Engineered Safety Features states: “Alternate power systems shall be provided and designed with adequate independency, redundancy, capacity, and testability to permit the functioning required of the engineered safety features. As a minimum, the on-site power system and the off-site power system shall each, independently, provide this capacity assuming a failure of a single active component in each power system.” The Oconee electrical systems meet the intent of this criterion as discussed in the Oconee Updated Final Safety Analysis Report (UFSAR). This change permits normal plant maintenance activities (battery replacement) to be undertaken which preserve the licensed design capability of the Oconee electrical system and do not involve a design change.

5.3 Oconee Precedent

The 230 kV switchyard batteries were replaced in 1992, and a one-time TS amendment was approved by the NRC in a letter dated August 26, 1992 (Reference 2). The 1992 TS amendment permitted the batteries and associated distribution panels to be inoperable for up to seven days for installation of a different battery and other work on the associated distribution centers. This request is for a completion time of ten days. Additional time is being requested beyond the estimated completion time to ensure the work can be performed within the allowed time if contingencies were to arise. Since the replacement batteries will reach the end of their qualified life prior to the expiration of the ONS renewed license, Duke is requesting that this change be made permanent to permit future battery replacements without the need for additional LARs.

5.4 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.

6.0 ENVIRONMENTAL CONSIDERATION

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

7.0 REFERENCES

1. Duke Power letter "230 kV Switchyard Batteries, Proposed Revision to Technical Specifications," dated May 20, 1992.
2. NRC letter; "Issuance of Amendments – Oconee Nuclear Station Units 1, 2, and 3 (TACs M83551, M83552, and M83553)," dated August 26, 1992.

Figure 1
230 kV Switchyard 125 VDC Battery

230 KV SWITCHYARD BATTERIES AND CHARGERS

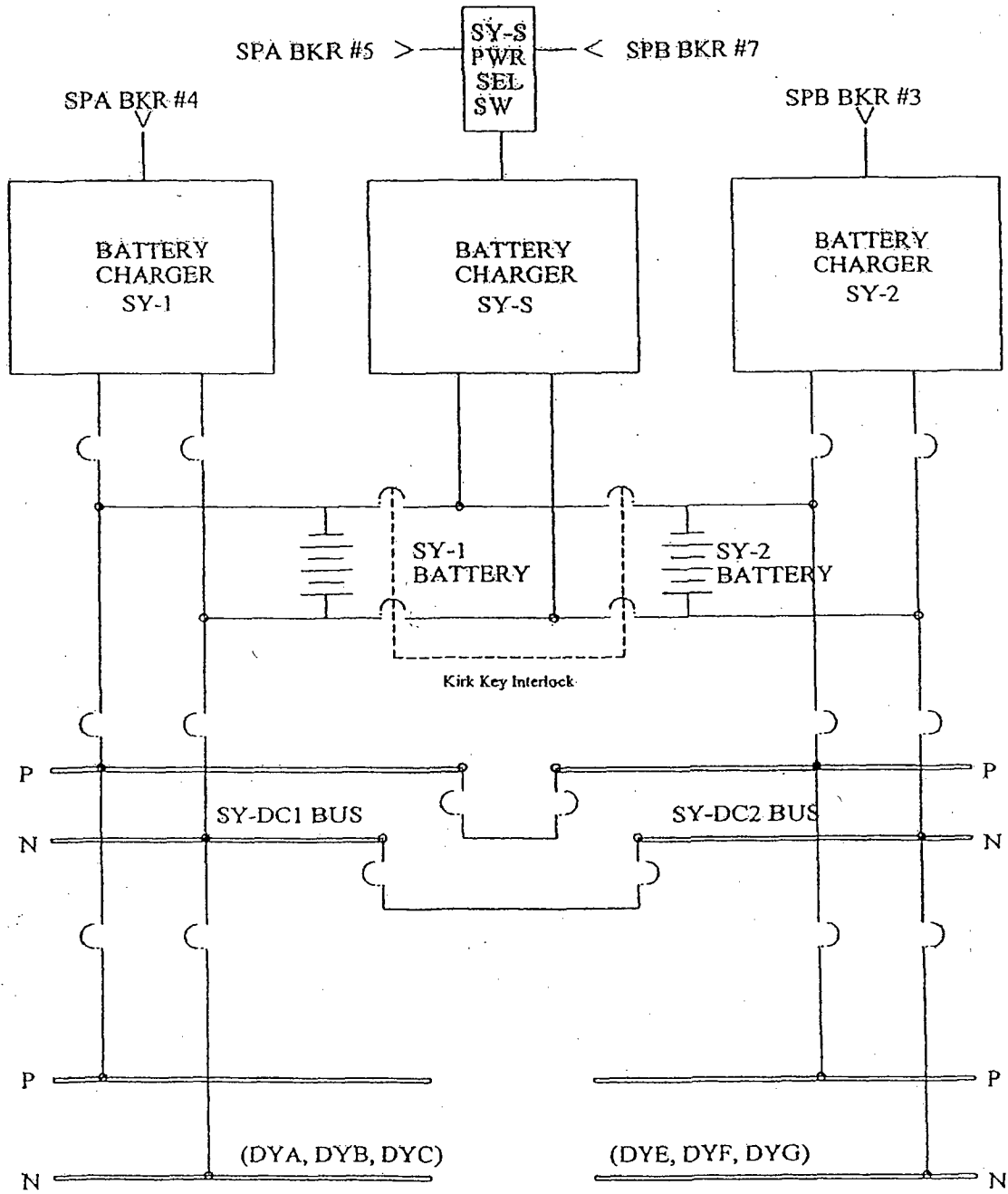


FIGURE 1

ATTACHMENT 1

TECHNICAL SPECIFICATIONS AND BASES CHANGES – PRINTED PAGES

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. One 230 kV switchyard 125 VDC power source inoperable.</p>	<p>D.1</p> <p>-----NOTES-----</p> <p>1. Not applicable for up to 72 hours to perform equalization charge after completion of a performance or service test.</p> <p>2. Not applicable for up to 10 days to replace entire battery bank and perform required tests to restore operability.</p> <p>-----</p> <p>Restore power source to OPERABLE status.</p>	<p>24 hours</p>
<p>E. Required Action and Associated Completion Time not met.</p>	<p>E.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>E.2 Be in MODE 5.</p>	<p>12 hours</p> <p>84 hours</p>

BASES

ACTIONS
(continued)

D.1

With one of the required 230 kV switchyard DC power sources inoperable, the remaining source is fully capable of providing adequate voltage to the associated panelboards and is fully capable of powering the necessary panelboards. However, another failure of a DC source or panelboard could result in failure of the overhead emergency power path. In addition, in the event of grid voltage degradation the station and onsite emergency power sources could fail to separate from the grid. Therefore, the inoperable source must be restored to OPERABLE status within 24 hours. Required Action D.1 is modified by a Note indicating that it is not applicable for up to 72 hours to perform an equalization charge after completion of a performance test or service test. This note allows a maximum Completion Time of 96 hours (24 hours for an inoperable battery due to performing a service test plus 72 hours to perform equalization charge). Required Action D.1 is modified by a second Note indicating that it is not applicable for up to 10 days for replacement of an entire battery bank and the performance of necessary tests to restore the battery to service.

The Completion Time for this Required Action is based on engineering judgment, taking into consideration the extent of degradation involved, the likelihood of events or failures which could challenge the system, and the time required to complete the required actions.

E.1 and E.2

If the inoperable DC electrical power source cannot be restored to OPERABLE status within the required Completion Time, the unit must be brought to a MODE in which the LCO does not apply. To achieve this status, the unit must be brought to at least MODE 3 within 12 hours and to MODE 5 within 84 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE
REQUIREMENTS

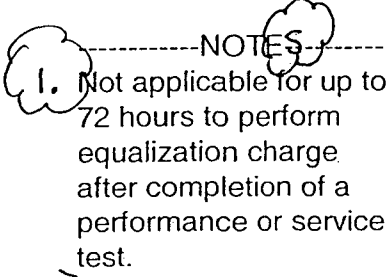
SR 3.8.3.1

This Surveillance verifies that the distribution centers are functioning properly, with the correct circuit breaker alignment to the isolating transfer diodes. The correct breaker alignment ensures the appropriate separation and independence is maintained, and the appropriate voltage is available to each required isolating transfer diode. The verification of

ATTACHMENT 2

TECHNICAL SPECIFICATIONS AND BASES CHANGES – MARKUP

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. One 230 kV switchyard 125 VDC power source inoperable.</p>	<p>D.1 -----NOTES-----  ----- Restore power source to OPERABLE status.</p>	<p>24 hours</p>
<p>E. Required Action and Associated Completion Time not met.</p>	<p>E.1 Be in MODE 3. <u>AND</u> E.2 Be in MODE 5.</p>	<p>12 hours 84 hours</p>

2. Not applicable for up to 10 days to replace entire battery bank and perform required tests to restore operability.

Amendment Nos. ~~300~~, ~~300~~, & ~~300~~

BASES

ACTIONS
(continued)

Required Action D.1 is modified by a second Note indicating that it is not applicable for up to 10 days for replacement of an entire battery bank and the performance of necessary tests to restore the battery to service.

D.1

With one of the required 230 kV switchyard DC power sources inoperable, the remaining source is fully capable of providing adequate voltage to the associated panelboards and is fully capable of powering the necessary panelboards. However, another failure of a DC source or panelboard could result in failure of the overhead emergency power path. In addition, in the event of grid voltage degradation the station and onsite emergency power sources could fail to separate from the grid. Therefore, the inoperable source must be restored to OPERABLE status within 24 hours. Required Action D.1 is modified by a Note indicating that it is not applicable for up to 72 hours to perform an equalization charge after completion of a performance test or service test. This note allows a maximum Completion Time of 96 hours (24 hours for an inoperable battery due to performing a service test plus 72 hours to perform equalization charge).

The Completion Time for this Required Action is based on engineering judgment, taking into consideration the extent of degradation involved, the likelihood of events or failures which could challenge the system, and the time required to complete the required actions.

E.1 and E.2

If the inoperable DC electrical power source cannot be restored to OPERABLE status within the required Completion Time, the unit must be brought to a MODE in which the LCO does not apply. To achieve this status, the unit must be brought to at least MODE 3 within 12 hours and to MODE 5 within 84 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE
REQUIREMENTS

SR 3.8.3.1

This Surveillance verifies that the distribution centers are functioning properly, with the correct circuit breaker alignment to the isolating transfer diodes. The correct breaker alignment ensures the appropriate separation and independence is maintained, and the appropriate voltage is available to each required isolating transfer diode. The verification of