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PSEG
Nuclear LLC

JUN 2 5 2010

10 CFR 50.90

LR-N10-0227

United States Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Salem Generating Station –Unit 2
Facility Operating License No. DPR 75
NRC Docket No. 50-311

Subject: **Response to Request for Additional Information - License Amendment Request: One-Time On-Line Safety-Related Battery Replacement**

References: (1) Letter from PSEG to NRC, " License Amendment Request: One-Time On-Line Safety-Related Battery Replacement," dated March 29, 2010

In Reference 1, PSEG Nuclear LLC (PSEG) submitted a license amendment request (S10-03) for the Salem Generating Station – Unit 2. This license amendment request proposed changes to Technical Specification (TS) Surveillance Requirements (SR) to allow a one-time replacement of the Salem Unit 2 2C 125VDC battery while at power. Specifically, SR 4.8.2.3.2 f and g would be revised, on a one time basis, to permit battery testing in a non-shutdown condition. The proposed one-time change is necessary to support the on-line replacement of the existing 2C battery with a new battery tested in accordance with the SR 4.8.2.3.2 f and g.

The NRC provided PSEG a Request for Additional Information (RAI) on the license amendment request. The NRC RAI questions and the PSEG responses are provided in Attachment 1 to this letter. Attachment 2 to this letter provides additional proposed changes to the Salem Unit 2 TSs.

PSEG has reviewed the information supporting a finding of no significant hazards consideration that was provided in Reference 1. The additional information provided in this submittal does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. No new regulatory commitments are established by this submittal.

Should you have any questions regarding this submittal, please contact Mr. Jeff Keenan at (856) 339-5429.

A001
NRR

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

Executed on JUN 2 5 2010
(Date)

Sincerely,

Carl J. Fricker
Site Vice President - Salem

Attachments (2)

CC

S. Collins, Regional Administrator - NRC Region I
R. Ennis, Project Manager - USNRC
NRC Senior Resident Inspector - Salem
P. Mulligan, Manager IV, NJBNE
Commitment Coordinator – Salem
PSEG Corporate Commitment Manager

REQUEST FOR ADDITIONAL INFORMATION

REGARDING PROPOSED LICENSE AMENDMENT

ONE-TIME ON-LINE BATTERY REPLACEMENT

SALEM NUCLEAR GENERATING STATION, UNIT NO. 2

DOCKET NO. 50-311

By letter dated March 29, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML100970064), PSEG Nuclear LLC (the licensee) submitted an amendment request for Salem Nuclear Generating Station (Salem), Unit No. 2. The proposed amendment would revise the Technical Specifications (TSs) to allow a one-time replacement of the 2C 125-volt direct current (VDC) battery while Salem Unit 2 is at power.

The Nuclear Regulatory Commission staff has reviewed the information the licensee provided that supports the proposed amendment and has made a Request For Additional Information (RAI) in order to complete its review.

Question 1 *Provide the actual service life of the existing 2C battery and the qualified service life of the existing and the new replacement batteries.*

RESPONSE 1

The existing 2C battery was installed in October 2000. As of June 2010, the actual service life of the existing 2C battery is nine years and nine months. The qualified service life of the existing and the new replacement batteries is 20 years. The existing 2C battery will be within the manufacturers qualified service life at the time of replacement.

Question 2 *Discuss, in detail, the failure mechanism of the 2C battery that caused battery degradation. Provide a detailed technical discussion that demonstrates that the same failure mechanism does not apply to the other safety-related batteries, the temporary battery, and the new replacement battery.*

RESPONSE 2

Two potential failure mechanisms have been identified, low initial capacity, and high ambient temperatures.

The history of the 2C battery has been markedly different from the other Salem Unit 2 safety related stationary batteries. All other batteries had initial capacities of 100% or greater. The 2C battery had an initial capacity of 90%. Stationary batteries are often supplied at 90% capacity, with capacity increasing to 100% during the first several years of service; however the manufacturer's data sheet for LCR-33 cells states that the cells are supplied with an initial capacity of 100%. The other Unit 2 safety related stationary batteries have capacities greater than 100% as of the most recent performance test (see response to question 6).

The two cells with the lowest performance test end voltage were removed from the 2C battery and sent to the battery manufacturer for testing. The cells were given a boost charge and floated to stabilization. The cells were tested for capacity and found to be 89.7%and 90.5%. The cells were visually examined by the vendor and no signs of abnormal degradation were found. The vendor also reviewed the temperature history from the quarterly surveillance data and suggested that the elevated temperatures may have reduced the capacity of the battery due to accelerated aging.

Cell electrolyte temperatures greater than 77 degrees Fahrenheit shorten battery life. The temperatures from the battery quarterly surveillances for the 2C battery performed during summer months were generally greater than 90 degrees Fahrenheit and were recorded as high as 100 degrees Fahrenheit. The other Salem Unit 2 batteries have not experienced the elevated temperatures seen by the 2C battery.

An evaluation of the effect of battery temperature on expected battery life was performed. The evaluation was based on IEEE 450-2002, Appendix H, using the most recent 5 years of weekly pilot cell temperature measurements. The temperature adjusted expected life of the original battery was estimated to be greater than 15 years. To provide additional conservatism, only 80% of this life (12 years) will be considered. Based on a 12 year life, the existing 2C battery has more than 2 years of remaining life.

28 cells of the battery were replaced in November 2009. The new cells increased the tested battery capacity from 85.3% to 88.2%. Installing new cells in an older battery can result in premature cell degradation of the new and/or old cells. Degradation occurs when all cells cannot be maintained within the manufacturer's allowable float voltage range. This is because the amount of float voltage developed for a given float current differs between groups of cells and changes over the life of the cells. Since all cells are connected in series, and must have the same float current, the float voltage of some cells may be very high while others may be very low. This results in excessive gassing or sulfation, and premature degradation.

The current 2C battery, with its mix of new and old cells, has all cell float voltages within the manufacturer's allowable range and is therefore not subjected to this premature cell degradation. Battery cell parameters are recorded at an increased frequency of monthly. All cell voltages and specific gravities are recorded and all are within the manufacturer's allowable range and Technical Specification requirements for battery cell parameters.

Based on this, the battery will remain operable until replacement.

Question 3. *Confirm that the plant will be in a stable condition with no Required Actions in effect at the start of the battery replacement activity necessitating plant shutdown and no risk significant, planned maintenance or testing activities which could impact AC or DC normal or emergency electrical distribution sources.*

RESPONSE 3

Prior to entering TS 3.8.2.3 ACTION (a), and when the 2C 125 VDC bus is disconnected from the battery, the plant will be maintained in a stable condition (i.e., no power changes)

and testing activities which could impact AC or DC normal or emergency electrical distribution will be prohibited In addition, the risk of the evolution will be managed in accordance with PSEG's procedures for on-line work management. These procedures determine the actions that need to be taken to manage the overall plant risk during the evolution.

Question 4 *Provide clarification whether the existing 2C battery will be tested and the results recorded for the "As Found" condition before it is replaced.*

RESPONSE 4

Since the existing 2C 125 VDC Battery is known to be degraded and will be replaced there is no requirement or plan to perform any "AS FOUND" testing. Any such testing would not provide any significant operational data and would also add unnecessary time and delays to the overall replacement scheduled window. Two performance discharge tests were recently performed on the battery (October 2009 and November 2009). An additional performance discharge test would not provide information to support failure determination.

Question 5 *The 12-month TS surveillance requirement (SR) frequency prescribed by SR 4.8.2.3.2.h is based on the uncertainty of battery operability given a degraded condition. This basis is supported by IEEE Standard 450, which is the industry consensus document for maintenance and testing of stationary lead-acid batteries. Provide a detailed technical basis for proposing to extend the 12-month test frequency prescribed by SR 4.8.2.3.2.h.*

RESPONSE 5

PSEG intends to replace the existing 2C 125VDC Battery prior to the due date for SR 4.8.2.3.2.h as performance of this SR would require unit shutdown. Consequently SR 4.8.2.3.2.h will not need to be performed as discussed in Section 1.0 of LAR S10-03; by replacing the battery SR 4.8.2.3.2.h will no longer be applicable, instead the replacement (new) battery will need to be tested to SR 4.8.2.3.2 f and g. As discussed in Section 3.2 of LAR S10-03 PSEG chose on-line replacement versus SR testing extension as there was no precedent for testing extension.

Also as discussed in Section 1.0 of LAR S10-03, PSEG intends to complete the replacement by November 2, 2010 (within the 12 calendar month period from when the battery was last tested and determined to be degraded). However, as a contingency, the allowances of TS 4.0.2 may be utilized (allowing a 25% extension to the SR 4.8.2.3.2.h due date), which would allow completion of the replacement to be extended until February 1, 2011. Even if this contingency is used SR 4.8.2.3.2.h will not need to be performed; SR 4.8.2.3.2.h will no longer be applicable and the replacement (new) battery will need to be tested to SR 4.8.2.3.2 f and g. As discussed in the response to question 2, degradation is not an issue for extending the replacement date by 25%.

Question 6 *Provide a summary of the results of the previous capacity tests for the safety-related batteries.*

RESPONSE 6

Below is a summary of the previous capacity tests for Salem Unit 2 125VDC Safety Related Batteries:

2A 125 VDC Battery (Installed 11/2003)

Test Date	Capacity
04/2005	100%
10/2009	100%

2B 125 VDC Battery (Installed 4/2002)

Test Date	Capacity
03/2002	104%
10/2006	106%

2C 125 VDC Battery (Installed 10/2000)

Test Date	Capacity
10/2000	90%
04/2005	96%
10/2009	85.3%
11/2009	88.2%

Question 7 *Describe the design and capability of the temporary battery charger, including how it will be connected to a Class 1E supply. Furthermore, describe how the temporary battery charger will impact the emergency diesel generator loading. Also describe how adequate electrical separation and isolation will be maintained and the capability of the temporary battery charger to respond to a seismic event.*

RESPONSE 7

To clarify the information contained in the March 29, 2010 submittal, the temporary battery will be powered from the existing Class 1E 2C 125VDC battery charger when it is connected to the Class 1E DC bus. Since the existing charger is used there is no additional impact to the 2C diesel loading. The additional cabling used to make the connections to the temporary battery will be installed to meet the Salem electrical separation and Appendix R separation criteria as discussed in Attachment 1 Section 4.2 of the March 29, 2010 submittal. The temporary battery and additional cabling will be seismically installed as discussed in Attachment 1 Section 4.2 and 4.3 of the March 29, 2010 submittal.

When the temporary battery is installed in the 4160 Volt Switchgear room prior to being connected to the Class 1E DC bus, the temporary battery's charge will be maintained through the use of a temporary charger. This temporary charger will be installed in accordance with PSEG procedures for temporary equipment. The temporary charger will be disconnected from the temporary battery prior to connecting the temporary battery to the Class 1E DC bus. The temporary battery charger will not be connected to the Class 1E Bus,

therefore there are no electrical separation or seismic requirements for the temporary battery charger.

Question 8 *Provide a list of loads associated with Circuit 36 of Panel 2CCDC.*

RESPONSE 8

As discussed on page 7 of Attachment 1 of LAR S10-03, there is an existing condition related to Circuit 36:

> "The available voltage at each panel during various periods of battery duty cycle is lower than the calculated voltage from PSEG calculation ES-4.003 due to the addition of the temporary 500 MCM cable to the temporary 2C 125VDC battery. However, this is acceptable since the length of the temporary cable will be sized to ensure that the available voltages at the DC panels are still higher than the required voltages per calculation ES-4.003 with the exception of circuit 36 of Panel 2CCDC. This is an existing condition, which was previously determined to be acceptable in the calculation as this circuit is for annunciation only and is not a safety function."

The components of Circuit 36 are acceptable except for one component, a local annunciation remote auxiliary relay, as identified in the table below. This one component is for non-safety related function; PSEG calculation ES-4.003 previously evaluated the acceptability of this condition.

PANEL 2CCDC, CIRCUIT 36		
COMPONENT ID	**DESCRIPTION**	**AVAILABLE VOLTAGE ACCEPTABLE? YES / NO**
UV-1	Under Voltage Relay	YES
IND. LIGHT	Indicating Light	YES
SV-1418	2C Diesel Generator 23B Starting Air Receiver Booster Rack Solenoid Valve (SV-1418)	YES
SV-889	Air Receiver Solenoid Valve (Full Cycle)	YES
SV-891	Air Receiver Solenoid Valve (3 seconds cycle)	YES
SRB	Auxiliary Start Relay	YES
SV-592	Inlet Valves for Jacket & Lube Oil Coolers	YES
IND. LIGHT	Diesel Jacket & Lube Oil Coolers Supply Valve Indicating Light	YES
SRX	Auxiliary Start Stop Relay	YES
SRAX	Auxiliary Start Stop Relay	YES
DRBX	Auxiliary Man Loading Drop Relay	YES
SPRX	Auxiliary Diesel Ready to Load Relay	YES
OCRX1	Auxiliary Diesel Fail to Start relay	YES
DUTRX	Auxiliary Diesel Unit Trip Relay	YES
LOX	Auxiliary Lockout Relay	YES
70X1X	Auxiliary Diesel Trouble Acknowledge Relays	YES
TAX	Auxiliary Diesel Trouble Acknowledge Relays	YES

PANEL 2CCDC, CIRCUIT 36		
COMPONENT ID	**DESCRIPTION**	**AVAILABLE VOLTAGE ACCEPTABLE? YES / NO**
DTA	Auxiliary Diesel Trouble Acknowledge Relays	YES
23FOS-1	Fuel Oil Day Tank Regular Pump Start	YES
23FOS-2	Fuel Oil Day Tank Backup Pump Start	YES
23FOS-3	Fuel Oil Day Tank Regular Pump Stop	YES
23FOS-4	Fuel Oil Day Tank Level Trouble & Over Flow Trip Pump Stop	YES
IND. LIGHT	RP5 (W) - White Indicating Light	YES
SDR	Shutdown Relay	YES
PS1	2C Diesel Generator 24VDC Power Supply For 1STG Speed Switch	YES
PS2	2C Diesel Generator 24VDC Power Supply For 2STG Speed Switch	YES
PS3	2C Diesel Generator 24VDC Power Supply for Interposing Relays Off 1STG Speed Switch	YES
DTR	Diesel Trouble Local Alarm Reset	YES
LWHR	Water Heater Temperature Low	YES
HWHR	Water Heater Temperature High	YES
JWTR	Jacket Water Temperature High Alarm	YES
JWTHA	Jacket Water Temperature High Alarm Auxiliary	YES
JWTHR	Jacket Water Temperature Shutdown	YES
CWHR	Cooling Water Temperature High	YES
CWLR	Cooling Water Temperature Low	YES
LOHR	Oil Heater Temperature Alarm Low	YES
HOHR	Oil Heater Temperature Alarm High	YES
LOTR	High Lube Oil Temperature Alarm	YES
LOTHR	High Lube Oil Temperature Shutdown	YES
LOTHA	High Lube Oil Temperature Shutdown Auxiliary	YES
CKPR	High Crankcase Pressure	YES
OPRA	Low Oil Pressure Alarm	YES
OPRL	Low Oil Pressure Shutdown	YES
OPRB	Low Oil Pressure Shutdown	YES
SALIR	Start System Low Air Alarm System 1	YES
SALIT	Start System Low Air Alarm System 1	YES
SAL2R	Start System Low Air Alarm System 2	YES
SAL2T	Start System Low Air Alarm System 2	YES
LSPR	Secondary Potential Loss Alarm	YES
OSA	Overspeed Alarm Auxiliary	YES
OSR	Overspeed Alarm	YES
OCR	OverCrank Relay	YES
PLA	Pre-lube Failure Timer Auxiliary	YES
PLT	Pre-lube Failure Timer	YES
NPSR	Negative Phase Sequence Alarm	YES

PANEL 2CCDC, CIRCUIT 36		
COMPONENT ID	**DESCRIPTION**	**AVAILABLE VOLTAGE ACCEPTABLE? YES / NO**
FGR	Field Ground Alarm	YES
OVR	Over Voltage Alarm	YES
SR	Start Relay	YES
SRA	Start Relay Auxiliary	YES
OPRX	Auxiliary Low Oil Pressure Relay Engine Firing	YES
OCRX	Auxiliary OverCrank Alarm	YES
IND. LIGHT	Crankcase High Pressure Indicating Light	YES
TALR	Start System Low Turbo Boost Air Alarm System 1&2	YES
TALT	Start System Low Turbo Boost Air Alarm System 1&2	YES
UV-4	125 VDC Controls Voltage Failure	YES
LIGHT	125 VDC Controls Voltage Failure Indicating Light	YES
ANNUNCIATOR PNL PWR	**Local Annunciator Remote Auxiliary Relay**	**NO**
JWPR1	Jacket Water Pressure	YES
JWPR2	Jacket Water Pressure	YES
RDT	Engine Run Solenoid Time Delay Relay	YES
ERS	Engine Run Solenoid - Energize to Shutdown	YES
OCT1	OverCrank Timer Start System 1	YES
CR1	Crank Control Relay 1	YES
OPT1	Oil Pressure Timer Start System 1	YES
OCT2	OverCrank Timer Start System 2	YES
CR2	Crank Control Relay 2	YES
OPT2	Oil Pressure Timer Start System 2	YES
IND. LIGHTS	DG Supervisory. (W) - White Indicating Light	YES
IND. LIGHT	Indicating Light	YES
SV-1417	2C Diesel Generator 23A Starting Air Receiver Booster Rack Solenoid Valve (SV-1417)	YES
SV-890	Air Receiver Solenoid Valve (Full Cycle)	YES
SV-892	Air Receiver Solenoid Valve (3 seconds cycle)	YES
TVT	Turbo Air Boost Timer	YES
TVR	Turbo Air Valve Control Relay	YES
SV-887	Turbo Air Boost Solenoid Valve System 1	YES
SV-888	Turbo Air Boost Solenoid Valve System 2	YES
HCR	Heater Cutoff Relay	YES
FST	Field Shutdown Timer	YES
SPR	Speed Relay	YES
K4C	Field Control & Flashing Contactors	YES
K1C	Field Control & Flashing Contactors	YES
IND. LIGHT (FFSL)	Field Flash Supervisory Light	YES

PANEL 2CCDC, CIRCUIT 36		
COMPONENT ID	**DESCRIPTION**	**AVAILABLE VOLTAGE ACCEPTABLE? YES / NO**
RMAR	Exciter Regulator Relay	YES
DRA	Drop Relay	YES
DR	Drop Relay	YES
DRB	Drop Relay	YES
BCT	Breaker Closing Timer	YES
IND. LIGHT	Indicating Light	YES
IND. LIGHT	Indicating Light	YES
KWR	Kilowatt Timer	YES
SPV	Field Flash Supervisory Light	YES

Question 9 *Describe how the temporary and the new replacement battery will be preoperational tested in the as-installed configuration consistent with IEEE 308 and Regulatory Guide 1.32.*

RESPONSE 9

As discussed in Section 4.8 of LAR S10-03, Steps A, B, C, D, and E, the following testing will be performed on the temporary and new replacement; this testing is consistent with the guidance of RG 1.32 (IEEE 308), which references RG 1.29 (IEEE 450) for testing requirements:

Prior to installation, the definable performance characteristics of the batteries will be tested as a unit. The batteries will be temporarily interconnected with the same hardware and cable that will be used in their installed configuration. Each battery will have an acceptance test performed in accordance with IEEE 450 by plant procedure SC.MD-FT.125-0003. The acceptance test will be a performance test at the manufacturer's two hour rate. Each battery will be re-charged and remain on float charge until ready for installation.

After installation, with the battery in its installed configuration, the following pre-operational tests will be performed:

- The battery connection resistance (cell connections, inter-rack connections and connection of the 125 VDC bus to the battery) will be tested in accordance with IEEE 450 by plant procedure SC.MD-ST.125-0005.
- The battery cell parameters (intra-cell voltage, electrolyte specific gravity, electrolyte level, and electrolyte temperature) and overall battery voltage on float charge will be tested in accordance with IEEE 450 by plant procedure SC.MD-ST.125-0003.

The proposed testing is consistent with the testing described in the Duane Arnold Amendment 247 (ADAMS ML022280041) precedent cited in LAR S10-03

Question 10. *Limiting condition for operation (LCO) 3.8.2.3 requires that the 2C battery be operable in modes 1 through 4. The proposed amendment would credit operability of a temporary battery during on-line replacement of the existing 2C battery.*

a. Describe how the temporary DC system (i.e., the temporary battery, associated components, connections, ratings, etc.) is identical to the permanent DC system configuration.

b. Propose additional changes to the TSs to make it clear that the LCO requirements are being satisfied by the temporary battery during the 2C battery replacement activities (e.g., footnote to the LCO).

RESPONSE 10

(a) Sections 4.1 through 4.8 of Attachment 1 to the March 29, 2010 submittal describes in detail how the temporary battery is equivalent to the existing 2C battery. As discussed in sections 4.1, 4.3 and 4.8, the battery capacity, minimum and maximum voltage, short circuit current, seismic installation, and testing are identical to the 2C battery specifications and requirements. As discussed in sections 4.2, 4.4, 4.5, 4.6, and 4.7, the following differences were identified and determined to be acceptable to consider the temporary battery as a technical specification equivalent battery for the existing 2C battery:

- Section 4.2 Connections: An additional length of cable will used to connect the temporary battery to the existing leads for the 2C battery. This cable will be seismically mounted and meet the Salem electrical separation requirements and Appendix R separation requirements. The cable length will be sized to ensure acceptable voltage drops to the DC loads.
- Section 4.4 Ventilation: The temporary battery/rack is being seismically mounted to the floor of the 4160 Volt Switchgear Room outside of the existing 2C Battery Room (see Figure 1 of Attachment 1 to the March 29, 2010 submittal). An evaluation of the hydrogen buildup in the 4160 Volt Switchgear Room was performed to determine if the existing ventilation system would maintain hydrogen concentrations below 2%. This evaluation determined that the hydrogen concentration would be well below 2% with the ventilation system operating in the once-through mode (outside air brought into the area and exhausted to the outside). In the event the ventilation system is operated in the recirculation mode, hydrogen concentration would continue to increase. Regardless of ventilation system mode of operation, periodic monitoring of the hydrogen concentration will be performed with appropriate contingency actions. Contingency actions will be established to block open doors and/or use additional ventilation if hydrogen concentration reaches 1%.
- Section 4.5 Missile Hazard: The existing 2C battery is located in its own room inside of the 4160 Volt Switchgear Room. The temporary battery will be located outside the 2C battery room inside the 4160 Volt Switchgear Room. An assessment of internally and externally generated missiles determined that there were no credible missiles that can damage or impair the temporary battery in the proposed location.

- Section 4.6 Fire Protection: Unlike the existing 2C 125VDC battery, it is not possible to place the temporary battery in a separate enclosed room that does not contain other plant equipment. The temporary battery will be located inside the 64 ft elevation 4160 Volt Switchgear room just outside the existing 2C battery room. The 2C battery room is inside the 4160 Volt Switchgear Room. The 4160 Volt switchgear room is separated from other areas of the plant by 3-hour fire walls and with fire doors that are rated at 1-1/2 hours. The 4160V Switchgear Room has a double interlocked pre-action sprinkler system which provides full area coverage. The suppression system is actuated when a signal is received from an ionization (smoke) detector AND a thermal detector along with fused sprinkler heads. The suppression system will remain in service while the temporary battery is connected to the 2C 125VDC bus. In the event of an inadvertent actuation of the sprinkler system over the temporary battery, the temporary battery will be declared inoperable, and LCO 3.8.2.3 ACTION (a) would be applicable. The light standards located above the temporary 2C 125VDC battery will be removed to eliminate an ignition source. The installation of the temporary battery bank and temporary charger creates a slight increase in the combustible loading in the room but remains below 1-1/2 hours. The location of the temporary battery does not alter the safe shutdown analysis or operator response due to a fire in the 4160 Volt Switchgear Room. Periodic monitoring of the hydrogen concentration will be performed with appropriate contingency actions. Contingency actions will be established to block open doors and/or use additional ventilation if hydrogen concentration reaches 1%.
- Section 4.7 Operator Response: The use of the temporary battery will have no adverse impact on operating the plant during normal or emergency operations. Response time for implementation of any abnormal operating procedures or emergency operating procedures will not be impacted by the location of the temporary battery. Due to the temporary battery being located outside the 2C 125V room administrative controls will be established to monitor the 4160 Volt Switchgear area for hydrogen concentration to ensure the concentration remains less than 2%. Contingency actions will be established to block open doors and/or use additional ventilation if hydrogen concentration reaches 1%.

As discussed in response to Question 7, the temporary battery will be connected to the 2C 125VDC existing Class 1E charger when the temporary battery is connected the 2C 125VDC Class 1E bus.

(b) A footnote/* will be added to LCO 3.8.2.3 for TRAIN 2C as follows:

TRAIN 2C consisting of 125-volt D.C. bus No. 2C, 125-volt D.C. battery No. 2C and battery charger 2C1.*

**** During the one-time on-line replacement of station battery 2C, this LCO can be satisfied by a temporary battery as described in PSEG LAR submittal dated March 29, 2010.***

The TS markup is provided in Attachment 2 of this submittal.

TECHNICAL SPECIFICATION PAGES WITH PROPOSED CHANGES

Facility Operating License DPR-75

Technical Specification	Page
3.8.2.3	3/4 8-10

ELECTRICAL POWER SYSTEMS
125-VOLT D.C. DISTRIBUTION - OPERATING
LIMITING CONDITION FOR OPERATION

3.8.2.3 The following D.C. bus trains shall be OPERABLE and energized:

TRAIN 2A consisting of 125-volt D.C. bus No. 2A, 125-volt D.C. battery No. 2A and battery charger 2A1.

TRAIN 2B consisting of 125-volt D.C. bus No. 2B, 125-volt D.C. battery No. 2B and battery charger 2B1.

TRAIN 2C consisting of 125-volt D.C. bus No. 2C, 125-volt D.C. battery No. 2C* and battery charger 2C1.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one 125-volt D.C. bus inoperable or not energized, restore the inoperable bus to OPERABLE and energized 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.

b. With one 125-volt D.C. battery charger inoperable, restore the inoperable charger to OPERABLE status within 2 hours or connect the backup charger for no more than 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With one or more 125-volt D.C. batteries with one or more battery cell parameters not within the Category A or B limits of Table 4.8.2.3-1:

1. Verify within 1 hour, that the electrolyte level and float voltage for the pilot cell meets Table 4.8.2.3-1 Category C limits, and
2. Verify within 24 hours, that the battery cell parameters of all connected cells meet Table 4.8.2.3-1 Category C limits, and
3. Restore battery cell parameters to Category A and B limits of Table 4.8.2.3-1 within 31 days, and
4. If any of the above listed requirements cannot be met, comply with the requirements of action f.

d. With one or more 125-volt D.C. batteries with one or more battery cell parameters not within Table 4.8.2.3-1 Category C values, comply with the requirements of action f.

e. With average electrolyte temperature of representative cells less than 65°F, comply with the requirements of action f.

f. Restore the battery to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

During the one-time on-line replacement of station battery 2C, this LCO can be satisfied by a temporary battery as described in PSEG LAR submittal dated March 29, 2010