ENCLOSURE 3

VOGTLE ELECTRIC GENERATING PLANT
TECHNICAL SPECIFICATION CHANGE
DC SOURCES

MARKED-UP TECHNICAL SPECIFICATION PAGES

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 92 days and within 7 days after a battery discharge with battery terminal voltage below 109.7 volts for trains A&B, 108.3 volts for train C, and 106.2 volts for train D at a battery room minimum temperature of 70°F, or battery overcharge with battery terminal voltage above 140 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 50×10^{-6} ohm, and

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

c. At least once per 18 months 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 50×10^{-6} ohm, and

4) The battery charger will supply at least 400 amperes for system A and B, 300 amperes for system C, and 200 amperes for system D at 125 volts nominally for at least 8 hours.

d. At least once per 18 months, 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;

Replace with Insert

e. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. Once per 60-month interval this performance discharge test may be performed in lieu of the battery service test required by Specification 4.8.2.1d.; and

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.

INSERT FOR PAGE 3/4 8-12

e. By verifying during shutdown, that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test, in accordance with table 4.8-3.

NEW PAGE 3/4 8-13a

Table 4.8-3
Performance Discharge Test Surveillance Requirements

Battery Life	Battery Condition	Performance Test Frequency		
		At Least Once Per 60 Months	At Least Once Per 24 Months	At Least Once Per 12 Months
Battery Life ≤ 85% of Expected Service Life	No Degradation(1)	X(2)		
	Degradation(1)			X(3)
Battery Life > 85% of Expected Service Life	No Degradation(1)		X(4)	
	Degradation(1)			X(5)

1. Degradation is defined as a decrease in battery capacity of more than 10% of capacity from its previous performance test, or the battery capacity is less than 90% of the manufacturer's rating.

2. Once per 60-month interval, this performance discharge test may be performed in lieu of the battery service test required by Specification 4.8.2.1d.

3. The battery can be restored to a 60-month test interval by cell replacement if performance test results indicate that cell replacement will restore the battery to a minimum of 90% of rated capacity with no degradation. Replacement cells must be tested to demonstrate a minimum capacity of 100% of the manufacturer's rating prior to installation.

4. Once per 24-month interval, a modified performance discharge test may be performed in lieu of the battery service test required by Specification 4.8.2.1d. A modified performance discharge test is a test of the battery capacity and its ability to provide a high rate, short duration load (usually the highest rate of the duty cycle).

5. The battery can be restored to a 24-month test interval by cell replacement if performance test results indicate that cell replacement will restore the battery to a minimum of 100% of rated capacity with no degradation. Replacement cells must be tested to demonstrate a minimum capacity of 100% of the manufacturer's rating prior to installation.

TABLE 4.8-2

BATTERY SURVEILLANCE REQUIREMENTS

	CATEGORY A(1)	CATEGORY B(2)	
PARAMETER	LIMITS FOR EACH DESIGNATED PILOT CELL	LIMITS FOR EACH CONNECTED CELL	ALLOWABLE(3) VALUE FOR EACH CONNECTED CELL
Electrolyte Level	>Minimum level indication mark, and < ¼" above maximum level indication mark	>Minimum level indication mark, and < ¼" above maximum level indication mark	Above top of plates, and not overflowing
Float Voltage	≥ 2.13 volts	≥ 2.13 volts(6)	> ~~2.10~~ 2.07 volts
Specific Gravity(4)	≥ 1.195(5)	≥ 1.190	Not more than 0.020 below the average of all connected cells
		Average of all connected cells > 1.200	Average of all connected cells ≥ 1.190(5)

TABLE NOTATIONS

(1) For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours all the Category B measurements are taken and found to be within their allowable values, and provided all Category A and B parameter(s) are restored to within limits within the next 6 days.

(2) For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category B parameters are within their allowable values and provided the Category B parameter(s) are restored to within limits within 7 days.

(3) Any Category B parameter not within its allowable value indicates an inoperable battery.

(4) Corrected for electrolyte temperature (reference temperature of 77°F) and level.

(5) Or battery charging current is less than 2 amps when on float charge.

(6) Corrected for average electrolyte temperature.

A.C. SOURCES, D.C. SOURCES, and ONSITE POWER DISTRIBUTION (Continued)

The Surveillance Requirement for demonstrating the OPERABILITY of the station batteries are based on the recommendations of Regulatory Guide 1.129, "Maintenance Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants," February 1978, and IEEE Std 450-1975, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations," and 484-1975 "Recommended Practice for Installation Design and Installation of Lead Storage Batteries for Generating Stations and Substations."

Verifying average electrolyte temperature above the minimum for which the battery was sized, total battery terminal voltage on float charge, connection resistance values, and the performance of battery service and discharge tests ensures the effectiveness of the charging system, the ability to handle high discharge rates, and compares the battery capacity at that time with the rated capacity.

Table 4.8-2 specifies the normal limits for each designated pilot cell and each connected cell for electrolyte level, float voltage, and specific gravity. The limits for the designated pilot cells float voltage and specific gravity, greater than 2.13 volts and 0.015 below the manufacturer's full charge specific gravity or a battery charger current that had stabilized at a low value, is characteristic of a charged cell with adequate capacity. The normal limits for each connected cell for float voltage and specific gravity, greater than 2.13 volts and not more than 0.020 below the manufacturer's full charge specific gravity with an average specific gravity of all the connected cells not more than 0.010 below the manufacturer's full charge specific gravity, ensures the OPERABILITY and capability of the battery.

Operation with a battery cell's parameter outside the normal limit but within the allowable value specified in Table 4.8-2 is permitted for up to 7 days. During this 7-day period: (1) the allowable values for electrolyte level ensures no physical damage to the plates with an adequate electron transfer capability; (2) the allowable value for the average specific gravity of all the cells, not more than 0.020 below the manufacturer's recommended full charge specific gravity, ensures that the decrease in rating will be less than the safety margin provided in sizing; (3) the allowable value for an individual cell's specific gravity, ensures that an individual cell's specific gravity will not be more than 0.040 below the manufacturer's full charge specific gravity and that the overall capability of the battery will be maintained within an acceptable limit; and (4) the allowable value for an individual cell's float voltage, greater than ~~2.10~~ 2.07 volts, ensures the battery's capability to perform its design function.