Attachment Three

Proposed Amendment Changes

Pages Affected

1) 3/4 8-12, see mark-up sheet #1 and #2

2) B 3/4 8-1, see mark-up sheet #3 and #4

TABLE 4.8.2.1-1

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(7)	≥ ~~2.16~~ 2.13 volts	≥ ~~2.16~~ 2.13 volts(4)	> ~~2.10~~ 2.07 volts
Specific Gravity (5),(8)	≥ ~~1.235~~ 1.195(6)	1.190 ≥ ~~1.230~~ Average of all connected cells > ~~1.240~~ 1.200	Not more than 0.020 below the average of all connected cells Average of all connected cells ≥ ~~1.230~~ 1.190(6)

TABLE 4.8.2.1-1 (Continued)

TABLE NOTATION

(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)May be corrected for average electrolyte temperature.

(5)Corrected for electrolyte temperature and level.

(6)Or battery charging current is less than 2 amperes when on float charge.

(7) For the remainder of the first fuel cycle until restart after the first refuel outage the Float Voltage Limits and Allowable Values, for Division II if replacement batteries are not installed, may be:

	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
Float Voltage	≥ 2.16 volts	≥ 2.16 volts(4)	> 2.10 volts

(8) For the remainder of the first fuel cycle until restart after the first refuel outage the Specific Gravity Limits and Allowable Values, for Division II if replacement batteries are not installed, may be:

	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
Specific Gravity (5)	≥ 1.235(6)	≥ 1.230	Not more than 0.020 below the average of all connected cells
		Average of all connected cells > 1.240	Average of all connected cells ≥ 1.230(6)

ELECTRICAL POWER SYSTEMS

BASES

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

The surveillance requirements for demonstrating the OPERABILITY of the unit batteries are in accordance with 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 450-1972, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large 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 4.8.2.1-1 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 ~~2.16~~ 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 ~~2.16~~ 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 4.8.2.1-1 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 0.020 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.

Electrical Power Systems

Bases

A.C. Sources, D.C. Sources, and Onsite Power Dist. Syst. (Cont'd)

Footnotes (7) and (8) of Table 4.8.2.1-1 can be applied, for the remainder of the first fuel cycle until restart after the first refuel outage, to Division II if replacement batteries are not installed.

Footnotes (7) and (8) of

→ Table 4.8.2.1-1 specify 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 2.16 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 2.16 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

footnotes (7) and (8) of Table 4.8.2.1-1 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 0.020 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 volts, ensures the battery's capability to perform its design function.