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 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250  
 50-251 Turkey Point Plant, Unit 4, Florida Power and Light C 05000251  
 AUTH. NAME AUTHOR AFFILIATION  
 WOODY, C. O. Florida Power & Light Co.  
 RECIP. NAME RECIPIENT AFFILIATION  
 Document Control Branch (Document Control Desk)

SUBJECT: Application for amends to Licenses DPR-31 & DPR-41, revising  
 Tech Spec 4.8.2.1 re DC sources operating surveillance  
 requirements.

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L-87-494

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

Gentlemen:

Re: Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251  
Proposed License Amendment  
D. C. Sources - Surveillance Requirements

By letter dated September 29, 1986 (FPL letter L-86-393) Florida Power & Light Company (FPL) submitted a request to amend Appendix A of Facility Operating Licenses DPR-31 and DPR-41 to upgrade the current plant Technical Specifications and include, within limitations, the guidance of NUREG-0452, Standard Technical Specifications for Westinghouse Pressurized Water Reactors. FPL supplemented that request by letter dated November 28, 1986 (FPL letter L-86-475), which provided proposed specifications and supporting documentation for the Electrical Power Systems.

FPL requests that you review and issue the D. C. Sources-Operating Surveillance Requirements (T.S. 4.8.2.1) independent of the Technical Specification Upgrade review effort. This specification reflects certain surveillance requirements for the station batteries that are more consistent with the manufacturer's recommendations, and consequently FPL would like to implement them as soon as possible. Changes were made to Technical Specification 4.8.2.1.f.(4) and Table 4.8-2 to address comments made during a preliminary review of the upgrade submittal by the NRC.

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The proposed specification reflecting the NRC comments and supporting documentation, are attached.

If there are any questions, please call us.

Very truly yours,

  
C. O. Woody  
Executive Vice President

COW/TCG/gp

Attachments

cc: Dr. J. Nelson Grace, Regional Administrator,  
Region II, USNRC  
Senior Resident Inspector, USNRC, Turkey Point Plant  
Mr. Jacob Nash, Florida Dept. of Health and  
Rehabilitative Services

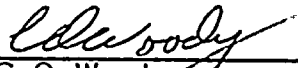
TCG/001

STATE OF FLORIDA                    )  
  ) ss.  
COUNTY OF PALM BEACH        )

C. O. Woody being first duly sworn, deposes and says:

That he is Executive Vice President of Florida Power & Light Company, the Licensee herein;

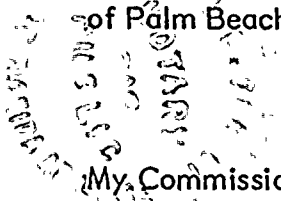
That he has executed the foregoing document; that the statements made in this document are true and correct to the best of his knowledge, information, and belief, and that he is authorized to execute the document on behalf of said Licensee.

  
\_\_\_\_\_  
C. O. Woody

Subscribed and sworn to before me this  
22 day of DECEMBER, 1987.

Cheryl L. Fredrick

NOTARY PUBLIC, in and for the County  
of Palm Beach, State of Florida



My Commission expires: \_\_\_\_\_

NOTARY PUBLIC STATE OF FLORIDA  
MY COMMISSION EXP. OCT. 30, 1991  
BONDED THRU GENERAL INS. UND.



TURKEY POINT UNITS 3 AND 4  
PROPOSED LICENSE AMENDMENT

TITLE: STATION BATTERY SURVEILLANCE

DESCRIPTION:

Florida Power & Light Company (FPL) has replaced the original station batteries (with lead-antimony cells) with Gould-GNB batteries (with lead-calcium cells). A review of the vendor's recommendations and preventative maintenance manual indicate that the existing Technical Specifications (TS) require modification. In addition, FPL previously committed to upgrade to the standard Westinghouse (Draft 5) TS when changes are made to the existing TS. Therefore the following changes have been made:

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The Table of Contents has been revised to reflect the changes discussed below.

Page 4.8-3

The surveillance requirements for the station batteries have been deleted in this section.

Pages 4.8-4, 4.8-5 & Table 4.8-2

The revised surveillances for the station batteries have been placed in this section. The following items have been added or deleted.

- 1) Table 4.8-2 has been added which lists battery parameters that must be verified by SURVEILLANCE REQUIREMENTS.
- 2) A SURVEILLANCE REQUIREMENT for battery terminal voltage verification once per 7 days has been added.
- 3) A SURVEILLANCE REQUIREMENT following battery discharge/overcharge or at least quarterly has been added.
- 4) An annual SURVEILLANCE REQUIREMENT for verification of battery capacity when subjected to battery service test has been added.
- 5) An annual SURVEILLANCE REQUIREMENT for battery charger capacity verification has been added.



- 6) The requirement for a battery equalizing charge has been relaxed from a monthly basis to that required by Table 4.8-2. This is in accordance with the manufacturer's recommendations.
- 7) The requirement for a visual inspection of each battery has been relaxed from once a month to require a visual check for corrosion at terminals or connectors every 92 days or after battery discharge below 105 volts or overcharge above 143 volts.

B 4.8-1

The basis for the Station Battery surveillance has been deleted from this section.

B 4.8-2

A new basis section has been added to describe the bases for the revised Station Battery surveillances.

## Basis for No Significant Hazards Consideration Determination

The standards used to arrive at a proposed determination that the changes described above involve no significant hazards consideration are included in 10 CFR 50.92. The regulations state that if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, or (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety, then a no significant hazards determination can be made.

The Commission has provided guidance concerning the application of the standards for determining whether a significant hazards consideration exists by providing certain examples (48 FR 14870) of amendments that are considered not likely to involve a significant hazards consideration. Example (i) relates to a purely administrative change to Technical Specifications: for example, a change to achieve consistency throughout the Technical Specifications, correction of an error, or a change in nomenclature. Example (ii) relates to a change that constitutes an additional limitation, restriction, or control not presently included in the Technical Specifications: for example, a more stringent surveillance requirement.

- 1) The proposed change as described in Item 4.8-2 is similar to example (i) of 48 FR 14870 in that it is an administrative change which consolidates current surveillance requirement into a technical specification format consistent with the Standard Technical Specifications and does not involve technical or plant modifications.
- 2) The proposed changes as described in Items 4.8.2.1.b.a, 4.8.2.1.b.2, 4.8.2.1.c.1, 4.8.2.1.c.2, 4.8.2.1.d.1, 4.8.2.1.d.2, 4.8.2.1.d.3, 4.8.2.1.e, 4.8.2.1.f.1, 4.8.2.1.f.2, 4.8.2.1.f.3, 4.8.2.1.f.4, and 4.8.2.1.g. are similar to example (ii) of 48 FR 14870 in that they provide additional controls by:

Specifying the battery parameters and limits in added Table 4.8-2 that are verified by SURVEILLANCE REQUIREMENTS.

Requiring a weekly terminal voltage surveillance.

Requiring special surveillance checks at least quarterly or after an unusual discharge or overcharge.

Requiring annual battery service and charger capacity tests.



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- 3) The proposed change to relax the SURVEILLANCE REQUIREMENT for a monthly equalizing charge for each battery does not involve a significant hazards consideration because this change would not:

- a) Involve a significant increase in the probability of or consequences of an accident previously evaluated.

The requirement for a monthly equalizing charge was for the original batteries which have been replaced by new lead calcium batteries. In accordance with the manufacturer's recommendations, the requirement for an equalizing charge has been changed from monthly to that required by Table 4.8-2 of the revised technical specification which relates to measured battery parameters. This change in definition of a surveillance frequency would not increase the probability of an accident previously evaluated because the design and operation of the D. C. Systems are otherwise unchanged.

- b) Create the possibility of a new or different kind of accident from any previously analyzed because the proposed change introduces no new mode of plant operation nor involves a change in the design function of the batteries.

- c) Involve a significant reduction in a margin of safety because the need for an equalizing charge in the battery is now related to the measured parameters of the battery in accordance with manufacturer's recommendations rather than calendar time.

- 4) The proposed change to relax the SURVEILLANCE REQUIREMENT for a monthly visual inspection does not involve a significant hazards consideration because the change would not:

- a) Involve a significant increase in the probability of or consequences of an accident previously evaluated. The current technical specifications did not provide a specific definition of what the monthly visual inspection was to include. The revised technical specifications require visual check for corrosion at terminals or connectors every 92 days or after battery discharge below 105 volts or overcharge



above 140 volts. In addition the revised technical specification requires annual inspection to verify the cells, and battery racks show no visual indication of physical damage or abnormal deterioration. Any gross deterioration or malfunction could also be noted during daily and weekly surveillances required by the revised technical specification. The visual inspections required by the revised technical specification are consistent with industry practice in that these visual inspections are those required by the Standard Technical Specifications. Since the operation of the D. C. systems are otherwise unchanged the change in visual operation of the D. C. systems are otherwise unchanged the change in visual surveillance requirements as described would not involve a significant increase in the probability or consequences of an accident previously evaluated.

- b) Create the possibility of a new or different kind of accident from any previously analyzed because the proposed change introduces no new mode of plant operation nor involve a change in the plant design.
- c) Involve a significant reduction in a margin of safety because the current visual inspection without specific criteria is replaced by specific surveillance requirements, as described above, which are consistent with industry practice. In addition, the change in surveillance frequency or surveillance criteria does not impact the design function of the batteries during a postulated accident..

Based on the above considerations the changes included in the development of proposed Technical Specification 4.8.2.1 are considered not to involve a significant hazards consideration as defined in 10 CFR 50.92. Further, there is reasonable assurance that the health and safety of the public will not be endangered by the proposed changes.

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. FACILITY OPERATING LICENSE NO. DPR-31

AMENDMENT NO. FACILITY OPERATING LICENSE NO. DPR-41

DOCKET NO. 50-250 AND 50-251

Revise Appendix A as follows:

Remove Pages

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4.8-3  
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B4.8-1  
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Insert Pages

v  
4.8-3  
4.8-4  
4.8-5  
Table 4.8-2  
B4.8-1  
B4.8-2

## LIST OF TABLES

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3.5-1	Instrument Operating Conditions for Reactor Trip
3.5-2	Engineering Safety Features Actuation
3.5-3	Instrument Operating Conditions for Isolation Functions
3.5-4	Engineered Safety Feature Set Points
3.5-5	Accident Monitoring Instrumentation
3.9-1	Radioactive Liquid Waste Sampling and Analysis Program
3.9-2	Radioactive Liquid Effluent Monitoring Instrumentation
3.9-3	Radioactive Gaseous Waste Sampling and Analysis Program
3.9-4	Radioactive Gaseous Effluent Monitoring Instrumentation
3.13-1	Deleted
3.14-1	Fire Detection System
3.14-2	Fire Hose Stations
3.16-1	Primary Coolant System Pressure Isolation Valves
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4.18-1	Minimum Frequencies for Safety Related Systems Flow Path Verification
6.2-1	Minimum Shift Crew Composition



(a) Synchronize the diesel generator with offsite power while the generator is supplying emergency loads:

(b) Transfer the emergency load to offsite power;

(c) Isolate the diesel generator; and

(d) Return the diesel generator to standby status.

7. Verifying that auto-connected loads to each diesel generator do not exceed 2750 kw.

- e. At least once per 10 years or after any modification that could affect diesel generator independence, start both diesel generators simultaneously at a time when both reactors are shutdown and verify that both diesel generators provide  $60 \pm 1.2$  Hz frequency and  $4160 \pm 624$  volts in less than 15 seconds.

## 4.8.2 STATION BATTERIES

4.8.2.1 Each 125-volt battery bank and charger shall be demonstrated OPERABLE:

- a. At least once per 24 hours read and record the pilot cell specific gravity. The specific gravity shall be within limits of Table 4.8-2 Category A.
- b. At least once per 7 days by verifying that:
  - 1) The pilot cell parameters (except specific gravity) 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.
- c. At least once per 31 days by performing the following:
  - 1) Rotate the pilot cell, and
  - 2) Check water level and restore as necessary recording amount of water added.

## STATION BATTERIES

- d. At least once per 92 days and within 7 days after a battery discharge with battery terminal voltage below 105 volts, or battery overcharge with battery terminal voltage above 143 volts, verify 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  $150 \times 10^{-6}$  ohm, and
  - 3) The average electrolyte temperature of every sixth cell is above 60 F.
- e. At least once per 92 days perform a detailed visual inspection of the battery chargers.
- f. At least once per 12 months by verifying that:
  - 1) The cells, 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  $150 \times 10^{-6}$  ohm, and
  - 4) Each 50 kw battery charger will supply at least  $390 \pm 10$  amperes at 125 volts for at least 8 hours and each 37.5 kw battery charger will supply at least  $290 \pm 10$  amperes at 125 volts for at least 8 hours.
- g. At least once per 12 months 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.

**TABLE 4.8-2****BATTERY SURVEILLANCE REQUIREMENTS**

	CATEGORY A <sup>(1)</sup>	CATEGORY B <sup>(2)</sup>	
PARAMETER	LIMITS FOR EACH designated pilot cell	LIMITS FOR EACH connected cell	ALLOWABLE <sup>(3)</sup> value for Connected Cell
Electrolyte Level	Greater than minimum level indication mark, and no overflow	Greater than minimum level indication mark, and no overflow	Above top of plates and no overflow
Float Voltage	Greater than or equal to 2.13 volts	Greater than or equal to 2.13 volts <sup>(6)</sup>	Greater than or equal to 2.07 volts
Specific Gravity <sup>(4)</sup>	Greater than or equal to 1.200 <sup>(5)</sup>	Greater than or equal to 1.195	Not more than 0.020 below the average of all connected cells
		Average of all connected cells greater than 1.205	Average of all connected cells greater than or equal to 1.195 <sup>(5)</sup>

**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 equalizing charge is started. All Category A and B parameter(s) must be 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 equalizing charge is started. All Category B parameter(s) must be 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 and level.
- (5) Or battery charging current is less than 2 amps when on charge.
- (6) Corrected for average electrolyte temperature.

The tests specified are designed to demonstrate that the diesel generators will provide power for operation of equipment. They also assure that the emergency generator system controls and the control systems for the safeguards equipment will function automatically in the event of a loss of normal power.

The testing frequency specified is often enough to identify and correct any mechanical or electrical deficiency before it can result in a system failure. The fuel supply and starting circuits and controls are continuously monitored. Any faults are annunciated. An abnormal condition in these systems would be signaled without having to place the diesel generators themselves on test.

Each unit, as a backup to the normal standby AC power supply, is capable of sequentially starting and supplying the power requirement of the required safety feature equipment. Each will assume full load within 60 seconds after the initial starting signal.(1)(2)(3)

The specified fuel supply will ensure power requirements for at least a week.

Reference:

- (1) FSAR, Section 6.4.3
- (2) FSAR, Section 8.2
- (3) FSAR, Section 14.3.2



**STATION BATTERIES**

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 discharge test ensures the effectiveness of the charging system, the ability to handle high discharge rates, and verifies the battery capability to supply its required load.

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 not more than 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 cells parameter outside the normal limit but within the allowable value specified in Table 4.8-2 is permitted for a period. During this 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 0.010 below the manufacturer's recommended full charge specific gravity, ensure that the decrease in rating will be less than the safety margin provided in sizing; (3) the allowable value for an individual cells specific gravity, ensures that an individual cell's specific gravity will not be more than 0.030 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 cells float voltage, greater than 2.07 volts, ensures the battery's capability to perform its design function.