



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-272

SALEM NUCLEAR GENERATING STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.177  
License No. DPR-70

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
  - A. The application for amendment filed by the Public Service Electric & Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) dated January 21, 1994, as supplemented June 28 and September 13, 1994, and April 4, 1995, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-70 is hereby amended to read as follows:

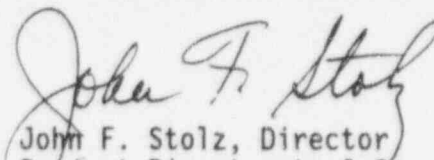
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(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 177, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance, to be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



John F. Stolz, Director  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: September 19, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 177

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Revise Appendix A as follows:

Remove Pages

3/4 8-8

3/4 8-9

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Insert Pages

3/4 8-8

3/4 8-9

3/4 8-9a

3/4 8-9b

ELECTRICAL POWER SYSTEMS

125-VOLT D.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

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

TRAIN 1A consisting of 125-volt D.C. bus No. 1A, 125-volt D.C. battery No. 1A and battery charger 1A1.

TRAIN 1B consisting of 125-volt D.C. bus No. 1B, 125-volt D.C. battery No. 1B and battery charger 1B1.

TRAIN 1C consisting of 125-volt D.C. bus No. 1C, 125-volt D.C. battery No. 1C and battery charge 1C1.

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.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS

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4.8.2.3.1 Each D.C. bus train shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and power availability.

4.8.2.3.2 Each 125-volt battery and above required charger shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1. The parameters in Table 4.8.2.3-1 meet Category A limits.
2. The overall battery voltage is greater than or equal to 125 volts on float charge.

b. At least once per 92 days and once within 24 hours after a battery discharge < 110 V and once within 24 hours after a battery overcharge > 150 V by verifying that the parameters in Table 4.8.2.3-1 meet the Category B limits.

c. At least once per 92 days by verifying that:

1. There is no visible corrosion at terminals or connectors or the connection resistance is:

    ≤150 micro ohms for inter-cell connections,  
    ≤350 micro ohms for inter-rack connections,  
    ≤350 micro ohms for inter-tier connections,  
    ≤70 micro ohms for field cable terminal connections, and  
    ≤2500 micro ohms for the total battery connection

    resistance which includes all inter-cell connections (including bus bars), all inter-rack connections (including cable resistance) all inter-tier connections (including cable resistance) and all field terminal connections at the battery.

2. The average electrolyte temperature of the representative cells is above 65°F.

d. At least once per 12 months by verifying that:

1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration.
2. Remove visible terminal corrosion and verify cell-to-cell and terminal connections are coated with anti-corrosion material.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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3. The connection resistance is:
  - ≤ 150 micro ohms for inter-cell connections,
  - ≤ 350 micro ohms for inter-rack connections,
  - ≤ 350 micro ohms for inter-tier connections,
  - ≤ 70 micro ohms for field cable terminal connections, and
  - ≤ 2500 micro ohms for the total battery connection resistance which includes all inter-cell connections (including bus bars), all inter-rack connections (including cable resistance), all inter-tier connections (including cable resistance), and all field terminal connections at the battery.
  
- e. At least once per 18 months by verifying that the battery charger will supply at least 200 amperes at 125 volts for at least 4 hours.
  
- f. 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.
  
- g. 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. Satisfactory completion of this performance discharge test shall also satisfy the requirements of Specification 4.8.2.3.2.f if the performance discharge test is conducted during a shutdown where that test and the battery service test would both be required.
  
- h. At least once per 12 months, during shutdown, if the battery shows signs of degradation OR has reached 85% of the service life with a capacity less than 100% of manufacturers rating, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its capacity the previous performance test, or is below 90% of the manufacturer's rating.
  
- i. At least once per 24 months, during shutdown, if the battery has reached 85% of the service life with capacity greater than or equal to 100% of manufacturers rating, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

Table 4.8.2.3-1  
Battery Cell Parameters Requirements

| PARAMETER                | CATEGORY A:<br>LIMITS FOR EACH<br>DESIGNATED PILOT<br>CELL                                   | CATEGORY B:<br>LIMITS FOR EACH<br>CONNECTED CELL   | CATEGORY C:<br>ALLOWABLE VALUE<br>FOR EACH<br>CONNECTED CELL   |
|--------------------------|--|--|--|
| Electrolyte level        | > Minimum level indication mark, and $\leq$ 1/4 inch above maximum level indication mark (a) | > Minimum level indication mark, and $\leq$ 1/4 inch above maximum level indication mark (a) | Above top of plates, and not overflowing   |
| Float Voltage            | $\geq$ 2.13 V  | $\geq$ 2.13 V  | $\geq$ 2.07 V  |
| Specific Gravity (b) (c) | $\geq$ 1.195   | $\geq$ 1.190<br>AND<br>Average of all connected cells $\geq$ 1.200                           | Not more than 0.020 below average of all connected cells<br>AND<br>Average of all connected cells $\geq$ 1.190 |

- (a) It is acceptable for the electrolyte level to temporarily increase above the specified maximum level during equalizing charge provided it is not overflowing.
- (b) Corrected for electrolyte temperature and level. Level correction is not required, however, when battery charging is < 3 amps when on float charge.
- (c) Or battery charging current is < 3 amps when on float charge. This is acceptable only during a maximum of 7 days following a battery recharge.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-311

SALEM NUCLEAR GENERATING STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 158  
License No. DPR-75

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
  - A. The application for amendment filed by the Public Service Electric & Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) dated January 21, 1994, as supplemented June 28 and September 13, 1994, and April 4, 1995, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-75 is hereby amended to read as follows:

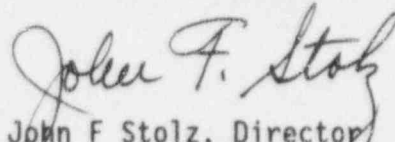


(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 156, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance, to be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



John F Stolz, Director  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: September 19, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 158

FACILITY OPERATING LICENSE NO. DPR-75

DOCKET NO. 50-311

Revise Appendix A as follows:

Remove Pages

3/4 8-10

3/4 8-11

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Insert Pages

3/4 8-10

3/4 8-11

3/4 8-11a

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ELECTRICAL POWER SYSTEMS

125-VOLT D.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

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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.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS

4.8.2.3.1 Each D.C. bus train shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and voltage on the bus.

4.8.2.3.2 Each required 125-volt battery and charger shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying that:
  1. The parameters in Table 4.8.2.3-1 meet Category A limits.
  2. The overall battery voltage is greater than or equal to 125 volts on float charge.
- b. At least once per 92 days and once within 24 hours after a battery discharge < 110 V and once within 24 hours after a battery overcharge > 150 V by verifying that the parameters in Table 4.8.2.3-1 meet the Category B limits.
- c. At least once per 92 days by verifying that:
  1. There is no visible corrosion at terminals or connectors or the connection resistance is:
    - ≤150 micro ohms for inter-cell connections,
    - ≤350 micro ohms for inter-rack connections,
    - ≤350 micro ohms for inter-tier connections,
    - ≤70 micro ohms for field cable terminal connections, and
    - ≤2500 micro ohms for the total battery connectionresistance which includes all inter-cell connections (including bus bars), all inter-rack connections (including cable resistance) all inter-tier connections (including cable resistance) and all field terminal connections at the battery.
  2. The average electrolyte temperature of the representative cells is above 65°F.
- d. At least once per 12 months by verifying that:
  1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration.
  2. Remove visible terminal corrosion and verify cell-to-cell and terminal connections are coated with anti-corrosion material.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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3. The connection resistance is:
- ≤ 150 micro ohms for inter-cell connections,
  - ≤ 350 micro ohms for inter-rack connections,
  - ≤ 350 micro ohms for inter-tier connections,
  - ≤ 70 micro ohms for field cable terminal connections, and
  - ≤ 2500 micro ohms for the total battery connection resistance which includes all inter-cell connections (including bus bars), all inter-rack connections (including cable resistance), all inter-tier connections (including cable resistance), and all field terminal connections at the battery.
- e. At least once per 18 months by verifying that the battery charger will supply at least 200 amperes at 125 volts for at least 4 hours.
- f. 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.
- g. 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. Satisfactory completion of this performance discharge test shall also satisfy the requirements of Specification 4.8.2.3.2.f if the performance discharge test is conducted during a shutdown where that test and the battery service test would both be required.
- h. At least once per 12 months, during shutdown, if the battery shows signs of degradation OR has reached 85% of the service life with a capacity less than 100% of manufacturers rating, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its capacity on the previous performance test, or is below 90% of the manufacturer's rating.
- i. At least once per 24 months, during shutdown, if the battery has reached 85% of the service life with capacity greater than or equal to 100% of manufacturers rating, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

Table 4.8.2.3-1  
Battery Cell Parameters Requirements

| PARAMETER                | CATEGORY A:<br>LIMITS FOR EACH<br>DESIGNATED PILOT<br>CELL                                   | CATEGORY B:<br>LIMITS FOR EACH<br>CONNECTED CELL   | CATEGORY C:<br>ALLOWABLE VALUE<br>FOR EACH<br>CONNECTED CELL   |
|--------------------------|--|--|--|
| Electrolyte level        | > Minimum level indication mark, and $\leq$ 1/4 inch above maximum level indication mark (a) | > Minimum level indication mark, and $\leq$ 1/4 inch above maximum level indication mark (a) | Above top of plates, and not overflowing   |
| Float Voltage            | $\geq$ 2.13 V  | $\geq$ 2.13 V  | $\geq$ 2.07 V  |
| Specific Gravity (b) (c) | $\geq$ 1.195   | $\geq$ 1.190<br>AND<br>Average of all connected cells $\geq$ 1.200                           | Not more than 0.020 below average of all connected cells<br>AND<br>Average of all connected cells $\geq$ 1.190 |

- (a) It is acceptable for the electrolyte level to temporarily increase above the specified maximum level during equalizing charge provided it is not overflowing.
- (b) Corrected for electrolyte temperature and level. Level correction is not required, however, when battery charging is < 3 amps when on float charge.
- (c) Or battery charging current is < 3 amps when on float charge. This is acceptable only during a maximum of 7 days following a battery recharge.