## ATTACHMENT (1)

UNIT 1
FACILITY OPERATING LICENSE NO. DPR-53
REVISED PAGES



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# UNITED STATES ATOMIC ENERGY COMMISSION

WASHINGTON, D.C. 20545

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### BALTIMORE GAS & ELECTRIC COMPANY

DOCKET NO. 50-317

(Calvert Cliffs Nuclear Power Plant, Unit 1)

#### FACILITY OPERATING LICENSE

License No. DPR-53

- 1. The Atomic Energy Commission (the Commission) having found that:
  - A. The application for license filed by Baltimore Gas & Electric Company (the licensee) 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 and all required notifications to other agencies or bodies have been duly made;
  - B. Construction of the Calvert Cliffs Nuclear Power Plant, Unit 1, (facility) has been substantially completed in conformity with Construction Permit No. CPPR-63 and the application, as amended, the provisions of the Act and the rules and regulations of the Commission;
  - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
  - D. There is reasonable assurance: (i) that the activities authorized by this operating license can be conducted without endangering the health and safety of the public; and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission;
  - E. The licensee is technically and financially qualified to engage in the activities authorized by this operating license in accordance with the rules and regulations of the Commission;
  - F. The licensee has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;

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- G. The issuance of this operating license will not be inimical to the common defense and security or to the health and safety of the public;
- H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental costs and considering available alternatives, the issuance of Facility Operating License No. DPR-53 (subject to the conditions for protection of the environment set forth herein) is in accordance with 10 CFR Part 50, Appendix D, of the Commission's regulations and all applicable requirements of said Appendix D have been satisfied; and
- I. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40, and 70, including 10 CFR Section 30.33, 40.32, and 70.23 and 70.31.

2. Facility Operating License No. DPR-53 is hereby issued to the Baltimore Gas & Electric Company to read as follows:

- A This license applies to the Calvert Cliffs Nuclear Plant
  Unit 1, a pressurized water reactor and associated
  equipment (the facility), owned by the Baltimore Gas
  & Electric Company. The facility is located in Calvert
  County, Maryland and is described in the "Final Safety
  Analysis Report" as supplemented and amended (Amendments
  11 through 47), and the Environmental Report as supplemented and amended (Amendments No. 1 and No. 2)."
  - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Baltimore Gas & Electric Company:
    - (1) Pursuant to Section 104b of the Act and 10 CFR Part 50,
      "Licensing of Production and Utilization Facilities," to
      possess, use, and operate the facility at the designated
      location in Calvert County, Maryland, in accordance with the
      procedures and limitations set forth in this license;
    - (2) Pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess and use at any time any byproduct, source and special nuclear material as reactor fuel, sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required for reactor operation;

Pursuant to the Act and 10 CFR Part 30 to receive, possess use at any time 100 millicuries each of any byproduct material without restriction to chemical or physical form, for sample analysis or instrument calibration; 500 millicuries of byproduct material in the form of equipment that is radio-actively contaminated by radioisotopes with atomic numbers within the range 3 to 83, for inspection and maintenance of the facility, as described in the licensee's letter-application for license amendment dated November 13, 1974, as amended by letter dated November 15, 1974, and Sodium-24, in liquid form, not to exceed 500 millicuries for tracer measurements for steam turbine acceptance testing.

- (4) Pursuant to the Act and 10 CFR Parts 40 and 70 to receive, possess and use at any time 100 milligrams each of any source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration;
- (5) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- C. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hareafter in effect; and is subject to the additional conditions specified or incorporated below:

### (1) Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 2700 megawatts (thermal).

### (2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No.  $\frac{1}{2}$  g are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

The licensee may proceed with and is required to complete the modifications identified in Paragraphs 2.1.1 through the modifications identified in Paragraphs 2.1.1 through (SE), por Annual cated September 14, 1979 for the facility. Those modification cannot be completed in accordance with the schedule eations will be completed in accordance with the schedule in Tab : 3.1 of the SE. If any modification cannot be completed in accordance with the schedule in Tab : 3.1 of the SE. If any modification cannot be completed in accordance with the schedule in Tab : 3.1 of the SE. If any modification cannot be completed in accordance with the schedule in Tab : 3.1 of the SE. If any modification cannot be completed in accordance with the schedule.

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in addition, the licensee shall submit the additional information identified in Table 3.2 of this SE inaccordance with the schedule contained therein. If the information cannot be submitted on schedule, the licensee shall submit a report explaining the circumstances to gether with a revised schedule.

The licensee is required to implement and maintain the administrative controls identified in Section 6 of the NRC's Fire Protection Safety Evaluation on the facility dated September 14, 1979. The administrative controls, with the exception of fire fighting strategies and quality assurance procedures, shall be in effect by November 1, 1979. The quality assurance procedure shall be in effect by January 1, 1980, and the fire fighting strategies by August 1, 1980.

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Physical Protection

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFP 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Calvert Cliffs Nuclear Power Plant Physical Security Plan," with revisions submitted through February 17, 1988; "Calvert Cliffs Nuclear Power Plant Guard Training and Qualification Plan," with revisions submitted through November 1, 1985; and "Calvert Cliffs Nuclear Power Plant Safeguards Contingency Plan," with revisions submitted February 9, 1988. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

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### 2. C.(5) Secondary Water Chemistry Monitoring Program

The licensee shall implement a secondary water chemistry monitoring program to inhibit steam generator tube degradation. This program shall include:

- a. Identification of a sampling schedule for the critical parameters and control points for these parameters.
- b. Identification of the procedures used to quantify parameters that are critical to control points.
- c. Identification of process sampling points.
- d. Procedure for recording and management of data.
- e. Procedures defining corrective actions for off control point chemistry conditions; and
- f. A procedure identifying the authority responsible for the interpretation of the data and the sequence and timing of administrative events required to initiate corrective action.

Added.) by Amdt. 59 11-4-81 D. Pursuant to the Agreement dited April 25, 1973; between the licensee, Cheshpeake Environmental Protection Association and the Comission, the Meensee shall, prior to the operation of Unit No. 1 above 63% connectey, but in no event later than six (6) months after the date of compress operation, have soluted an optimum cooling tower owners for both Units Nos. 1 and 2 and will have completed the following process of contraction of the connection of the effect which provides a formy conign in the event conversion to an electronic cooling which will provide a formy conign in the event conversion to an electronic cooling which provides a formy conign in the event conversion to an electronic cooling which provides an electronic circumstant of the event conversion to an electronic cooling which provides an electronic circumstant of the event conversion to an electronic cooling which provides an electronic circumstant circumstant cooling which provides a provide a provide a contraction of the electronic cooling which provides an electronic circumstant circumstant circumstant circumstant cooling which the contraction of the electronic circumstant c

- (1) Civil Engineering
  - (a) Site investigation and soil studies.
  - (b) Shoraline design change studies and preparation of license application for dradging and filling.
  - (c) Proliminary layout drawings of circulating water piping.
  - (d) Foundation studies.
- (2) Electrical Engineering

Preliminary single line drawings and design review of auxiliary electrical capacity.

- (3) Wechanical layout and engineering
  - (a) Cooling tower sizing and selection.
  - (b) Gooling tower specifications.
  - (e) Praliminary equipment sixing of pumps, piping end buildings.
  - (d) Large pump specifications.

(e) Additional site meteorological studies pertaining to cooling tower drift.

This license is effective as of the date of issuance and shall expire at midnight July 31, 2014.

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FOR THE ATOMIC ENERGY COMPLISSION

Original Signed by Roger S. Boyd

A. Giambusso, Deputy Director for Reactor Projects Directorate of Licensing

Attachment: Appendices A & B -Technical Specifications

Date of Issuance: 311 31 1974

# INCOMPLETE CONSTRUCTION AND PREOPERATIONAL TEST ITEMS THAT ARE REQUIRED TO BE COMPLETED

- A. Items that are required to be completed prior to proceeding beyond fuel loading.
  - 1. Preoperational Tests
    - a. Reactor Protective System
    - b. CEDM Cooling System
    - cv Reactor Component Handling
    - d. Main Steam Isolation Valves
  - 2. Construction
    - Administrative controls to preclude inadvertent over-pressurization of the reactor coolant system during solid system operation.
    - by Expansion joints in the salt water cooling system that have been found to be elengated beyond their design limits will be replaced and specers added.
    - c. Hydrogen supply line to the volume control tank.
- B. Items that are required to be completed prior to proceeding beyond the post-core leading hot functional testing.
  - 1 Descenational Tosto
    - a. Liquid Waste System Evaporators
    - b. Radiation Monitoring and Process Radiation Systems
    - c. Variable Overpower Trip System
  - 2. Construction

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- a. Installation and design documentation of safety related pipe hangers, restraints and supports.
- C. Items that are required to be completed prior to proceeding beyond the low power physics tests.
  - 1. Preoperational Tests
    - a. Solid Waste System
    - b. Hydrogen Purge System
  - 2. Genstruction
    - a. Evaluation of adequacy of the diesel generator air start system modifications.
    - b. Incore instrumentation.
    - c. Resetcr internals vibration monitoring capability.
    - d. Vodification of the primary CEA position indication system.

## ATTACHMENT (2)

# UNIT 2 FACILITY OPERATING LICENSE NO. DPR-69 REVISED PAGES



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# LICENSE AUTHORITY FILE COPY UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D. C. 20555

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### BALTIMORE GAS AND ELECTRIC COMPANY

DOCKET NO. 50-318

### CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 2

#### FACILITY OPERATING LICENSE

License No. DPR-69 Amendment No. 2

- 1. The Nuclear Regulatory Commission (the Commission) having found that:
  - A. The application for license and the application for license amendment, dated October 25, 1976, filed by Baltimore Gas and Electric Company (the licensee) comply 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 and all required notifications to other agencies or bodies have been duly made;
  - B. Construction of the Calvert Cliffs Nuclear Power Plant, Unit 2 (the facility) has been substantially completed in conformity with Provisional Construction Permit No. CPPR-64 and the application, as amended, the provisions of the Act and the rules and regulations of the Commission;
  - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
  - D. There is reasonable assurance: (i) that the activities authorized by this amended operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission;
  - E. The licensee is technically and financially qualified to engage in the activities authorized by this amended operating license in accordance with the rules and regulations of the Commission;
  - F. The licensee has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
  - G. The issuance of this amended operating license will not be inimical to the common defense and security or to the health and safety of the public;
  - H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the

issuance of Amendment No. 2 to Facility Operating License No. DPR-69 subject to the conditions for protection of the environment set forth herein is in accordance with 10 CFR Part 51 (and with former Appendix D to 10 CFR Part 50) of the Commission's regulations and all applicable requirements have been satisfied; and

- I. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this amended license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40, and 70, including 10 CFR Sections 30.33, 40.32, 70.23 and 70.31.
- Facility Operating License No. DPR-69, issued to the Baltimore Gas and Electric Company, is hereby amended in its entirety to read as follows:
  - A This license applies to the Calvert Cliffs Nuclear Plant Unit 2, a pressurized water nuclear reactor and associated equipment (the facility), owned by the Baltimore Gas & Electric Company. The facility is located in Calvert County, Maryland, on the western shore of the Chesapeake Bay, about 10 and 1/2 miles southeast of Prince Frederick, Maryland, and is described in the "Final Safety Analysis Report" as supplemented and amended (Amendments 11 through 53), and the Environmental Report as supplemented and amended (Amendments No. 1 and No. 2)."
  - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Baltimore Gas and Electric Company:
    - Pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility at the designated location in Calvert County, Maryland in accordance with the procedures and limitations set forth in this amended license;
    - Pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;
    - 3. Pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

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- 4. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to enemical or physical form, for sample analysis or instrument calibration or assoicated with radioactive apparatus or components;
- 5. Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- C. This amended license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

# Maximum Power Level

The licensee is authorized to operate the facility at steady (state reactor core power levels not in excess of 2700 megawatts (thermal).

## 2. Technical Specifications

The Technical Specifications contained in Arrendices A and B, as revised through Amendment No. 14% are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

a. The licensee shall be exempted from compliance with the following Appendix A Technical Specifications applying to charcoal testing until (1) the first regularly scheduled refueling outage, or (2) the currently installed charcoal is replaced, whichever occurs first:

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Steam Generator water Level R Je Sate

Except for the purpose of performing steam generator feedwater flow stability tests, the licensee shall, whenever the secondary side water level in a steam generator is below the level of the feedwater sparger, limit the secondary side water level rise rate in the steam generator to less than 1.2 inches per minute and shall reduce the rise rate to within this limit within two (2) minutes if this limit is exceeded. This condition shall be removed only by amendment of this license after the licensee has demonstrated to the satisfaction of the Commission that secondary side flow instability (water hammer) either will not occur, or does not result in unacceptable consequences.

4. LNG Traffic at Cove Point Tordinal

The licensee shall provide one of the following items to the Commission 60 days prior to the initiation of LNG ship traffic at the Cove Point LNG Receiving Terminal:

- a. An analysis to show that the probability of an accident that could affect plant safety due to an ING tanker approaching closer to the plant than the distances assumed in the safety analyses (discussed in Supplement No. 1 to the Safety Evaluation Report) is acceptably small, as defined in Section 2.2.3 of NUREG-75/087, or
- b. A commitment from the appropriate U.S. Coast Guard Port Authority that administrative limits will be imposed to prevent LNG traffic from approaching Calvert Cliffs Nuclear Plant closer than the distances assumed in the above-referenced analyses.

In addition, the licensee shall establish a mechanism whereby it will be promptly notified by the U. S. Coast Guard of abnormally dangerous occurrences involving LNG traffic in the vicinity of the Cove Point LNG Receiving Terminal.

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## Incomplete Construction Items, Tests, and Other Items

This condition identifies certain construction items, preoperational tests, startup tests and other items which shall be completed to the satisfaction of the Commission prior to (1) achieving certain specified operating conditions or (2) proceeding with operations beyond certain specified dates. The licensee shall neither operate the facility beyond the specified operating conditions, nor operate the facility after the specified dates without prior written authorization from the Commission. The following items shall be conducted and/or completed in accordance with the applicable section(s) of the Final Safety Analysis Report, as approved in the Safety Evaluation Report and Supplements 1 through 7 to the Safety Evaluation Report.

- a. The following items shall be completed to the satisfaction of the Commission prior to operation of the facility in MODE 1 (Power Operation, as defined in Table 1.1 of Appendix A Technical Specifications):
  - (1) The licensee shall demonstrate that the Hot Punctional Testing conducted prior to fuel loading has not resulted in unacceptable overstressing of safety related systems due to improper restraint by inoperable shubbers.
  - (2) The licensee shall make a commitment to conduct an inspection and/or testing program to provide assurance that, during operation, inoperable anubbers do not cause unacceptable overstressing of safety related systems.
  - b. The following items shall be completed to the satisfaction of the Commission prior to operation of the facility at full power for one weeks
    - (1) Completion of the appropriate portions of the Snubber Inspection Program described in the licensee's letter of November 15, 1976 to the Commission.

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Additional Reactivity and Power Distribution Surveillance

during operation at or above 50 percent of rated thermal power, the following surveillance shall be performed, in addition to that required by the Appendix A Technical Specifications and the results included in the Monthly Operating Report:

- a. An overall core reactivity balance shall be compared to predicted values at least once every seven (7) Effective Full Power Days (EFPO).
- b. Measured data from at least several fixed in core detectors shall be gathered at least once a day. In the event of in sore detection and/or data reduction system inoperability, the time interval between measured data collections may be extended to at least once every two (2) days. Measured data will be analyzed at least weekly in order to determine axial power shape and magnitude shall be compared with the expected shape and magnitude in order to identify any axial power distribution anomaly.

Less Than Four Pump Operation

The licensee shall not operate the reactor at power levels in excess of five (5) percent of rated thermal power with less than four (4) reactor coolant pumps in operation. This condition shall remain in effect until the licensee has submitted safety analyses for less than four pump operation, and approval for such operation has been granted by the Commission by ame. Ament of this license.

The licensee may proceed with and is required to complete the modifications identified in Pari graphs 3.1.1 through 3.1.21 of the NAC's Fire Protection Safety Evaluation (SE), deted September 14, 1979 for the facility. These modifications will be completed in accordance with the schedule in Table 3.1 of the SE. If any modification common be completed on schedule, the licensee shall submit a report explaining the aircumstances and propose, for staff approval, a revised schedule.

information identified in Table 3.2 of this SE in economic the satisfied in Table 3.2 of this SE in economic that the school economic therein if the information cannot be submitted on school ey the licenses shall submit a report explaining the circumstances to echop with a review of school en

The licensee is required to implement and maintain the administrative controls identified in Section 6 of the NRC's Fire Protection Safety Evaluation on the facility dated September 14, 1979. The administrative controls, with the exception of fire fighting strategies and quality assurance procedures, shall be in effect by November 1, 1979. The quality assurance procedure shall be in effect by January 1, 1980, and the fire fighting strategies by August 1, 1980.

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Secondary Water Chemistry Monitoring Program

The licensee shall implement a secondary water chemistry monitoring program to inhibit steam generator tube degradation. This program shall include:

- a. Identification of a sampling schedule for the critical parameters and control points for these parameters.
- b. Identification of the procedures used to quantify parameters that are critical to control points.
- c. Identification of process sampling points.
- d. Procedure for recording and management of data.
- e. Procedures defining corrective actions for off control point chemistry conditions; and
- f. A procedure identifying the authority responsible for the interpretation of the data and the sequence and timing of administrative events required to initiate corrective action.

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The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Calvert Cliffs Nuclear Power Plant Physical Security Plan," with revisions submitted through February 17, 1988; "Calvert Cliffs Nuclear Power Plant Guard Training and Qualification Plan," with revisions submitted through November 1, 1985; and "Calvert Cliffs Nuclear Power Plant Safeguards Contingency Plan," with revisions submitted February 9, 1988. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

Information previously contained in 2.E now contained in 2.0.2, po

If harmful effects or evidence of irreversible damage are detected by the biological monitoring program, hydrological monitoring program specified in the program, and the radiological monitoring program specified in the property of the staff a detailed analysis of the problem and a program of the problem

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P. In accordance with the requirement imposed by the October 8, 1976, order of the United States Court of Appeals for the District of Columbia Circuit in Natural Resources Defense Council w. Nuclear Regulatory Commission, Nos. 74-1385 and 74-1586; that the Nuclear Regulatory Commission "shall make any licenses granted between July 21, 1976 and such time when the mandate is issued subject to the outcome of the proceedings berein," the license amendment issued herein shall be subject to the outcome of such proceedings.

This license is effective as of the date of issuance and shall expire at midnight August 13, 2016. Der Correction

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FOR THE NUCLEAR REGULATORY COMMISSION

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Roger S. Boyd, Director Division of Project Management Office of Nuclear Reactor Regulation

Attachment: Changes to Technical Specifications, Appendix B

Date of Issuance: November 30, 1976