



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

BALTIMORE GAS AND ELECTRIC COMPANY

DOCKET NO. 50-317

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 131
License No. DPR-53

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Baltimore Gas and Electric Company (the licensee) dated June 13, 1988, as supplemented August 9, 1988, 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;
 - 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-53 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 131, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective on September 1, 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert A. Capra

Robert A. Capra, Director
Project Directorate I-1
Division of Reactor Projects, 1/11

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 31, 1988



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

BALTIMORE GAS AND ELECTRIC COMPANY

DOCKET NO. 50-318

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 112
License No. DPR-69

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Baltimore Gas and Electric Company (the licensee) dated June 13, 1988, as supplemented August 9, 1988, 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;
 - 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-69 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 112, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective on September 1, 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert A. Capra

Robert A. Capra, Director
Project Directorate I-1
Division of Reactor Projects, I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 31, 1988



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

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 131 FACILITY OPERATING LICENSE NO. DPR-53

DOCKET NO. 50-317

Revise Appendix A as follows:

Remove Pages

XV
XVI*
6-1

6-2
6-3
6-4*
6-5*
6-6
6-7

6-8
6-13

6-14
6-15*
6-16*
6-17*
6-18*
6-18a*
6-21*
6-22

Insert Pages

XV
XVI*
6-1(t)¹
6-1a(t)¹
6-1²
6-1a²
6-2
6-3
6-4*
6-5*
6-6
6-7
6-7a
6-8
6-13
6-13a
6-14
6-15*
6-16*
6-17*
6-18*
6-18a*
6-21*
6-22

*Overleaf provided for continuity purposes.

¹ Pages 6-1(t) and 6-1a(t) are temporary changes that are effective from September 1, 1988 to 12:01 a.m. on November 30, 1988.

² Pages 6-1 and 6-1a replace pages 6-1(t) and 6-1a(t) and become effective at 12:01 a.m. on November 30, 1988.

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- c. At least two licensed Operators shall be present in the control room during reactor start-up, scheduled reactor shutdown, and during recovery from reactor trips.
- d. An individual qualified in radiation protection procedures shall be on site when fuel is in the reactor.
- e. ALL CORE ALTERATIONS after the initial fuel loading shall be directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation.
- f. A site Fire Brigade of at least 5 members shall be maintained onsite at all times. The Fire Brigade shall not include the minimum shift crew necessary for safe shutdown of both units (4 members) or any personnel required for other essential functions during a fire emergency.
- g. The General Supervisor - Nuclear Operations, Shift Supervisor and Control Room Supervisor shall hold a senior reactor operator license. The Control Room Operator shall hold a reactor operator license.

ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The Manager - Calvert Cliffs Nuclear Power Plant shall be responsible for overall facility operation and shall delegate in writing the succession to this responsibility during his absence.

6.2 ORGANIZATION

6.2.1 ONSITE & OFFSITE ORGANIZATIONS

Onsite and offsite organizations shall be established for unit operation and corporate management, respectively. The onsite and offsite organizations shall include the positions for activities affecting the safety of the nuclear power plant.

- a. Lines of authority, responsibility and communication shall be established and defined for the highest management levels through intermediate levels to and including all operating organization positions. These relationships shall be documented and updated, as appropriate, in the form of organization charts, functional descriptions of Departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in FSAR Chapter 12, and updated in accordance with 10 CFR 50.71(e).
- b. The Manager - Calvert Cliffs Nuclear Power Plant shall be responsible for overall unit safe operation and shall have control over those onsite activities necessary for safe operation and maintenance of the plant.
- c. The Vice President - Nuclear Energy shall have corporate responsibility for overall plant nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure nuclear safety.
- d. The individuals who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their independence from operating pressures.

6.2.2 UNIT STAFF

- a. Each on duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1.
- b. At least one licensed Operator shall be in the control room when fuel is in the reactor.

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- c. At least two licensed Operators shall be present in the control room during reactor start-up, scheduled reactor shutdown, and during recovery from reactor trips.
- d. An individual qualified in radiation protection procedures shall be on site when fuel is in the reactor.
- e. ALL CORE ALTERATIONS after the initial fuel loading shall be directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation.
- f. A site Fire Brigade of at least 5 members shall be maintained onsite at all times. The Fire Brigade shall not include the minimum shift crew necessary for safe shutdown of both units (4 members) or any personnel required for other essential functions during a fire emergency.
- g. The General Supervisor - Nuclear Operations, Shift Supervisor and Control Room Supervisor shall hold a junior reactor operator license. The Control Room Operator shall hold a reactor operator license.

DELETED

DELETED

TABLE 6.2-1

MINIMUM SHIFT CREW COMPOSITION #

Condition of Unit 1 - Unit 2 in MODES 1, 2, 3 or 4

LICENSE CATEGORY	APPLICABLE MODES	
	1, 2, 3 & 4	5 & 6
SOL**	2	2*
OL**	3	3
Non-Licensed	3	3
Shift Technical Advisor	1##	1##

Condition of Unit 1 - Unit 2 in MODES 5 or 6

LICENSE CATEGORY	APPLICABLE MODES	
	1, 2, 3 & 4	5 & 6
SOL**	2	1*
OL**	3	2
Non-Licensed	3	3
Shift Technical Advisor	1##	0

TABLE 6.2-1 (Continued)

*Does not include the licensed Senior Reactor Operator or Senior Reactor Operator limited to Fuel Handling, supervising CORE ALTERATIONS during fuel reloading.

**Assumes each individual is licensed on each unit.

#Shift crew composition may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements of Table 6.2.1.

#The STA shall be qualified/serve as follows:

- (1) With one unit in MODE 5 or 6, and the other unit in MODE 1, 2, 3 or 4, the SOL holder other than the Shift Supervisor shall serve as the STA.
- (2) With one unit defueled and the other unit in MODE 1, 2, 3 or 4, the STA shall be an SOL holder in addition to the one SOL required.
- (3) With both units in MODE 1, 2, 3 or 4, the STA shall be an SOL holder in addition to the two SOLs required.

As an alternative to the above, the STA may be an individual with the following minimum qualifications: a bachelor degree or equivalent in a scientific or engineering discipline with specific training in plant design and response and analysis of the plant for transients and accidents.

ADMINISTRATIVE CONTROLS

6.3 FACILITY STAFF QUALIFICATIONS

6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions, except for (1) the Radiation Safety Engineer who shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975, and (2) the Shift Technical Advisor who shall have a Bachelor's Degree or equivalent in a scientific or engineering discipline with specific training in plant design, and response and analysis of the plant for transients and accidents.

6.4 TRAINING

6.4.1 A retraining and replacement training program for the facility staff shall be maintained under the direction of the General Supervisor - Nuclear Training and shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and Appendix "A" of 10 CFR Part 55, as applicable.

6.4.2 A training program for the Fire Brigade shall be maintained under the direction of the General Supervisor - Quality Control and Support and shall meet or exceed the requirements of Section 27 of the NFPA Code-1975.

6.5 REVIEW AND AUDIT

6.5.1 PLANT OPERATIONS AND SAFETY REVIEW COMMITTEE (POSRC)

FUNCTION

6.5.1.1 The POSRC shall function to advise the Manager-Calvert Cliffs Nuclear Power Plant on all matters related to nuclear safety.

COMPOSITION

6.5.1.2 The POSRC shall be composed of the:

Chairman: Manager-Calvert Cliffs Nuclear Power Plant
Member: General Supervisor - Nuclear Operations
Member: General Supervisor - Electrical and Controls
Member: General Supervisor - Chemistry
Member: General Supervisor - Mechanical Maintenance
Member: General Supervisor - Technical Services Engineering
Member: General Supervisor - Radiation Safety
Member: General Supervisor - Plant and Project Engineering

ALTERNATES

6.5.1.3 All alternate members shall be appointed in writing by the POSRC Chairman to serve on a temporary basis; however, no more than two alternates shall participate as voting members in POSRC activities at any one time.

ADMINISTRATIVE CONTROLS

MEETING FREQUENCY

6.5.1.4 The POSRC shall meet at least once per calendar month and as convened by the POSRC Chairman or his designated alternate.

QUORUM

6.5.1.5 A quorum of the POSRC shall consist of the Chairman or his designated alternate and four members including alternates.

RESPONSIBILITIES

6.5.1.6 The POSRC shall be responsible for:

- a. Review of 1) all procedures required by Specification 6.8 and changes thereto, 2) any other proposed procedures or changes thereto as determined by the Manager - Calvert Cliffs Nuclear Power Plant to affect nuclear safety.
- b. Review of all proposed tests and experiments that affect nuclear safety.
- c. Review of all proposed changes to Appendix "A" Technical Specifications.
- d. Review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety.
- e. Investigation of all violations of the Technical Specifications including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Vice President Nuclear Energy and to the Chairman of the Off-Site Safety Review Committee.
- f. Review of all REPORTABLE EVENTS.
- g. Review of facility operations to detect potential safety hazards.
- h. Performance of special reviews, investigations or analyses and reports thereon as requested by the Chairman of the Off-Site Safety Review Committee.
- i. Review of the Plant Security Plan and implementing procedures and shall submit recommended changes to the Off-Site Safety Review Committee.

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- j. Review of the Emergency Plan and implementing procedures and shall submit recommended changes to the Off-Site Safety Review Committee.
- k. Review of any accidental, unplanned or uncontrolled radioactive release that exceeds 25% of the limits of Specification 3.11.1.2, 3.11.2.2 or 3.11.2.3, including the preparation of reports covering evaluation, recommendations and disposition of the corrective action to prevent recurrence and for forwarding of these reports to the Manager-Calvert Cliffs Nuclear Power Plant and the Off-Site Safety Review Committee.
- l. Review of changes to the PROCESS CONTROL PROGRAM and the OFFSITE DOSE CALCULATION MANUAL.

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AUTHORITY

6.5.1.7 The Plant Operations and Safety Review Committee shall:

- a. Recommend to the Manager-Calvert Cliffs Nuclear Power Plant written approval or disapproval of items considered under 6.5.1.6(a) through (d) above.
- b. Render determinations in writing with regard to whether or not each item considered under 6.5.1.6(a) through (e) above constitutes an unreviewed safety question.
- c. Provide written notification with 24 hours to the Vice President-Nuclear Energy and the Off-Site Safety Review Committee of disagreement between the POSRC and the Manager-Calvert Cliffs Nuclear Power Plant; however, the Manager-Calvert Cliffs Nuclear Power Plant shall have responsibility for resolution of such disagreements pursuant to 6.1.1 above.

RECORDS

6.5.1.8 The POSRC shall maintain written minutes of each meeting and copies shall be provided to the Vice President - Nuclear Energy and Chairman of the Off-Site Safety Review Committee.

6.5.2 OFF-SITE SAFETY REVIEW COMMITTEE (OSSRC)

FUNCTION

6.5.2.1 The Off-Site Safety Review Committee shall function to provide independent review and audit of designated activities in the areas of:

- a. nuclear power plant operations
- b. nuclear engineering
- c. chemistry and radiochemistry
- d. metallurgy and non-destructive examination
- e. instrumentation and control
- f. radiological safety
- g. mechanical and electrical engineering
- h. quality assurance practices

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6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

- a. The facility shall be placed in at least HOT STANDBY within one hour.
- b. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within one hour. The Vice President-Nuclear Energy and the OSSRC shall be notified within 24 hours.
- c. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the POSRC. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems or structures, and (3) corrective action taken to prevent recurrence.
- d. The Safety Limit Violation Report shall be submitted to the Commission, the OSSRC and the Vice President-Nuclear Energy within 14 days of the violation.

6.8 PROCEDURES

6.8.1 Written procedures shall be established, implemented and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, Revision 2, February 1978.
- b. Refueling operations.
- c. Surveillance and test activities of safety related equipment.
- d. Security Plan implementation.
- e. Emergency Plan implementation.
- f. Fire Protection Program implementation.
- g. The amount of overtime worked by plant staff members performing safety related functions must be limited in accordance with the NRC Policy Statement on working Hours (Generic Letter No. 82-12).

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- n. PROCESS CONTROL PROGRAM implementation.
- i. OFFSITE DOSE CALCULATION MANUAL implementation.

6.8.2 Each procedure and administrative policy of 6.8.1 above and changes thereto shall be reviewed by the POSRC and approved by the Manager-Calvert Cliffs Nuclear Power Plant prior to implementation and reviewed periodically as set forth in administrative procedures.

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- 6.8.3 Temporary changes to procedures of 6.8.1 above may be made provided:
- a. The intent of the original procedure is not altered.
 - b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Reactor Operator's License on the unit affected.
 - c. The change is documented, reviewed by the POSRC and approved by the Manager-Calvert Cliffs Nuclear Power Plant within 14 days of implementation.

6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to the Director of the Regional Office of Inspection and Enforcement unless otherwise noted.

STARTUP REPORT

6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant.

6.9.1.2 The startup report shall address each of the tests identified in the FSAR and shall include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

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6.9.1.3 Startup reports shall be submitted within (1) 90 days following completion of the startup test program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of startup test program, and resumption or commencement of commercial power operation), supplementary reports shall be submitted at least every three months until all three events have been completed.

ANNUAL REPORTS ^{1/}

6.9.1.4 Annual reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year. The initial report shall be submitted prior to March 1 of the year following initial criticality.

6.9.1.5 Reports required on an annual basis shall include:

- a. A tabulation on an annual basis of the number of station, utility, and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man rem exposure according to work and job functions,^{2/} e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling. The dose assignment to various duty functions may be estimates based on pocket dosimeter, TLD, or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions.
- b. The complete results of steam generator tube inservice inspections performed during the report period (reference Specification 4.4.5.5.b).
- c. Documentation of all failures and challenges to the pressurizer PORVs or safety valves.

^{1/} A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station.

^{2/} This tabulation supplements the requirements of §20.407 of 10 CFR Part 20.

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MONTHLY OPERATING REPORT

6.9.1.6. Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis to the Director, Office of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, ATTN: Document Control Desk, with a copy to the Regional Administrator and to the NRC Resident Inspector, no later than the 15th of each month following the calendar month covered by the report.

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT*

6.9.1.7 Routine Radiological Environmental Operating Reports covering the operation of the unit during the previous calendar year shall be submitted prior to May 1 of each year.

The Annual Radiological Environmental Operating Reports shall include summaries, interpretations, and an analysis of trends of the results of the radiological environmental surveillance activities for the report period, including a comparison with preoperational studies, with operational controls as appropriate, and with previous environmental surveillance reports, and an assessment of the observed impacts of the plant operation on the environment. The reports shall also include the results of land use censuses required by Specification 3.12.2.

The Annual Radiological Environmental Operating Reports shall include the results of analysis of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the Table and Figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted as soon as possible in a supplementary report.

The reports shall also include the following: a summary description of the radiological environmental monitoring program; at least two legible maps** covering all sampling locations keyed to a table giving distances and directions from the central point between the two containment buildings; the results of licensee participation in the Interlaboratory Comparison Program, required by Specification 3.12.3; discussion of all deviations from the sampling schedule of Table 3.12-1; and discussion of all analyses in which the LLD required by Table 4.12-1 was not achievable.

* A single submittal may be made.

** One map shall cover stations near the site boundary; a second shall include the more distant stations.

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The Annual Radiological Environmental Operating Report will include the identification of the cause of unavailability of samples (if any), and will describe the locations used for the replacement samples. The report will also include any permanent changes in the sample locations which could appear in the monitoring program. It will include a revised figure(s) and table for the ODCM reflecting the new location(s).

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT*

6.9.1.8 Routine Radioactive Effluent Release Reports covering the operation of the unit during the previous 6 months of operation shall be submitted within 60 days after January 1 and July 1 of each year.**

The Radioactive Effluent Release Reports shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the plant as outlined in Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants," Revision 1, June 1974, with data summarized on a quarterly basis following the format of Appendix B thereof.

The Radioactive Effluent Release Report to be submitted within 60 days after January 1 of each year shall include an annual summary of hourly meteorological data collected over the previous year. This annual summary may be either in the form of an hour-by-hour listing on magnetic tape of wind speed, wind direction, atmospheric stability, and precipitation (if measured), or in the form of joint frequency distributions of wind speed, wind direction, and atmospheric stability.*** This same report shall include an assessment of the radiation doses due to the radioactive liquid and gaseous effluents released from the unit or station during the previous calendar year. The assessment of radiation doses shall be performed in accordance with the methodology and parameters in the OFFSITE DOSE CALCULATION MANUAL (ODCM).

* A single submittal may be made for Calvert Cliffs, since the radwaste systems are common to both units.

** In lieu of submission with the Semi-Annual Reports, Sr⁸⁹, Sr⁹⁰ analyses results may be submitted in a supplementary report within 120 days after January 1 and July 1 of each year.

*** In lieu of submission with the first half year Radioactive Effluent Release Report, this summary of required meteorological data may be retained on site in a file that shall be provided to the NRC upon request.

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SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (Continued)

The Radioactive Effluent Release Report to be submitted 60 days after January 1 of each year shall also include an assessment of radiation doses to the likely most exposed MEMBER OF THE PUBLIC from reactor releases and other nearby uranium fuel cycle sources, including doses from primary effluent pathways and direct radiation, for the previous calendar year to show conformance with 40 CFR Part 190, Environmental Radiation Protection Standards for Nuclear Power Operation. Acceptable methods for calculating the dose contribution from liquid and gaseous effluents are given in Regulatory Guide 1.109, Rev. 1, October 1977, and NUREG-0133, "Preparation of Radiological Effluent Technical Specifications for Nuclear Power Plants".

The Radioactive Effluent Release Reports shall include the following information for each class of solid waste (as defined by 10 CFR Part 61) shipped offsite during the report period:

- a. Container volume,
- b. Total curie quantity (specify whether determined by measurement or estimate),
- c. Principal radionuclides (specify whether determined by measurement or estimate),
- d. Source of waste and processing employed (e.g., dewatered spent resin, compacted dry waste, evaporator bottoms),
- e. Solidification agent or absorbent (e.g., cement).

The Radioactive Effluent Release Reports shall include a list and description of unplanned releases from the site to UNRESTRICTED AREAS of radioactive materials in gaseous and liquid effluents made during the reporting period.

The Radioactive Effluent Release Reports shall include any changes made during the reporting period to the PROCESS CONTROL PROGRAM (PCP) and to the OFFSITE DOSE CALCULATION MANUAL (ODCM), as well as a listing of new locations for dose calculations identified by the annual land use census pursuant to Specification 3.12.2.

SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Regional Administrator of the NRC Regional Office within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirements of the applicable reference specification:

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- a. ECCS Actuation, Specifications 3.5.2 and 3.5.3.
- b. Inoperable Seismic Monitoring Instrumentation, Specification 3.3.3.3.
- c. Inoperable Meteorological Monitoring Instrumentation, Specification 3.3.3.4.
- d. Seismic event analysis, Specification 4.3.3.3.2.
- e. Core Barrel Movement, Specification 3.4.11.
- f. Fire Detection Instrumentation, Specification 3.3.3.7.
- g. Fire Suppression Systems, Specifications 3.7.11.1, 3.7.11.2, 3.7.11.3, 3.7.11.4, and 3.7.11.5.
- h. Penetration Fire Barriers, Specification 3.7.12.
- i. Steam Generator Tube Inspection Results, Specification 4.4.5.5.a and c.
- j. Specific Activity of Primary Coolant, Specification 3.4.8.
- k. Containment Structural Integrity, Specification 4.6.1.6.
- l. Radioactive Effluents - Calculated Dose and Total Dose, Specifications 3.11.1.2, 3.11.2.2, 3.11.2.3, and 3.11.4.
- m. Radioactive Effluents - Liquid Radwaste, Gaseous Radwaste and Ventilation Exhaust Treatment Systems Discharges, Specifications 3.11.1.3 and 3.11.2.4.
- n. Radiological Environmental Monitoring Program, Specification 3.12.1.
- o. Radiation Monitoring Instrumentation, Specification 3.3.3.1 (Table 3.3-6).
- p. Overpressure Protection Systems, Specification 3.4.9.3.
- q. Hydrogen Analyzers, Specification 3.6.5.1.

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- b. A high radiation area in which the intensity of radiation is greater than 1000 mrem/hr shall be subject to the provisions of 6.12.1.a, above, and in addition locked barricades shall be provided to prevent unauthorized entry into such areas and the keys shall be maintained by the Supervisor-Radiation Control Operations and the Operations Shift Supervisor on duty under their separate administrative control.

6.13 SYSTEM INTEGRITY

The licensee shall implement a program to reduce leakage from systems outside containment that would or could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. This program shall include the following:

1. Provisions establishing preventive maintenance and periodic visual inspection requirements, and
2. Leak test requirements for each system at a frequency not to exceed refueling cycle intervals.

6.14 IODINE MONITORING

The licensee shall implement a program* which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:

1. Training of personnel,
2. Procedures for monitoring, and
3. Provisions for maintenance of sampling and analysis equipment.

6.15 POSTACCIDENT SAMPLING

The licensee shall establish, implement and maintain a program* which will ensure the capability to obtain and analyze reactor coolant, radioactive iodines and particulates in plant gaseous effluents, and containment atmosphere samples under accident conditions. The program shall include the following:

1. Training of personnel,
2. Procedures for sampling and analysis, and
3. Provisions for maintenance of sampling and analysis equipment.

*It is acceptable if the licensee maintains details of the program in plant operation manuals (e.g., chemistry procedures, training instructions, maintenance procedures, ERPIPs).

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6.16 PROCESS CONTROL PROGRAM (PCP)

- 6.16.1 The PCP shall be approved by the Commission prior to implementation.
- 6.16.2 Licensee initiated changes to the PCP:
1. Shall be submitted to the Commission in the Semiannual Radioactive Effluent Release Report for the period in which the change(s) was made. This submittal shall contain:
 - a. An evaluation supporting the premise that the change did not reduce the overall conformance of the solidified waste product to existing criteria for solid wastes; and
 - b. A reference to the date and the POSRC meeting number in which the change(s) were reviewed and found acceptable to the POSRC.
 2. Shall become effective upon review by the POSRC and approval of the Manager - Calvert Cliffs Nuclear Power Plant.

6.17 OFFSITE DOSE CALCULATION MANUAL (ODCM)

- 6.17.1 The ODCM shall be approved by the Commission prior to implementation.
- 6.17.2 Licensee initiated changes to the ODCM:
1. Shall be submitted to the Commission in the Semiannual Radioactive Effluent Release Report for the period in which the change(s) was made effective. This submittal shall contain:
 - a. Sufficient information to support the rationale for the change. Information submitted should consist of a package of those pages of the ODCM to be changed with each page numbered and provided with a change number and/or change date together with appropriate analyses or evaluations justifying the change(s);
 - b. A determination that the change will not reduce the accuracy or reliability of dose calculations or setpoint determinations; and
 - c. Documentation of the fact that the change has been reviewed and found acceptable by the POSRC.
 2. Shall become effective upon review by the POSRC and approval of the Manager-Calvert Cliffs Nuclear Power Plant.



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

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 112 FACILITY OPERATING LICENSE NO. DPR-69

DOCKET NO. 50-318

Revise Appendix A as follows:

Remove Pages

XV
XVI*
6-1

6-2
6-3
6-4*
6-5*
6-6
6-7

6-8
6-13

6-14
6-15*
6-16*
6-17*
6-18*
6-18a*
6-21*
6-22

Insert Pages

XV
XVI*
6-1(t)¹
6-1a(t)¹
6-1²
6-1a²
6-2
6-3
6-4*
6-5*
6-6
6-7
6-7a
6-8
6-13
6-13a
6-14
6-15*
6-16*
6-17*
6-18*
6-18a*
6-21*
6-22

*Overleaf provided for continuity purposes.

¹ Pages 6-1(t) and 6-1a(t) are temporary changes that are effective from September 1, 1988 to 12:01 a.m. on November 30, 1988.

² Pages 6-1 and 6-1a replace pages 6-1(t) and 6-1(t) and become effective at 12:01 a.m. on November 30, 1988.

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6.1 RESPONSIBILITY

6.1.1 The Manager - Calvert Cliffs Nuclear Power Plant shall be responsible for overall facility operation and shall delegate in writing the succession to this responsibility during his absence.

6.2 ORGANIZATION

6.2.1 ONSITE & OFFSITE ORGANIZATIONS

Onsite and offsite organizations shall be established for unit operation and corporate management, respectively. The onsite and offsite organizations shall include the positions for activities affecting the safety of the nuclear power plant.

- a. Lines of authority, responsibility and communication shall be established and defined for the highest management levels through intermediate levels to and including all operating organization positions. These relationships shall be documented and updated, as appropriate, in the form of organization charts in FSAR Chapter 12, and updated in accordance with 10 CFR 50.71(e).
- b. The Manager - Calvert Cliffs Nuclear Power Plant shall be responsible for overall unit safe operation and shall have control over those onsite activities necessary for safe operation and maintenance of the plant.
- c. The Vice President - Nuclear Energy shall have corporate responsibility for overall plant nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure nuclear safety.
- d. The individuals who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their independence from operating pressures.

6.2.2 UNIT STAFF

- a. Each on duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1.
- b. At least one licensed Operator shall be in the control room when fuel is in the reactor.

ADMINISTRATIVE CONTROLS

- c. At least two licensed Operators shall be present in the control room during reactor start-up, scheduled reactor shutdown, and during recovery from reactor trips.
- d. An individual qualified in radiation protection procedures shall be on site when fuel is in the reactor.
- e. ALL CORE ALTERATIONS after the initial fuel loading shall be directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation.
- f. A site Fire Brigade of at least 5 members shall be maintained onsite at all times. The Fire Brigade shall not include the minimum shift crew necessary for safe shutdown of both units (4 members) or any personnel required for other essential functions during a fire emergency.
- g. The General Supervisor - Nuclear Operations, Shift Supervisor and Control Room Supervisor shall hold a senior reactor operator license. The Control Room Operator shall hold a reactor operator license.

ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The Manager - Calvert Cliffs Nuclear Power Plant shall be responsible for overall facility operation and shall delegate in writing the succession to this responsibility during his absence.

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Onsite and offsite organizations shall be established for unit operation and corporate management, respectively. The onsite and offsite organizations shall include the positions for activities affecting the safety of the nuclear power plant.

- a. Lines of authority, responsibility and communication shall be established and defined for the highest management levels through intermediate levels to and including all operating organization positions. These relationships shall be documented and updated, as appropriate, in the form of organization charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in FSAR Chapter 12, and updated in accordance with 10 CFR 50.71(e).
- b. The Manager - Calvert Cliffs Nuclear Power Plant shall be responsible for overall unit safe operation and shall have control over those onsite activities necessary for safe operation and maintenance of the plant.
- c. The Vice President - Nuclear Energy shall have corporate responsibility for overall plant nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure nuclear safety.
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ADMINISTRATIVE CONTROLS

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- g. The General Supervisor - Nuclear Operations, Shift Supervisor and Control Room Supervisor shall hold a senior reactor operator license. The Control Room Operator shall hold a reactor operator license.

DELETED

DELETED

TABLE 6.2-1

MINIMUM SHIFT CREW COMPOSITION #

Condition of Unit 2 - Unit 1 in MODES 1, 2, 3 or 4

LICENSE CATEGORY	APPLICABLE MODES	
	1, 2, 3 & 4	5 & 6
SOL**	2	2*
DL**	3	3
Non-Licensed	3	3
Shift Technical Advisor	1##	1##

Condition of Unit 2 - Unit 1 in MODES 5 or 6

LICENSE CATEGORY	APPLICABLE MODES	
	1, 2, 3 & 4	5 & 6
SOL**	2	1*
DL**	3	2
Non-Licensed	3	3
Shift Technical Advisor	1##	0

TABLE 6.2-1 (Continued)

*Does not include the licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling, supervising CORE ALTERATIONS during fuel reloading.

**Assumes each individual is licensed on each unit.

#Shift crew composition may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements of Table 6.2.1.

##The STA shall be qualified/serve as follows:

- (1) With one unit in MODE 5 or 6, and the other unit in MODE 1, 2, 3 or 4, the SOL holder other than the Shift Supervisor shall serve as the STA.
- (2) With one unit defueled and the other unit in MODE 1, 2, 3 or 4, the STA shall be an SOL holder in addition to the one SOL required.
- (3) With both units in MODE 1, 2, 3 or 4, the STA shall be an SOL holder in addition to the two SOLs required.

As an alternative to the above, the STA may be an individual with the following minimum qualifications: a bachelor degree or equivalent in a scientific or engineering discipline with specific training in plant design and response and analysis of the plant for transients and accidents.

ADMINISTRATIVE CONTROLS

6.3 FACILITY STAFF QUALIFICATIONS

6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions, except for (1) the Radiation Safety Engineer who shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975, and (2) the Shift Technical Advisor who shall have a Bachelor's Degree or equivalent in a scientific or engineering discipline with specific training in plant design, and response and analysis of the plant for transients and accidents.

6.4 TRAINING

6.4.1 A retraining and replacement training program for the facility staff shall be maintained under the direction of the General Supervisor - Nuclear Training and shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and Appendix "A" of 10 CFR Part 55, as applicable.

6.4.2 A training program for the Fire Brigade shall be maintained under the direction of the General Supervisor - Quality Control and Support and shall meet or exceed the requirements of Section 2. of the NFPA Code-1975.

6.5 REVIEW AND AUDIT

6.5.1 PLANT OPERATIONS AND SAFETY REVIEW COMMITTEE (POSRC)

FUNCTION

6.5.1.1 The POSRC shall function to advise the Manager-Calvert Cliffs Nuclear Power Plant on all matters related to nuclear safety.

COMPOSITION

6.5.1.2 The POSRC shall be composed of the:

Chairman: Manager-Calvert Cliffs Nuclear Power Plant
Member: General Supervisor - Nuclear Operations
Member: General Supervisor - Electrical and Controls
Member: General Supervisor - Chemistry
Member: General Supervisor - Mechanical Maintenance
Member: General Supervisor - Technical Services Engineering
Member: General Supervisor - Radiation Safety
Member: General Supervisor - Plant and Project Engineering

ALTERNATES

6.5.1.3 All alternate members shall be appointed in writing by the POSRC Chairman to serve on a temporary basis; however, no more than two alternates shall participate as voting members in POSRC activities at any one time.

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MEETING FREQUENCY

6.5.1.4 The POSRC shall meet at least once per calendar month and as convened by the POSRC Chairman or his designated alternate.

QUORUM

6.5.1.5 A quorum of the POSRC shall consist of the Chairman or his designated alternate and four members including alternates.

RESPONSIBILITIES

6.5.1.6 The POSRC shall be responsible for:

- a. Review of 1) all procedures required by Specification 6.8 and changes thereto, 2) any other proposed procedures or changes thereto as determined by the Manager - Calvert Cliffs Nuclear Power Plant to affect nuclear safety.
- b. Review of all proposed tests and experiments that affect nuclear safety.
- c. Review of all proposed changes to Appendix "A" Technical Specifications.
- d. Review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety.
- e. Investigation of all violations of the Technical Specifications including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Vice President Nuclear Energy and to the Chairman of the Off-Site Safety Review Committee.
- f. Review of all REPORTABLE EVENTS.
- g. Review of facility operations to detect potential safety hazards.
- h. Performance of special reviews, investigations or analyses and reports thereon as requested by the Chairman of the Off-Site Safety Review Committee.
- i. Review of the Plant Security Plan and implementing procedures and shall submit recommended changes to the Off-Site Safety Review Committee.

ADMINISTRATIVE CONTROLS

- j. Review of the Emergency Plan and implementing procedures and shall submit recommended changes to the Off-Site Safety Review Committee.
- k. Review of any accidental, unplanned or uncontrolled radioactive release that exceeds 25% of the limits of Specification 3.11.1.2, 3.11.2.2 or 3.11.2.3, including the preparation of reports covering evaluation, recommendations and disposition of the corrective action to prevent recurrence and for forwarding of these reports to the Manager-Calvert Cliffs Nuclear Power Plant and the Off-Site Safety Review Committee.
- l. Review of changes to the PROCESS CONTROL PROGRAM and the OFFSITE DOSE CALCULATION MANUAL.

ADMINISTRATIVE CONTROLS

AUTHORITY

- 6.5.1.7 The Plant Operations and Safety Review Committee shall:
- a. Recommend to the Manager-Calvert Cliffs Nuclear Power Plant written approval or disapproval of items considered under 6.5.1.6(a) through (d) above.
 - b. Render determinations in writing with regard to whether or not each item considered under 6.5.1.6(a) through (e) above constitutes an unreviewed safety question.
 - c. Provide written notification with 24 hours to the Vice President-Nuclear Energy and the Off-Site Safety Review Committee of disagreement between the POSRC and the Manager-Calvert Cliffs Nuclear Power Plant; however, the Manager-Calvert Cliffs Nuclear Power Plant shall have responsibility for resolution of such disagreements pursuant to 6.1.1 above.

RECORDS

6.5.1.8 The POSRC shall maintain written minutes of each meeting and copies shall be provided to the Vice President - Nuclear Energy and Chairman of the Off-Site Safety Review Committee.

6.5.2 OFF-SITE SAFETY REVIEW COMMITTEE (OSSRC)

FUNCTION

- 6.5.2.1 The Off-Site Safety Review Committee shall function to provide independent review and audit of designated activities in the areas of:
- a. nuclear power plant operations
 - b. nuclear engineering
 - c. chemistry and radiochemistry
 - d. metallurgy and non-destructive examination
 - e. instrumentation and control
 - f. radiological safety
 - g. mechanical and electrical engineering
 - h. quality assurance practices

ADMINISTRATIVE CONTROLS

6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

- a. The facility shall be placed in at least HOT STANDBY within one hour.
- b. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within one hour. The Vice President-Nuclear Energy and the OSSRC shall be notified within 24 hours.
- c. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the POSRC. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems or structures, and (3) corrective action taken to prevent recurrence.
- d. The Safety Limit Violation Report shall be submitted to the Commission, the OSSRC and the Vice President-Nuclear Energy within 14 days of the violation.

6.8 PROCEDURES

6.8.1 Written procedures shall be established, implemented and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, Revision 2, February 1978.
- b. Refueling operations.
- c. Surveillance and test activities of safety related equipment.
- d. Security Plan implementation.
- e. Emergency Plan implementation.
- f. Fire Protection Program implementation.
- g. The amount of overtime worked by plant staff members performing safety related functions must be limited in accordance with the NRC Policy Statement on working Hours (Generic Letter No. 82-12).

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- h. PROCESS CONTROL PROGRAM implementation.
- i. OFFSITE DOSE CALCULATION MANUAL implementation.

6.8.2 Each procedure and administrative policy of 6.8.1 above and changes thereto shall be reviewed by the POSRC and approved by the Manager-Calvert Cliffs Nuclear Power Plant prior to implementation and reviewed periodically as set forth in administrative procedures.

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- 6.8.3 Temporary changes to procedures of 6.8.1 above may be made provided:
- a. The intent of the original procedure is not altered.
 - b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Reactor Operator's License on the unit affected.
 - c. The change is documented, reviewed by the POSRC and approved by the Manager-Calvert Cliffs Nuclear Power Plant within 14 days of implementation.

6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to the Director of the Regional Office of Inspection and Enforcement unless otherwise noted.

STARTUP REPORT

6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant.

6.9.1.2 The startup report shall address each of the tests identified in the FSAR and shall include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

ADMINISTRATIVE CONTROLS

6.9.1.3 Startup reports shall be submitted within (1) 90 days following completion of the startup test program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of startup test program, and resumption or commencement of commercial power operation), supplementary reports shall be submitted at least every three months until all three events have been completed.

ANNUAL REPORTS ^{1/}

6.9.1.4 Annual reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year. The initial report shall be submitted prior to March 1 of the year following initial criticality.

6.9.1.5 Reports required on an annual basis shall include:

- a. A tabulation on an annual basis of the number of station, utility, and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man rem exposure according to work and job functions,^{2/} e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling. The dose assignment to various duty functions may be estimates based on pocket dosimeter, TLD, or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions.
- b. The complete results of steam generator tube inservice inspections performed during the report period (reference Specification 4.4.5.5.b).
- c. Documentation of all failures and challenges to the pressurizer PORVs or safety valves.

^{1/} A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station.

^{2/} This tabulation supplements the requirements of §20.407 of 10 CFR Part 20.

ADMINISTRATIVE CONTROLS

MONTHLY OPERATING REPORT

6.9.1.6. Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis to the Director, Office of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, ATTN: Document Control Desk, with a copy to the Regional Administrator and to the NRC Resident Inspector, no later than the 15th of each month following the calendar month covered by the report.

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT*

6.9.1.7 Routine Radiological Environmental Operating Reports covering the operation of the unit during the previous calendar year shall be submitted prior to May 1 of each year.

The Annual Radiological Environmental Operating Reports shall include summaries, interpretations, and an analysis of trends of the results of the radiological environmental surveillance activities for the report period, including a comparison with preoperational studies, with operational controls as appropriate, and with previous environmental surveillance reports, and an assessment of the observed impacts of the plant operation on the environment. The reports shall also include the results of land use censuses required by Specification 3.12.2.

The Annual Radiological Environmental Operating Reports shall include the results of analysis of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the Table and Figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted as soon as possible in a supplementary report.

The reports shall also include the following: a summary description of the radiological environmental monitoring program; at least two legible maps** covering all sampling locations keyed to a table giving distances and directions from the central point between the two containment buildings; the results of licensee participation in the Interlaboratory Comparison Program, required by Specification 3.12.3; discussion of all deviations from the sampling schedule of Table 3.12-1; and discussion of all analyses in which the LLD required by Table 4.12-1 was not achievable.

* A single submittal may be made.

** One map shall cover stations near the site boundary; a second shall include the more distant stations.

ADMINISTRATIVE CONTROLS

The Annual Radiological Environmental Operating Report will include the identification of the cause of unavailability of samples (if any), and will describe the locations used for the replacement samples. The report will also include any permanent changes in the sample locations which could appear in the monitoring program. It will include a revised figure(s) and table for the ODCM reflecting the new location(s).

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT*

6.9.1.8 Routine Radioactive Effluent Release Reports covering the operation of the unit during the previous 6 months of operation shall be submitted within 60 days after January 1 and July 1 of each year.**

The Radioactive Effluent Release Reports shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the plant as outlined in Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants," Revision 1, June 1974, with data summarized on a quarterly basis following the format of Appendix B thereof.

The Radioactive Effluent Release Report to be submitted within 60 days after January 1 of each year shall include an annual summary of hourly meteorological data collected over the previous year. This annual summary may be either in the form of an hour-by-hour listing on magnetic tape of wind speed, wind direction, atmospheric stability, and precipitation (if measured), or in the form of joint frequency distributions of wind speed, wind direction, and atmospheric stability.*** This same report shall include an assessment of the radiation doses due to the radioactive liquid and gaseous effluents released from the unit or station during the previous calendar year. The assessment of radiation doses shall be performed in accordance with the methodology and parameters in the OFFSITE DOSE CALCULATION MANUAL (ODCM).

- * A single submittal may be made for Calvert Cliffs, since the radwaste systems are common to both units.
- ** In lieu of submission with the Semi-Annual Reports, Sr⁸⁹, Sr⁹⁰ analyses results may be submitted in a supplementary report within 120 days after January 1 and July 1 of each year.
- *** In lieu of submission with the first half year Radioactive Effluent Release Report, this summary of required meteorological data may be retained on site in a file that shall be provided to the NRC upon request.

ADMINISTRATIVE CONTROLS

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (Continued)

The Radioactive Effluent Release Report to be submitted 60 days after January 1 of each year shall also include an assessment of radiation doses to the likely most exposed MEMBER OF THE PUBLIC from reactor releases and other nearby uranium fuel cycle sources, including doses from primary effluent pathways and direct radiation, for the previous calendar year to show conformance with 40 CFR Part 190, Environmental Radiation Protection Standards for Nuclear Power Operation. Acceptable methods for calculating the dose contribution from liquid and gaseous effluents are given in Regulatory Guide 1.109, Rev. 1, October 1977, and NUREG-0133, "Preparation of Radiological Effluent Technical Specifications for Nuclear Power Plants".

The Radioactive Effluent Release Reports shall include the following information for each class of solid waste (as defined by 10 CFR Part 61) shipped offsite during the report period:

- a. Container volume,
- b. Total curie quantity (specify whether determined by measurement or estimate),
- c. Principal radionuclides (specify whether determined by measurement or estimate),
- d. Source of waste and processing employed (e.g., dewatered spent resin, compacted dry waste, evaporator bottoms),
- e. Solidification agent or absorbent (e.g., cement).

The Radioactive Effluent Release Reports shall include a list and description of unplanned releases from the site to UNRESTRICTED AREAS of radioactive materials in gaseous and liquid effluents made during the reporting period.

The Radioactive Effluent Release Reports shall include any changes made during the reporting period to the PROCESS CONTROL PROGRAM (PCP) and to the OFFSITE DOSE CALCULATION MANUAL (ODCM), as well as a listing of new locations for dose calculations identified by the annual land use census pursuant to Specification 3.12.2.

SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Regional Administrator of the NRC Regional Office within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirements of the applicable reference specification:

ADMINISTRATIVE CONTROLS

- a. ECCS Actuation, Specifications 3.5.2 and 3.5.3.
- b. Inoperable Seismic Monitoring Instrumentation, Specification 3.3.3.3
- c. Inoperable Meteorological Monitoring Instrumentation, Specification 3.3.3.4.
- d. Seismic event analysis, Specification 4.3.3.3.2.
- e. Core Barrel Movement, Specification 3.4.11.
- f. Fire Detection Instrumentation, Specification 3.3.3.7.
- g. Fire Suppression Systems, Specifications 3.7.11.1, 3.7.11.2, 3.7.11.3, 3.7.11.4, and 3.7.11.5.
- h. Penetration Fire Barriers, Specification 3.7.12.
- i. Steam Generator Tube Inspection Results, Specification 4.4.5.5.a and c. |
- j. Specific Activity of Primary Coolant, Specification 3.4.8.
- k. Containment Structural Integrity, Specification 4.6.1.6.
- l. Radioactive Effluents - Calculated Dose and Total Dose, Specifications 3.11.1.2, 3.11.2.2, 3.11.2.3, and 3.11.4.
- m. Radioactive Effluents -- Liquid Radwaste, Gaseous Radwaste and Ventilation Exhaust Treatment Systems Discharges, Specifications 3.11.1.3 and 3.11.2.4.
- n. Radiological Environmental Monitoring Program, Specification 3.12.1.
- o. Radiation Monitoring Instrumentation, Specification 3.3.3.1 (Table 3.3-6).
- p. Overpressure Protection Systems, Specification 3.4.9.3.
- q. Hydrogen Analyzers, Specification 3.6.5.1.

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- b. A high radiation area in which the intensity of radiation is greater than 1000 mrem/hr shall be subject to the provisions of 6.12.1.a, above, and in addition locked barricades shall be provided to prevent unauthorized entry into such areas and the keys shall be maintained by the Supervisor-Radiation Control Operations and the Operations Shift Supervisor on duty under their separate administrative control.

6.13 SYSTEM INTEGRITY

The licensee shall implement a program to reduce leakage from systems outside containment that would or could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. This program shall include the following:

1. Provisions establishing preventive maintenance and periodic visual inspection requirements, and
2. Leak test requirements for each system at a frequency not to exceed refueling cycle intervals.

6.14 IODINE MONITORING

The licensee shall implement a program* which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:

1. Training of personnel,
2. Procedures for monitoring, and
3. Provisions for maintenance of sampling and analysis equipment.

6.15 POSTACCIDENT SAMPLING

The licensee shall establish, implement and maintain a program* which will ensure the capability to obtain and analyze reactor coolant, radioactive iodines and particulates in plant gaseous effluents, and containment atmosphere samples under accident conditions. The program shall include the following:

1. Training of personnel,
2. Procedures for sampling and analysis, and
3. Provisions for maintenance of sampling and analysis equipment.

*It is acceptable if the licensee maintains details of the program in plant operation manuals (e.g., chemistry procedures, training instructions, maintenance procedures, ERPIPs).

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6.16 PROCESS CONTROL PROGRAM (PCP)

- 6.16.1 The PCP shall be approved by the Commission prior to implementation.
- 6.16.2 Licensee initiated changes to the PCP:
1. Shall be submitted to the Commission in the Semiannual Radioactive Effluent Release Report for the period in which the change(s) was made. This submittal shall contain:
 - a. An evaluation supporting the premise that the change did not reduce the overall conformance of the solidified waste product to existing criteria for solid wastes; and
 - b. A reference to the date and the POSRC meeting number in which the change(s) were reviewed and found acceptable to the POSRC.
 2. Shall become effective upon review by the POSRC and approval of the Manager - Calvert Cliffs Nuclear Power Plant.

6.17 OFFSITE DOSE CALCULATION MANUAL (ODCM)

- 6.17.1 The ODCM shall be approved by the Commission prior to implementation.
- 6.17.2 Licensee initiated changes to the ODCM:
1. Shall be submitted to the Commission in the Semiannual Radioactive Effluent Release Report for the period in which the change(s) was made effective. This submittal shall contain:
 - a. Sufficient information to support the rationale for the change. Information submitted should consist of a package of those pages of the ODCM to be changed with each page numbered and provided with a change number and/or change date together with appropriate analyses or evaluations justifying the change(s);
 - b. A determination that the change will not reduce the accuracy or reliability of dose calculations or setpoint determinations; and
 - c. Documentation of the fact that the change has been reviewed and found acceptable by the POSRC.
 2. Shall become effective upon review by the POSRC and approval of the Manager - Calvert Cliffs Nuclear Power Plant.