



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

BALTIMORE GAS AND ELECTRIC COMPANY

DOCKET NO. 50-317

CALVERT CLIFFS NUCLEAR POWER PLANT UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 99
License No. DPR-53

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The applications for amendment by Baltimore Gas & Electric Company (the licensee) dated April 9 and June 29, 1984 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;
 - B. The facility will operate in conformity with the applications, 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.

8503070300 850222
PDR ADOCK 05000317
P PDR

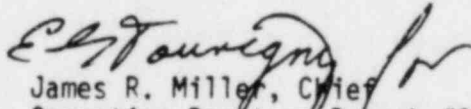
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-53 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 99, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


James R. Miller, Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 22, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 99

FACILITY OPERATING LICENSE NO. DPR-53

DOCKET NO. 50-317

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change. The corresponding overleaf pages are provided to maintain document completeness.

Pages

IV
VII
XII
3/4 3-26
3/4 3-27
3/4 3-28
3/4 3-47
3/4 7-78
B 3/4 3-3
B 3/4 7-7

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
3/4.0 APPLICABILITY.....	3/4 0-1
<u>3/4.1 REACTIVITY CONTROL SYSTEMS</u>	
3/4.1.1 BORATION CONTROL	
Shutdown Margin - $T_{avg} > 200^{\circ}\text{F}$	3/4 1-1
Shutdown Margin - $T_{avg} \leq 200^{\circ}\text{F}$	3/4 1-3
Boron Dilution	3/4 1-4
Moderator Temperature Coefficient	3/4 1-5
Minimum Temperature for Criticality.....	3/4 1-7
3/4.1.2 BORATION SYSTEMS	
Flow Paths - Shutdown.....	3/4 1-8
Flow Paths - Operating.....	3/4 1-9
Charging Pump - Shutdown.....	3/4 1-10
Charging Pumps - Operating.....	3/4 1-11
Boric Acid Pumps - Shutdown.....	3/4 1-12
Boric Acid Pumps - Operating.....	3/4 1-13
Borated Water Sources - Shutdown.....	3/4 1-14
Borated Water Sources - Operating.....	3/4 1-16
3/4.1.3 MOVABLE CONTROL ASSEMBLIES	
Full Length CEA Position.....	3/4 1-17
Position Indicator Channels.....	3/4 1-21
CEA Drop Time.....	3/4 1-23
Shutdown CEA Insertion Limits.....	3/4 1-24
Regulating CEA Insertion Limits.....	3/4 1-25

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.2 POWER DISTRIBUTION LIMITS</u>	
3/4.2.1 LINEAR HEAT RATE.....	3/4 2-1
3/4.2.2 TOTAL PLANAR RADIAL PEAKING FACTOR.....	3/4 2-6
3/4.2.3 TOTAL INTEGRATED RADIAL PEAKING FACTOR.....	3/4 2-9
3/4.2.4 AZIMUTHAL POWER TILT.....	3/4 2-12
3/4.2.5 DNB PARAMETERS.....	3/4 2-13
<u>3/4.3 INSTRUMENTATION</u>	
3/4.3.1 REACTOR PROTECTIVE INSTRUMENTATION.....	3/4 3-1
3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION.....	3/4 3-10
3/4.3.3 MONITORING INSTRUMENTATION	
Radiation Monitoring Instrumentation.....	3/4 3-25
Incore Detectors.....	3/4 3-29
Seismic Instrumentation.....	3/4 3-31
Meteorological Instrumentation.....	3/4 3-34
Remote Shutdown Instrumentation.....	3/4 3-37
Post Accident Instrumentation.....	3/4 3-40
Fire Detection Instrumentation.....	3/4 3-43
Radioactive Gaseous Effluent Monitoring Instrumentation.....	3/4 3-47
<u>3/4.4 REACTOR COOLANT SYSTEM</u>	
3/4.4.1 COOLANT LOOPS AND COOLANT CIRCULATION.....	
Startup and Power.....	3/4 4-1
Hot Standby.....	3/4 4-2
Shutdown.....	3/4 4-2a
3/4.4.2 SAFETY VALVES.....	3/4 4-3
3/4.4.3 RELIEF VALVES.....	3/4 4-4

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION.....	3/4 7-13
3/4.7.3 COMPONENT COOLING WATER SYSTEM.....	3/4 7-14
3/4.7.4 SERVICE WATER SYSTEM.....	3/4 7-15
3/4.7.5 SALT WATER SYSTEM.....	3/4 7-16
3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM.....	3/4 7-17
3/4.7.7 ECCS PUMP ROOM EXHAUST AIR FILTRATION SYSTEM.....	3/4 7-21
3/4.7.8 SNUBBERS.....	3/4 7-25
3/4.7.9 SEALED SOURCE CONTAMINATION.....	3/4 7-63
3/4.7.10 WATERTIGHT DOORS.....	3/4 7-65
3/4.7.11 FIRE SUPPRESSION SYSTEMS	
Fire Suppression Water System.....	3/4 7-66
Spray and/or Sprinkler Systems.....	3/4 7-69
Halon System.....	3/4 7-72
Fire Hose Stations.....	3/4 7-73
Yard Fire Hydrants and Hydrant Hose Houses.....	3/4 7-75
3/4.7.12 PENETRATION FIRE BARRIERS.....	3/4 7-77
3/4.7.13 POST ACCIDENT SAMPLING.....	3/4 7-78
<u>3/4.8 ELECTRICAL POWER SYSTEMS</u>	
3/4.8.1 A.C. SOURCES	
Operating.....	3/4 8-1
Shutdown.....	3/4 8-5
3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS	
A.C. Distribution - Operating.....	3/4 8-6
A.C. Distribution - Shutdown.....	3/4 8-7
D.C. Distribution - Operating.....	3/4 8-8
D.C. Distribution - Shutdown.....	3/4 8-11

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.9 REFUELING OPERATIONS</u>	
3/4.9.1 BORON CONCENTRATION.....	3/4 9-1
3/4.9.2 INSTRUMENTATION.....	3/4 9-2
3/4.9.3 DECAY TIME.....	3/4 9-3
3/4.9.4 CONTAINMENT PENETRATIONS.....	3/4 9-4
3/4.9.5 COMMUNICATIONS.....	3/4 9-5
3/4.9.6 REFUELING MACHINE OPERABILITY.....	3/4 9-6
3/4.9.7 CRANE TRAVEL - SPENT FUEL STORAGE POOL BUILDING.....	3/4 9-7
3/4.9.8 SHUTDOWN COOLING AND COOLANT CIRCULATION.....	3/4 9-8
3/4.9.9 CONTAINMENT PURGE VALVE ISOLATION SYSTEM.....	3/4 9-9
3/4.9.10 WATER LEVEL - REACTOR VESSEL.....	3/4 9-10
3/4.9.11 SPENT FUEL POOL WATER LEVEL.....	3/4 9-11
3/4.9.12 SPENT FUEL POOL VENTILATION SYSTEM.....	3/4 9-12
3/4.9.13 SPENT FUEL CASK HANDLING CRANE.....	3/4 9-16
3/4.9.14 CONTAINMENT VENT ISOLATION VALVES.....	3/4 9-17
 <u>3/4.10 SPECIAL TEST EXCEPTIONS</u>	
3/4.10.1 SHUTDOWN MARGIN.....	3/4 10-1
3/4.10.2 MODERATOR TEMPERATURE COEFFICIENT, CEA INSERTION AND POWER DISTRIBUTION LIMITS.....	3/4 10-2
3/4.10.3 NO FLOW TESTS.....	3/4 10-3
3/4.10.4 CENTER CEA MISALIGNMENT.....	3/4 10-4
3/4.10.5 COOLANT CIRCULATION.....	3/4 10-5

INDEX

BASES

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.6 CONTAINMENT SYSTEMS</u>	
3/4.6.1 PRIMARY CONTAINMENT.....	B 3/4 6-1
3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS.....	B 3/4 6-3
3/4.6.3 IODINE REMOVAL SYSTEM.....	B 3/4 6-3
3/4.6.4 CONTAINMENT ISOLATION VALVES.....	B 3/4 6-3
3/4.6.5 COMBUSTIBLE GAS CONTROL.....	B 3/4 6-4
3/4.6.6 PENETRATION ROOM EXHAUST AIR FILTRATION SYSTEM.....	B 3/4 6-4

INDEX

BASES

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.7 PLANT SYSTEMS</u>	
3/4.7.1 TURBINE CYCLE.....	B 3/4 7-1
3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION.....	B 3/4 7-3
3/4.7.3 COMPONENT COOLING WATER SYSTEM.....	B 3/4 7-4
3/4.7.4 SERVICE WATER SYSTEM.....	B 3/4 7-4
3/4.7.5 SALT WATER SYSTEM.....	B 3/4 7-4
3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM.....	B 3/4 7-4
3/4.7.7 ECCS PUMP ROOM EXHAUST AIR FILTRATION SYSTEM.....	B 3/4 7-4
3/4.7.8 SNUBBERS.....	B 3/4 7-5
3/4.7.9 SEALED SOURCE CONTAMINATION.....	B 3/4 7-6
3/4.7.10 WATERTIGHT DOORS.....	B 3/4 7-6
3/4.7.11 FIRE SUPPRESSION SYSTEMS.....	B 3/4 7-6
3/4.7.12 PENETRATION FIRE BARRIERS.....	B 3/4 7-7
3/4.7.13 POST-ACCIDENT SAMPLING.....	B 3/4 7-7
<u>3/4.8 ELECTRICAL POWER SYSTEMS.....</u>	
<u>3/4.9 REFUELING OPERATIONS</u>	
3/4.9.1 BORON CONCENTRATION.....	B 3/4 9-1
3/4.9.2 INSTRUMENTATION.....	B 3/4 9-1
3/4.9.3 DECAY TIME.....	B 3/4 9-1
3/4.9.4 CONTAINMENT PENETRATIONS.....	B 3/4 9-1

INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

- a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.
- b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the modes and at the frequencies shown in Table 4.3-3.

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ALARM/TRIP SETPOINT</u>	<u>MEASUREMENT RANGE</u>	<u>ACTION</u>
1. AREA MONITORS					
a. Containment					
i. Purge & Exhaust Isolation	3	6	≤ 220 mr/hr	$10^{-1} - 10^4$ mr/hr	16
b. Containment Area High Range	2	1, 2, 3, & 4	≤ 10 R/hr	$1 - 10^8$ R/hr	30
2. PROCESS MONITORS					
a. Containment					
i. Gaseous Activity					
a) RCS Leakage Detection	1	1, 2, 3, & 4	Not Applicable	$1 - 10^6$ cpm	14
ii. Particulate Activity					
a) RCS Leakage Detection	1	1, 2, 3, & 4	Not Applicable	$1 - 10^6$ cpm	14
b. Noble Gas Effluent Monitors					
i. Main Vent Wide Range	1	1, 2, 3, & 4	*	10^{-7} to 10^{+5} μ Ci/cc	30

*Alarm setpoint to be specified in a controlled document (e.g., setpoint control manual)

TABLE 3.3-6 (Continued)

TABLE NOTATION

- ACTION 14 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.4.6.1.
- ACTION 16 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.9.9.
- ACTION 30 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, initiate the preplanned alternate method of monitoring the appropriate parameter(s), within 72 hours, and:
- 1) either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or
 - 2) prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days following the event, outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to OPERABLE status.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES IN WHICH SURVEILLANCE REQUIRED</u>
1. AREA MONITORS				
a. Containment				
i. Purge & Exhaust Isolation	S	R	M	6
b. Containment Area High Range	S	R	M	1, 2, 3, & 4
2. PROCESS MONITORS				
a. Containment				
i. Gaseous Activity				
a) RCS Leakage Detection	S	R	M	1, 2, 3, & 4
ii. Particulate Activity				
a) RCS Leakage Detection	S	R	M	1, 2, 3, & 4
b. Noble Gas Effluent Monitor				
i. Main Vent Wide Range	S	R	M	1, 2, 3, & 4

INSTRUMENTATION

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.8 The main vent iodine and particulate sampler shall be OPERABLE.

APPLICABILITY: ALL MODES.

ACTION:

- a. With the main vent iodine and particulate sampler inoperable, initiate the preplanned alternate method of sampling the main vent for the appropriate parameter(s) within 72 hours; and
 1. either restore the inoperable sampler to OPERABLE status within 7 days of the event, or
 2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days following the event, outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.8 The main vent iodine and particulate sampler shall be demonstrated OPERABLE by comparing samples independently drawn from the main vent at least once per month.

PLANT SYSTEMS

3/4.7.12 PENETRATION FIRE BARRIERS

LIMITING CONDITIONS FOR OPERATION

3.7.12 All fire barrier penetrations (i.e., cable penetration barriers, fire-doors and fire dampers), in fire zone boundaries, protecting safe shutdown areas shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

- a. With one or more of the above required fire barrier penetrations inoperable within one hour either establish a continuous fire watch on at least one side of the affected penetration, or verify the OPERABILITY of fire detectors on at least one side of the inoperable fire barrier and establish an hourly fire watch patrol; or verify the operability of automatic sprinkler systems (including the water flow alarm and supervisory system) on both sides of the inoperable fire barrier. Restore the inoperable fire barrier penetration(s) to operable status within 7 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperable penetration and plans and schedule for restoring the fire barrier penetration(s) to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.12 Each of the above required fire barrier penetrations shall be verified to be OPERABLE:

- a. At least once per 18 months by a visual inspection.
- b. Prior to returning a fire barrier penetration to functional status following repairs or maintenance by performance of a visual inspection of the affected fire barrier penetration(s).

PLANT SYSTEMS

3/4.7.13 POST-ACCIDENT SAMPLING

LIMITING CONDITION FOR OPERATION

3.7.13 The post-accident sampling system shall be OPERABLE and capable of processing samples from all of the below listed points:

- a. RCS sample via hot leg
- b. RCS sample via low pressure safety injection, and
- c. Containment sump sample via low pressure safety injection.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With the operability of the post-accident sampling system less than the LIMITING CONDITION FOR OPERATION specified above, within 72 hours initiate the preplanned alternate method of processing specified sample(s), and either:
 1. Restore the system to OPERABLE status within 7 days, or
 2. Prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days following the event, outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.13 The post-accident sampling system shall be demonstrated OPERABLE at least once per six (6) months by comparing the results of a RCS sample analyzed by laboratory techniques with the results analyzed by the below listed analyzing equipment:

1. Boron Analyzer
2. Hydrogen and Oxygen Analyzer
3. pH Analyzer
4. Liquid Radioisotopic Analyzer.

INSTRUMENTATION

BASES

3/4.3.3.6 POST-ACCIDENT INSTRUMENTATION

The OPERABILITY of the post-accident instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Plants to Assess Plant Conditions During and Following an Accident," December 1975, and NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations."

3/4.3.3.7 FIRE DETECTION INSTRUMENTATION

OPERABILITY of the fire detection instrumentation ensures that adequate warning capability is available for the prompt detection of fires. This capability is required in order to detect and locate fires in their early stages. Prompt detection of fires will reduce the potential for damage to safety related equipment and is an integral element in the overall facility fire protection program.

In the event that a portion of the fire detection instrumentation is inoperable, the establishment of frequent fire patrols in the affected areas is required to provide detection capability until the inoperable instrumentation is restored to operability.

3/4.3.3.8 RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION IODINE AND PARTICULATE SAMPLER

The OPERABILITY of the Iodine and Particulate Sampler ensures that Iodine and Particulate Samples can be obtained for analysis during and following an accident. The surveillance requirements ensure a high degree of availability.

The sampler was installed to meet the requirements of NUREG-0737 Item II.F.1. The sampler's operation was not assumed in any accident analysis.

PLANT SYSTEMS

BASES

3/4.7.12 PENETRATION FIRE BARRIERS

The functional integrity of the penetration fire barriers ensures that fires will be confined or adequately retarded from spreading to adjacent portions of the facility. This design feature minimizes the possibility of a single fire rapidly involving several areas of the facility prior to detection and extinguishment. The penetration fire barriers are a passive element in the facility fire protection program and are subject to periodic inspections.

During periods of time when the barriers are not functional, a continuous fire watch is required to be maintained in the vicinity of the affected barrier until the barrier is restored to functional status.

3/4.7.13 POST-ACCIDENT SAMPLING SYSTEM

The OPERABILITY of the Post-Accident Sampling System ensures the capability to obtain and analyze reactor coolant and containment atmosphere samples during and following an accident. The surveillance requirements ensure a high degree of availability.

The Post-Accident Sampling System was installed to meet the requirements of NUREG-0737 Item II.B.3. The system's operation was not assumed in any accident analysis.



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

BALTIMORE GAS AND ELECTRIC COMPANY

DOCKET NO. 50-318

CALVERT CLIFFS NUCLEAR POWER PLANT UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 81
License No. DPR-69

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The applications for amendment by Baltimore Gas & Electric Company (the licensee) dated April 9 and June 29, 1984, 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;
 - B. The facility will operate in conformity with the applications, 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.

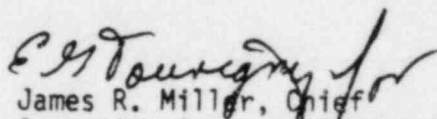
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.2 of Facility Operating License No. DPR-69 is hereby amended to read as follows:

2. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 81, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


James R. Miller, Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 22, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 81

FACILITY OPERATING LICENSE NO. DPR-69

DOCKET NO. 50-318

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change. The corresponding overleaf pages are provided to maintain document completeness.

Pages

III
IV
VII
XII
3/4 3-26
3/4 3-27
3/4 3-28
3/4 3-47
3/4 7-70
B 3/4 3-3
B 3/4 7-7

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
3/4.0 <u>APPLICABILITY</u>	3/4 0-1
3/4.1 <u>REACTIVITY CONTROL SYSTEMS</u>	
3/4.1.1 <u>BORATION CONTROL</u>	
Shutdown Margin - $T_{avg} > 200^{\circ}\text{F}$	3/4 1-1
Shutdown Margin - $T_{avg} \leq 200^{\circ}\text{F}$	3/4 1-3
Boron Dilution.....	3/4 1-4
Moderator Temperature Coefficient.....	3/4 1-5
Minimum Temperature for Criticality.....	3/4 1-7
3/4.1.2 <u>BORATION SYSTEMS</u>	
Flow Paths - Shutdown.....	3/4 1-8
Flow Paths - Operating.....	3/4 1-9
Charging Pump - Shutdown.....	3/4 1-10
Charging Pumps - Operating.....	3/4 1-11
Boric Acid Pumps - Shutdown.....	3/4 1-12
Boric Acid Pumps - Operating.....	3/4 1-13
Borated Water Sources - Shutdown.....	3/4 1-14
Borated Water Sources - Operating.....	3/4 1-16
3/4.1.3 <u>MOVABLE CONTROL ASSEMBLIES</u>	
Full Length CEA Position.....	3/4 1-17
Position Indicator Channels.....	3/4 1-21
CEA Drop Time.....	3/4 1-23
Shutdown CEA Insertion Limits.....	3/4 1-24
Regulating CEA Insertion Limits.....	3/4 1-25

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.2 POWER DISTRIBUTION LIMITS</u>	
3/4.2.1 LINEAR HEAT RATE.....	3/4 2-1
3/4.2.2 TOTAL PLANAR RADIAL PEAKING FACTOR.....	3/4 2-6
3/4.2.3 TOTAL INTEGRATED RADIAL PEAKING FACTOR.....	3/4 2-9
3/4.2.4 AZIMUTHAL POWER TILT.....	3/4 2-12
3/4.2.5 DNB PARAMETERS.....	3/4 2-13
<u>3/4.3 INSTRUMENTATION</u>	
3/4.3.1 REACTOR PROTECTIVE INSTRUMENTATION.....	3/4 3-1
3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION.....	3/4 3-10
3/4.3.3 MONITORING INSTRUMENTATION	
Radiation Monitoring Instrumentation.....	3/4 3-25
Incore Detectors.....	3/4 3-29
Seismic Instrumentation.....	3/4 3-31
Meteorological Instrumentation.....	3/4 3-34
Remote Shutdown Instrumentation.....	3/4 3-37
Post-Accident Instrumentation.....	3/4 3-40
Fire Detection Instrumentation.....	3/4 3-43
Radioactive Gaseous Effluent Monitoring Instrumentation.....	3/4 3-47
<u>3/4.4 REACTOR COOLANT SYSTEM</u>	
3/4.4.1 COOLANT LOOPS AND COOLANT CIRCULATION.....	3/4 4-1
Startup and Power.....	3/4 4-1
Hot Standby.....	3/4 4-2
Shutdown.....	3/4 4-2a
3/4.4.2 SAFETY VALVES.....	3/4 4-3
3/4.4.3 RELIEF VALVES.....	3/4 4-4

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION.....	3/4 7-13
3/4.7.3 COMPONENT COOLING WATER SYSTEM.....	3/4 7-14
3/4.7.4 SERVICE WATER SYSTEM.....	3/4 7-15
3/4.7.5 SALT WATER SYSTEM.....	3/4 7-16
3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM.....	3/4 7-17
3/4.7.7 ECCS PUMP ROOM EXHAUST AIR FILTRATION SYSTEM.....	3/4 7-21
3/4.7.8 SNUBBERS.....	3/4 7-25
3/4.7.9 SEALED SOURCE CONTAMINATION.....	3/4 7-55
3/4.7.10 WATERTIGHT DOORS.....	3/4 7-57
3/4.7.11 FIRE SUPPRESSION SYSTEMS	
Fire Suppression Water System.....	3/4 7-58
Spray and/or Sprinkler Systems.....	3/4 7-61
Halon System.....	3/4 7-64
Fire Hose Stations.....	3/4 7-65
Yard Fire Hydrants and Hydrant Hose Houses.....	3/4 7-67
3/4.7.12 PENETRATION FIRE BARRIERS.....	3/4 7-69
3/4.7.13 POST ACCIDENT SAMPLING.....	3/4 7-70
<u>3/4.8 ELECTRICAL POWER SYSTEMS</u>	
3/4.8.1 A.C. SOURCES	
Operating.....	3/4 8-1
Shutdown.....	3/4 8-5
3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS	
A.C. Distribution - Operating.....	3/4 8-6
A.C. Distribution - Shutdown.....	3/4 8-7
D.C. Distribution - Operating.....	3/4 8-8
D.C. Distribution - Shutdown.....	3/4 8-11
<u>3/4.9 REFUELING OPERATIONS</u>	
3/4.9.1 BORON CONCENTRATION.....	3/4 9-1
3/4.9.2 INSTRUMENTATION.....	3/4 9-2
3/4.9.3 DECAY TIME.....	3/4 9-3

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
3/4.9.4 CONTAINMENT PENETRATIONS	3/4 9-4
3/4.9.5 COMMUNICATIONS	3/4 9-5
3/4.9.6 REFUELING MACHINE OPERABILITY	3/4 9-6
3/4.9.7 CRANE TRAVEL - SPENT FUEL STORAGE POOL BUILDING	3/4 9-7
3/4.9.8 SHUTDOWN COOLING AND COOLANT CIRCULATION	3/4 9-8
3/4.9.9 CONTAINMENT PURGE VALVE ISOLATION SYSTEM	3/4 9-9
3/4.9.10 WATER LEVEL - REACTOR VESSEL	3/4 9-10
3/4.9.11 SPENT FUEL POOL WATER LEVEL	3/4 9-11
3/4.9.12 SPENT FUEL POOL VENTILATION SYSTEM	3/4 9-12
3/4.9.13 SPENT FUEL CASK HANDLING CRANE	3/4 9-16
3/4 9.14 CONTAINMENT VENT ISOLATION VALVES	3/4 9-17
 <u>3/4.10 SPECIAL TEST EXCEPTIONS</u>	
3/4.10.1 SHUTDOWN MARGIN	3/4 10-1
3/4.10.2 MODERATOR TEMPERATURE COEFFICIENT, CEA INSERTION AND POWER DISTRIBUTION LIMITS	3/4 10-2
3/4.10.3 NO FLOW TESTS	3/4 10-3
3/4.10.4 CENTER CEA MISALIGNMENT	3/4 10-4
3/4.10.5 COOLANT CIRCULATION	3/4 10-5

INDEX

BASES

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.6 CONTAINMENT SYSTEMS</u>	
3/4.6.1 PRIMARY CONTAINMENT.....	B 3/4 6-1
3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS.....	B 3/4 6-3
3/4.6.3 IODINE REMOVAL SYSTEM.....	B 3/4 6-3
3/4.6.4 CONTAINMENT ISOLATION VALVES.....	B 3/4 6-3
3/4.6.5 COMBUSTIBLE GAS CONTROL.....	B 3/4 6-4
3/4.6.6 PENETRATION ROOM EXHAUST AIR FILTRATION SYSTEM.....	B 3/4 6-4

INDEX

BASES

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.7 PLANT SYSTEMS</u>	
3/4.7.1 TURBINE CYCLE.....	B 3/4 7-1
3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION.....	B 3/4 7-3
3/4.7.3 COMPONENT COOLING WATER SYSTEM.....	B 3/4 7-4
3/4.7.4 SERVICE WATER SYSTEM.....	B 3/4 7-4
3/4.7.5 SALT WATER SYSTEM.....	B 3/4 7-4
3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM.....	B 3/4 7-4
3/4.7.7 ECCS PUMP ROOM EXHAUST AIR FILTRATION SYSTEM.....	B 3/4 7-4
3/4.7.8 SNUBBERS.....	B 3/4 7-5
3/4.7.9 SEALED SOURCE CONTAMINATION.....	B 3/4 7-6
3/4.7.10 WATERTIGHT DOORS.....	B 3/4 7-6
3/4.7.11 FIRE SUPPRESSION SYSTEMS.....	B 3/4 7-6
3/4.7.12 PENETRATION FIRE BARRIERS.....	B 3/4 7-7
3/4.7.13 POST-ACCIDENT SAMPLING.....	B 3.4 7-7
<u>3/4.8 ELECTRICAL POWER SYSTEMS.....</u>	B 3/4 8-1
<u>3/4.9 REFUELING OPERATIONS</u>	
3/4.9.1 BORON CONCENTRATION.....	B 3/4 9-1
3/4.9.2 INSTRUMENTATION.....	B 3/4 9-1
3/4.9.3 DECAY TIME.....	B 3/4 9-1
3/4.9.4 CONTAINMENT PENETRATIONS.....	B 3/4 9-1

INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

- a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.
- b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the modes and at the frequencies shown in Table 4.3-3.

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ALARM/TRIP SETPOINT</u>	<u>MEASUREMENT RANGE</u>	<u>ACTION</u>
1. AREA MONITORS					
a. Containment					
i. Purge & Exhaust Isolation	3	6	≤ 220 mr/hr	$10^{-4} - 10^4$ mr/hr	16
b. Containment Area High Range	2	1, 2, 3 & 4	≤ 10 R/hr	$1 - 10^8$ R/hr	30
2. PROCESS MONITORS					
a. Containment					
i. Gaseous Activity					
a) RCS Leakage Detection	1	1, 2, 3 & 4	Not Applicable	$10^1 - 10^6$ cpm	14
ii. Particulate Activity					
a) RCS Leakage Detection	1	1, 2, 3 & 4	Not Applicable	$10^1 - 10^6$ cpm	14
b. Noble Gas Effluent Monitors					
i. Main Vent Wide Range	1	1, 2, 3 & 4	*	10^{-7} to 10^5 μ Ci/cc	30

*Alarm setpoint to be specified in a controlled document (e.g., setpoint control manual).

TABLE 3.3-6 (Continued)

TABLE NOTATION

- ACTION 14 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.4.6.1.
- ACTION 16 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.9.9.
- ACTION 30 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, initiate the preplanned alternate method of monitoring the appropriate parameter(s), within 72 hours, and:
- 1) either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or
 - 2) prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days following the event, outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

CALVERT CLIFFS - UNIT 2

3/4 3-28

Amendment No. 81

TABLE 4.3-3
RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES IN WHICH SURVEILLANCE REQUIRED</u>
1. AREA MONITORS				
a. Containment				
i. Purge & Exhaust Isolation	S	R	M	6
b. Containment Area High Range	S	R	M	1, 2, 3, & 4
2. PROCESS MONITORS				
a. Containment				
i. Gaseous Activity				
a) RCS Leakage Detection	S	R	M	1, 2, 3, & 4
ii. Particulate Activity				
a) RCS Leakage Detection	S	R	M	1, 2, 3, & 4
b. Noble Gas Effluent Monitors				
i. Main Vent Wide Range	S	R	M	1, 2, 3, & 4

INSTRUMENTATION

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.8 The main vent iodine and particulate sampler shall be OPERABLE.

APPLICABILITY: All MODES.

ACTION:

- a. With the main vent iodine and particulate sampler inoperable, initiate the preplanned alternate method of sampling the main vent for the appropriate parameter(s) within 72 hours, and:
 1. either restore the inoperable sampler to OPERABLE status within 7 days of the event, or
 2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days following the event, outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.8 The main vent iodine and particulate sampler shall be demonstrated OPERABLE by comparing samples independently drawn from the main vent at least once per month.

PLANT SYSTEMS

3/4.7.12 PENETRATION FIRE BARRIERS

LIMITING CONDITIONS FOR OPERATION

3.7.12 All fire barrier penetrations (i.e., cable penetration barriers, fire-doors and fire dampers), in fire zone boundaries, protecting safe shutdown areas shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

- a. With one or more of the above required fire barrier penetrations inoperable within one hour either establish a continuous fire watch on at least one side of the affected penetration, or verify the OPERABILITY of fire detectors on at least one side of the inoperable fire barrier and establish an hourly fire watch patrol; or verify the operability of automatic sprinkler systems (including the water flow alarm and supervisory system) on both sides of the inoperable fire barrier. Restore the inoperable fire barrier penetration(s) to operable status within 7 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperable penetration and plans and schedule for restoring the fire barrier penetration(s) to operable status.

- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.12 Each of the above required fire barrier penetrations shall be verified to be OPERABLE:

- a. At least once per 18 months by a visual inspection.
- b. Prior to returning a fire barrier penetration to functional status following repairs or maintenance by performance of a visual inspection of the affected fire barrier penetration(s).

PLANT SYSTEMS

3/4.7.13 POST-ACCIDENT SAMPLING

LIMITING CONDITION FOR OPERATION

3.7.13 The post-accident sampling system shall be OPERABLE and capable of processing samples from all of the below listed points:

- a. RCS sample via hot leg
- b. RCS sample via low pressure safety injection, and
- c. Containment sump sample via low pressure safety injection.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With the operability of the post-accident sampling system less than the LIMITING CONDITION FOR OPERATION specified above, within 72 hours initiate the preplanned alternate method of processing specified sample(s), and either:
 1. Restore the system to OPERABLE status within 7 days, or
 2. Prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days following the event, outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.13 The post-accident sampling system shall be demonstrated OPERABLE at least once per six (6) months by comparing the results of a RCS sample analyzed by laboratory techniques with the results analyzed by the below-listed analyzing equipment:

1. Boron Analyzer
2. Hydrogen and Oxygen Analyzer
3. Liquid Radioisotopic Analyzer

INSTRUMENTATION

BASES

3/4.3.3.6 POST-ACCIDENT INSTRUMENTATION

The OPERABILITY of the post-accident instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Plants to Assess Plant Conditions During and Following an Accident," December 1975, and NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations."

3/4.3.3.7 FIRE DETECTION INSTRUMENTATION

OPERABILITY of the fire detection instrumentation ensures that adequate warning capability is available for the prompt detection of fires. This capability is required in order to detect and locate fires in their early stages. Prompt detection of fires will reduce the potential for damage to safety related equipment and is an integral element in the overall facility fire protection program.

In the event that a portion of the fire detection instrumentation is inoperable, the establishment of frequent fire patrols in the affected areas is required to provide detection capability until the inoperable instrumentation is restored to operability.

3/4.3.3.8 RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION IODINE AND PARTICULATE SAMPLER

The OPERABILITY of the Iodine and Particulate Sampler ensures that Iodine and Particulate Samples can be obtained for analysis during and following an accident. The surveillance requirements ensure a high degree of availability.

The sampler was installed to meet the requirements of NUREG-0737 Item II.F.1. The sampler's operation was not assumed in any accident analysis.

PLANT SYSTEMS

BASES

3/4.7.12 PENETRATION FIRE BARRIERS

The functional integrity of the penetration fire barriers ensures that fires will be confined or adequately retarded from spreading to adjacent portions of the facility. This design feature minimizes the possibility of a single fire rapidly involving several areas of the facility prior to detection and extinguishment. The penetration fire barriers are a passive element in the facility fire protection program and are subject to periodic inspections.

During periods of time when the barriers are not functional, a continuous fire watch is required to be maintained in the vicinity of the affected barrier until the barrier is restored to functional status.

3/4.7.13 POST-ACCIDENT SAMPLING SYSTEM

The OPERABILITY of the Post-Accident Sampling System ensures the capability to obtain and analyze reactor coolant and containment atmosphere samples during and following an accident. The Surveillance Requirements ensure a high degree of availability.

The Post-Accident Sampling System was installed to meet the requirements of NUREG-0737 Item II.B.3. The system's operation was not assumed in any accident analysis.