



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. 78
License No. DPR-69

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Baltimore Gas & Electric Company (the licensee) dated April 9, 1984 as supplemented by letter dated May 4, 1984 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.

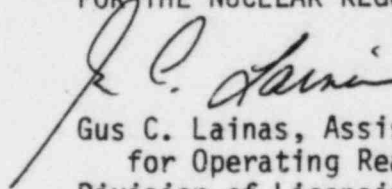
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.2 of Facility Operating License No. DPR-69 is hereby amended to read as follows:

2. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 78, 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



Gus C. Lainas, Assistant Director
for Operating Reactors
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 20, 1984.

ATTACHMENT TO LICENSE AMENDMENT NO. 78

FACILITY OPERATING LICENSE NO. DPR-69

DOCKET NO. 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

3/4 7-5
3/4 7-5a
B 3/4 7-2
B 3/4 7-2a

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 Two auxiliary feedwater trains consisting of one steam driven and one motor driven pump and associated flow paths capable of automatically initiating flow shall be OPERABLE. (An OPERABLE steam driven train shall consist of one pump aligned for automatic flow initiation and one pump aligned in standby.)*

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- a. With any single pump inoperable, perform the following:
 1. With No. 23 motor-driven pump inoperable:
 - (a) Align the standby steam-driven pump to automatic initiating status within 72 hours or be in HOT SHUTDOWN within the next 12 hours, and
 - (b) Restore No. 23 motor-driven pump to OPERABLE status within the next 7 days or be in HOT SHUTDOWN within the next 12 hours.
 2. With one steam-driven pump inoperable:
 - (a) Align the OPERABLE steam driven pump to automatic initiating status within 72 hours or be in HOT SHUTDOWN within the next 12 hours, and
 - (b) Restore the inoperable steam driven pump to standby status (or automatic initiating status if the other steam driven pump is to be placed in standby) within the next 7 days or be in HOT SHUTDOWN within the next 12 hours.
- b. With any two pumps inoperable:
 1. Verify that the remaining pump is aligned to automatic initiating status within one hour, and
 2. Verify within one hour that No. 13 motor driven pump is OPERABLE and valve 1-CV-4550 has been exercised within the last 30 days, and
 3. Restore a second pump to automatic initiating status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

*A standby pump shall be available for operation but aligned so that automatic flow initiation is defeated upon AFAS actuation.

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION (Continued)

- c. Whenever a subsystem (consisting of one pump, piping, valves and controls in the direct flow path) required for operability is inoperable for the performance of periodic testing (e.g. manual discharge valve closed for pump Total Dynamic Head test) a dedicated operator will be stationed at the local station with direct communication to the Control Room. Upon completion of any testing, the subsystem required for operability will be returned to its proper status and verified in its proper status by an independent operator check.
- d. The requirements of Specification 3.0.4 are not applicable whenever one motor and one steam-driven pump (or two steam-driven pumps) are aligned for automatic flow initiation.

SURVEILLANCE REQUIREMENTS

4.7.1.2 Each auxiliary feedwater flowpath shall be demonstrated OPERABLE:

- a. At least once per 31 days by:
 1. Verifying that each steam driven pump develops a Total Dynamic Head of > 2800 ft. on recirculation flow. (If verification must be demonstrated during startup, surveillance testing shall be performed upon achieving an RCS temperature $\geq 300^{\circ}\text{F}$ and prior to entering MODE 1).
 2. Verifying that the motor driven pump develops a Total Dynamic Head of ≥ 3100 ft. on recirculation flow.
 3. Cycling each testable, remote operated valve that is not in its operating position through at least one complete cycle.
 4. Verifying that each valve (manual, power operated or automatic in the direct flow path is in its correct position.
- b. Before entering MODE 3 after a COLD SHUTDOWN of at least 14 days by completing a flow test that verifies the flow path from the condensate storage tank to the steam generators.
- c. At least once per 18 months by:
 1. Verifying that each automatic valve in the flow path actuates to its correct position (verification of flow-modulating characteristics not required) and each auxiliary feedwater pump automatically starts upon receipt of each AFAS test signal, and
 2. Verifying that the auxiliary feedwater system is capable of providing a minimum of 200 gpm nominal flow to each flow leg.

3/4.7 PLANT SYSTEMS

BASES

3/4.7.1 TURBINE CYCLE

3/4.7.1.1 SAFETY VALVES

The OPERABILITY of the main steam line code safety valves ensures that the secondary system pressure will be limited to within its design pressure of 1000 psig during the most severe anticipated system operational transient. The maximum relieving capacity is associated with a turbine trip from 100% RATED THERMAL POWER coincident with an assumed loss of condenser heat sink (i.e., no steam bypass to the condenser).

The specified valve lift settings and relieving capacities are in accordance with the requirements of Section III of the ASME Boiler and Pressure Code, 1971 Edition. The total relieving capacity for all valves on all of the steam lines is 12.18×10^6 lbs/hr which is 108 percent of the total secondary steam flow of 11.23×10^6 lbs/hr at 100% RATED THERMAL POWER. A minimum of 2 OPERABLE safety valves per steam generator ensures that sufficient relieving capacity is available for removing decay heat.

STARTUP and/or POWER OPERATION is allowable with safety valves inoperable within the limitations of the ACTION requirements on the basis of the reduction in secondary system steam flow and THERMAL POWER required by the reduced reactor trip settings of the Power Level-High channels. The reactor trip setpoint reductions are derived on the following bases:

For two loop operation

$$SP = \frac{(X) - (Y)(V)}{X} \times 106.5$$

For single loop operation (two reactor coolant pumps operating in the same loop)

$$SP = \frac{(X) - (Y)(U)}{X} \times 46.8$$

where:

SP = reduced reactor trip setpoint in percent of RATED THERMAL POWER

V = maximum number of inoperable safety valves per steam line

PLANT SYSTEMS

BASES

U	=	maximum number of inoperable safety valves per operating steam line
106.5	=	Power Level-High Trip Setpoint for two loop operation
46.8	=	Power Level-High Trip Setpoint for single loop operation with two reactor coolant pumps operating in the same loop
X	=	Total relieving capacity of all safety valves per steam line in lbs/hour
Y	=	Maximum relieving capacity of any one safety valve in lbs/hour

3/4.7.1.2 AUXILIARY FEEDWATER SYSTEM

The OPERABILITY of the auxiliary feedwater system ensures that the Reactor Coolant System can be cooled down to less than 300°F from normal operating conditions in the event of a total loss of offsite power. A capacity of 400 gpm is sufficient to ensure that adequate feedwater flow is available to remove decay heat and reduce the Reactor Coolant System temperature to less than 300°F when the shutdown cooling system may be placed into operation.

Flow control valves, installed in each leg supplying the steam generators, are set to maintain a nominal flow setpoint of 200 gpm plus or minus 10 gpm for operator setting band. The nominal flow setpoint of 200 gpm incorporates a total instrument loop error band of plus 25 gpm and minus 26 gpm for the motor-driven pump train. The corresponding values for the steam-driven pump train are plus 37 gpm and minus 40 gpm.

The operator setting band, when combined with the instrument loop error, results in a total flow band of 164 gpm (minimum) and 235 gpm (maximum) for the motor-driven pump train. The corresponding values for the steam-driven pump train are 150 gpm (minimum) and 247 gpm (maximum). Safety analyses show that more flow during an overcooling transient and less flow during an undercooling transient could be tolerated; i.e., flow fluctuations outside this flow band but within the assumptions used in the analyses listed below, are allowable.

In the spectrum of events analyzed in which automatic initiation of auxiliary feedwater occurs, the following flow conditions are allowed with an operator action time of 10 minutes.

- | | |
|-----------------------|--------------------------------|
| (1) Loss of Feedwater | 0 gpm Auxiliary Feedwater Flow |
| (2) Feedline Break | 0 gpm Auxiliary Feedwater Flow |

PLANT SYSTEMS

BASES

3/4.7.1.2 (Continued)

(3) Main Steam Line Break

1300 gpm Auxiliary Feedwater Flow
(this being the maximum flow through
the AFW suction line, with one unit
requiring flow, prior to pump cavita-
tion due to low NPSH).

At 10 minutes after an Auxiliary Feedwater Actuation Signal the operator is assumed to be available to increase or decrease auxiliary feedwater flow to that required by the existing plant condition.