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

March 1, 1991

Docket No. 50-318

Mr. G. C. Creel
Vice President-Nuclear Energy
Baltimore Gas and Electric Company
Calvert Cliffs Nuclear Power Plant
MD RTS 2 & 4
P. O. Box 1535
Lusby, Maryland 20657

Dear Mr. Creel:

SUBJECT: RELIEF REQUEST FROM THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) CODE REQUIREMENTS FOR HYDROSTATIC PRESSURE TESTING OF REPAIRED OR REPLACED CODE CLASS 3 PIPING, CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 2, (TAC NO. 67626)

On March 26, 1988, Baltimore Gas and Electric Company (BG&E) requested immediate relief from the requirements of articles IWA-4400 and IWA-4600 of Section XI of the 1983 Edition of the ASME Code. These articles require that hydrostatic pressure tests be performed on portions of Code Class 3 piping that is repaired or replaced.

During the 1988 Unit 2 mini-outage, you had replaced check valves 2-MS-103 and 2-MS-106. These valves are located in the steam supply lines to the turbines of the Nos. 21 and 22 auxiliary feedwater pumps and are isolated from the Nos. 21 and 22 steam generators, respectively, by valves 2-CV-4070 and 2-CV-4071. You attempted to hydrostatically test the new pipe-to-valve welds upstream of check valves 2-MS-103 and 106, using valves 2-CV-4070 and 4071 as test pressure boundaries. However, as these valves leaked excessively in the upstream direction, they could not be used as test pressure boundaries. Consequently, in accordance with the provisions of 10 CFR 50.55a(g)(6)(i), immediate ASME Code relief was requested for these welds so that Unit 2 heatup, scheduled for March 27, 1988, would not be delayed. In lieu of the required hydrostatic test, you proposed to perform radiographic examinations of the full penetration welds followed by VT-2 visual examination for leakage after returning the repaired portion of the piping system to service.

The NRC staff granted interim relief and documented its basis for the interim approval in its letter to you dated April 11, 1988. The staff's interim approval was contingent on your submitting a written request for relief and would expire either upon issuance of a final approval of relief or a determination that the requested relief was not acceptable.

By letter dated March 28, 1988, you provided the written request and supporting basis for relief from the specific portions of the ASME Code discussed above. As noted, the initial hydrostatic test was unsuccessful,

9103060301 910301
PDR ADOCK 05000318
P PDR

A001
1/0

valves 2-CV-4070 and 2-CV-4071 were gagged per vendor recommendation such that the valves would not be fully seated against back pressure, thereby preventing stem damage. However, test pressure could not be achieved because of excessive seat leakage through valves 2-CV-4070 and 2-CV-4071. Although these valves were not designed to hold pressure in the reverse direction, they were successfully hydrostatically tested to 1100 psig during initial installation in 1982. Machining had been performed on internal components of 2-CV-4070 and 2-CV-4071 since their original installation. Although vendor recommended tolerances were maintained, they are now outside factory tolerances. These changes are believed to have made the difference between accomplishing a back pressure test on initial installation and not being able to perform the current test. Therefore, the new pipe-to-valve welds upstream of check valves 2-MS-103 and 2-MS-106 could not be hydrostatically tested. The portion of main steam piping (a total of 18 new welds) downstream of the check valves (2-MS-103 and 2-MS-106) was successfully hydrostatically pressure tested March 26, 1988.

You have indicated that the IWA-4400 and IWA-4600 requirements to perform a hydrostatic pressure test upstream of 2-MS-103 and 2-MS-106 is impractical because that section of the main steam pipe cannot be isolated from the Steam Generators due to the inability of 2-CV-4070 and 2-CV-4071 to hold back pressure. Hydrostatic testing would subject the Steam Generators to an unnecessary pressure transient above their design pressure. The operational lifetime of the steam generators is limited by the number of times each is permitted to be hydrostatically pressure tested.

In lieu of a hydrostatic test, and in order to ensure a high level of quality and safety, VT-2 visual examination for leakage was conducted upon returning the piping system to service. Radiographic examinations of all the full penetration butt welds, including those for which relief was requested, were completed satisfactorily. A hydrostatic pressure test will be performed on the upstream portion of the main steam piping, for which the relief is requested, during the next scheduled steam generator system hydrostatic pressure test. The need for this relief request could not reasonably have been anticipated since the check valves were not originally planned for replacement and the inability to hydrostatically test against 2-CV-4070 and 2-CV-4071 was not anticipated based on the successful test in 1982.

Therefore, in accordance with the requirements of 10 CFR 50.55a (g), we have determined that the requirement to hydrostically test that portion of the main steam piping upstream of check valves 2-MS-103 and 2-MS-106 described above to be impractical. This determination was based on the inability of the valves 2-CV-4070 and 2-CV-4071 to hold the back pressure; the test would subject the steam generators to an unnecessary pressure transient; the need for the relief request could not have been reasonably anticipated; and that alternative radiographic examinations were successfully performed on all of the full penentration butt welds followed by VT-2 visual examination for leakage on pipe-to-valve welds for which relief is requested.

This final approval for relief from the requirements of ASME Code, Section XI, Articles IWA-4400 and IWA-4600, which require hydrostatic testing of repaired

cc:

Mr. William T. Bowen, President
Calvert County Board of
Commissioners
Prince Frederick, Maryland 20678

D. A. Brune, Esq.
General Counsel
Baltimore Gas and Electric Company
P. O. Box 1475
Baltimore, Maryland 21203

Mr. Jay E. Silberg, Esq.
Shaw, Pittman, Potts and Trowbridge
2300 N Street, NW
Washington, DC 20037

Ms. G. L. Adams, Licensing
Calvert Cliffs Nuclear Power Plant
MD Rts 2 & 4,
P. O. Box 1535
Lusby, Maryland 20657

Resident Inspector
c/o U.S.Nuclear Regulatory Commission
P. O. Box 437
Lusby, Maryland 20657

Mr. Richard McLean
Administrator - Radioecology
Department of Natural Resources
580 Taylor Avenue
Tawes State Office Building
PPER B3
Annapolis, Maryland 21401

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

Mr. Joseph H. Walter
Engineering Division
Public Service Commission of Maryland
American Building
231 E. Baltimore Street
Baltimore, Maryland 21202-3486

Ms. Kirsten A. Burger, Esq.
Maryland People's Counsel
American Building, 9th Floor
231 E. Baltimore Street
Baltimore, Maryland 21202

Ms. Patricia Birnie
Co-Director
Maryland Safe Energy Coalition
P. O. Box 902
Columbia, Maryland 21044

or replaced sections of Code Class 3 piping, replaces the interim approval granted in our April 11, 1988, letter.

Accordingly, we have determined, pursuant to 10 CFR 50.55a(g)(6)(i), that the granting of relief is authorized by law, will not endanger life or property or the common defense and security and is otherwise in the public interest. In making this determination, the staff has given due consideration to the burden that could result if the requirements were imposed on your facility.

This completes our action related to the above referenced TAC number.

Sincerely,

ORIGINAL SIGNED BY:

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

cc w/enclosure

cc: See next page

Distribution:

Docket File	EJordan
NRC & Local PDR's	ACRS (10)
PDI Reading	GPA/PA
RACapra	PD Plant
AD/Region	EGreenman
CVogan	JLinville
DMcDonald	JNorberg
OGC	

*See previous concurrence

OFC	:LA:PDI-1	:PM:PDI-1	:ENCB	:OGC*	:PD1-1
NAME	:CVogan*	:DMcDonald*:cs	:CCheng*	:	:RACapra
DATE	: / /91	: / /91	: / /91	: / /91	: 03/01/91

OFFICIAL RECORD COPY
Document Name: CC2 RELIEF 67626