BALTIMORE GAS AND ELECTRIC

1650 CALVERT CLIFFS PARKWAY • LUSBY, MARYLAND 20657-4702

GEORGE C. CREEL
VICE PRESIDENT
NUCLEAR ENERGY
(410) 260-4455

May 22, 1992

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
Response to NRC's Request for Additional Information Regarding Baltimore Gas and Electric Company's Response to the 1991 Pressurized Thermal Shock Rule, dated March 31, 1992,

REFERENCES:
(a) Letter from Mr. D. G. McDonald, Jr. (NRC) to Mr. G. C. Creel (BG&E), dated March 31. 1992, Request for Additional Information Concerning BG&E's Response to the 1991 PTS Rule

(b) Letter from Mr. G. C. Creel (BG&E) to NRC Document Control Desk, dated December 13, 1991, Response to the 1991 Pressurized Thermal Shock Rule

Gentlemen:

By a letter dated March 31, 1992 (Reference a), you transmitted a request for additional information regarding our December 13, 1991 response (Reference b) to the 1991 Pressurized Thermal Shock (PTS) Rule. Accordingly, we hereby provide you with the information contained in the attachments to this letter as our response. Attachment (1) contains the non-proprietary version of the response to Question No. 1 and the responses to Questions No. 2 and No. 3. Attachment (2) is an AEB/CE proprietary affidavit for Attachment 3, pursuant to 10 CFR 2.790. Attachment (3) contains the proprietary version of our response to Question No. 1. We trust that you will find this information satisfactory.

Cert # P807376348

Change: NRR/DR 1 INP
NSIC 1 INP

Should you have any further questions regarding this matter, we will be pleased to discuss them with you.

Very truly yours,

GCC/GT/MEB/gt/meb/dlm

Attachments: (1) Non-Proprietary Response to NRC's March 31, 1992 Request for Additional Information Regarding Baltimore Gas and Electric Company's Response to the 1991 Pressurized Thermal Shock Rule, dated December 13, 1991

(2) Proprietary Affidavit for Attachment (3)

(3) ABB/CE Proprietary Response to Question No. 1 of NRC's March 31, 1992, Request for Additional Information Regarding Baltimore Gas and Electric Company's Response to the 1991 PTS Rule, dated December 13, 1991

cc: **(With Attachment 1 only)**
D. A. Brune, Esquire
J. E. Silberg, Esquire
R. A. Capra, NRC
D. G. McDonald, Jr., NRC
T. T. Martin, NRC
P. R. Wilson, NRC
R. I. McLean, DNR
J. H. Walter, PSC

ATTACHMENT (1)

Non-Proprietary Response to NRC's March 31, 1992 Request for Additional Information Regarding Baltimore Gas and Electric Company's Response to the 1991 Pressurized Thermal Shock Rule, dated December 13, 1991

Baltimore Gas & Electric Company
Docket Nos. 50-317 and 50-318
May 22, 1992

ATTACHMENT (1)

Non-Proprietary Response to NRC's March 31, 1992 Request for Additional Information Regarding Baltimore Gas and Electric Company's Response to the 1991 Pressurized Thermal Shock Rule, dated December 13, 1991

COMBUSTION ENGINEERING, INC.

ATTACHMENT TO ABB LETTER B-MECH-92-109

RESPONSE TO USNRC QUESTION ON

DIFFERENCES IN REPORTED NICKEL CONTENT

MAY 14, 1992

ABB COMBUSTION ENGINEERING NUCLEAR POWER
COMBUSTION ENGINEERING, INC.
WINDSOR, CONNECTICUT

Combustion Engineering, Inc.
May 14, 1992

Attachment to Letter B-MECH-92-109

Response to USNRC Question on
Differences in Reported Nickel Content

Question 1:

Section 1.0 of "Calvert Cliffs Unit No. 1 and No. 2 Reactor Vessel Beltline Materials," Revision 2, indicates MIL B-4 Modified weld wire with nickel in the range of 0.6 to 1.1 wt. % was used to fabricate the reactor vessels. Heats No. 33A277 and No. 10137 are reported to have 0.23 wt. % and 0.05 wt. %, respectively. If MIL B-4 Modified weld wire was used to fabricate the welds in the Calvert Cliffs reactor vessels, why do welds using Heats No. 33A277 and No. 10137 wire have less than 0.6 wt. % nickel?

Response:

Heats No. 33A277 and No. 10137 were not MIL B-4 Modified, they were designated MIL B-4 (Hi-Mn-Mo) without a specified nickel content. Heat No. A8746 was also a MIL B-4. The following statement in Section 1.0 of "Calvert Cliffs Unit No. 1 and No. 2 Reactor Vessel Beltline Materials," Revision 2 (Attachment A to BG&E's December 13, 1991 PTS submittal, Reference b) is incorrect:

"For the Calvert Cliffs Vessels, CE employed a submerged arc welding process using MIL B-4 Modified (Mn-Mo-Ni) wire with nickel in the range of 0.6 to 1.1 wt. %. The MIL B-4 Modified (Mn-Mo-Ni) welds were produced with either a Linde 1092, 0091 or 124 flux."

The statement should be replaced in its entirety with:

"For the Calvert Cliffs Vessels, CE employed a submerged arc welding process using wire designated in supplier certifications as MIL B-4 and MIL B-4 Modified. [

]*

* [ ] indicate blanked proprietary information.

Combustion Engineering, Inc.
May 14, 1992

Attachment to Letter B-MECH-92-109
(continued)

Discussion

BG&E commissioned ABB/CE to review welding electrode purchase specifications between November, 1965 and February, 1971. Weld material certifications and release reports spanning the period between October, 1968 and June, 1971 were also reviewed. The electrode specifications were reviewed for terminology and required nickel content. [

]

The weld material certification and release reports functioned to officially release the electrode/flux combinations for use on ASME Code Section III work. Several identification documents were attached to the reports including CE laboratory tests and the electrode supplier's certifications. [

]

We expect Ni to be low in the Hi-Mn-Mo materials because it was not an intentional alloying addition.

The CCNPP Units No. 1 and No. 2 beltline welds are listed in Table 1 below. For each weld seam, the nickel content reported in BG&E's December 13, 1991 PTS submittal, the specified weld wire type (per weld procedure), the wire heat number(s), and the weld wire type given in the supplier certification (where known) are indicated. The reported nickel content and the wire type are consistent in all cases except for Unit No. 2 Welds No. 2-203 A, B, C; for these welds the nickel content was conservatively estimated in the December 13 submittal. Based on the results of this records review and pending QA verification of the records, BG&E expects to revise its estimate of upper bound nickel content for Unit No. 2 Weld Seams No. 2-203 A, B, C to approximately 0.20% Ni.

* [ ] indicate blanked proprietary information.

Combustion Engineering, Inc.
May 14, 1992

Attachment to Letter B-MECH-92-109
(continued)

TABLE 1

CCNPP BELTLINE WELD WIRES

CCNPP Unit	Weld Seam	Reported Nickel Content		Wire Heat No.	
1	2-203 A/C	0.88		12008 20291	
1	3-203 A/C	0.69		21935	
1	9-203	0.23		33A277	
2	2-203 A/C	1.01		A8746	
2	3-203 A/C	0.23		33A277	
2	9-203	0.05		10137	

* [ ] indicate blanked proprietary information.

ATTACHMENT (1)

Non-Proprietary Response to NRC's March 31, 1992 Request for Additional Information Regarding Baltimore Gas and Electric Company's Response to the 1991 Pressurized Thermal Shock Rule, dated December 13, 1991

Question No. 2

Do the test results from the Calvert Cliffs reactor vessel surveillance program indicate that the values of Pressurized Thermal Shock (PTS) calculated using the methodology specified in the PTS rule are applicable to the Calvert Cliffs reactor vessels?

For weld wire heats not in the Calvert Cliffs reactor vessel surveillance program, do test results from other vessel surveillance programs (NRC data source provided with this RAI) indicate that the values of the PTS calculated using the methodology specified in the PTS rule are applicable to the Calvert Cliffs reactor vessels?

RESPONSE

We have reviewed the measured RT_{PTS} shift results for welds in the surveillance programs of the plants identified in the NRC data source provided with the RAI. We have separated the surveillance program results into the following categories:

Category 1 - Test results for the Calvert Cliffs reactor vessel surveillance programs.

Category 2 - Test results for the weld wire/flux combinations in other plant's surveillance programs that are the same as weld wire/flux combinations in the Calvert Cliffs reactor vessels' beltlines.

Category 3 - Test results for the weld wire/flux combinations in other plant's surveillance programs that are not in the Calvert Cliffs reactor vessels' beltlines.

Category 4 - These are BWR Plants and either no data exists or capsule results are not considered credible for comparison to a PWR because of low accumulated fluence.

Test results from Category 1 and 2 surveillance programs indicate the values of ΔRT_{PTS} calculated using the methodology specified in the PTS rule bound the surveillance measurements.

Test results from Category 3 surveillance programs indicate the values of ΔRT_{PTS} calculated using the methodology specified in the PTS rule bound the surveillance measurements with the exception of Fort Calhoun.

DISCUSSION

The measured ΔRT_{NDT} results have been compared with the predicted ΔRT_{PTS} plus the two sigma margin term (56°F) to determine if the PTS rule is bounding for welds in the Calvert Cliffs reactor vessels.

Table 2 provides the results of Category 1 and 2 Surveillance programs. Table 3 provides the results of Category 3 Surveillance Programs. Table 4 provides a listing of Category 4 Surveillance Programs.

Figure 1 provides a comparison of Category 1 and 2 Surveillance results to the PTS rule predictions. Figure 2 provides a comparison of Category 3 Surveillance results to the PTS rule predictions.

The figures compare measured and predicted values of ΔRT_{NDT} instead of RT_{PTS}. Calculation of measured values of RT_{PTS} requires application of a margin term. Methodology for choosing a margin term for measured data that do not meet the credibility criteria in Regulatory Guide 1.99, Revision 2 has not been developed. Therefore, we have not determined values of RT_{PTS} based on measurements, for application of other vessel's surveillance data to Calvert Cliffs.

Based on the review of these test results, BG&E believes the values of ΔRT_{PTS} for the Calvert Cliffs Reactor Vessel Beltlines reported in the Response to the 1991 PTS rule are applicable and probably conservative.

ATTACHMENT (1)

Table 2

Calvert Cliffs Reactor Vessel Surveillance Program Results (Category 1) and Results from Surveillance Programs that Contain Weld Wire Heat Used in the Manufacture of Calvert Cliffs Beltline (Category 2)

Surveillance Program / Category	Weld Wire Heat Flux Type Flux Lot			Cu%	Ni%	Chemistry Factor	Fluence ($x10^{19}$ n/cm^2)	Measured Shift (@ 30 ft. - lbs.) (F)	Predicted Shift PTS Rule) (F)	Predicted Shift Minus Measured Shift
Calvert Cliffs 1 (Category 1)	33A277$_b$	0091$_b$	3922$_b$	.24$_a$	.18$_a$	119	0.61$_c$	59$_c$	103	44
Calvert Cliffs 2 (Category 1)	10137$_b$	0091$_b$	3999$_b$	.20$_d$	.04$_d$	91	.806$_d$	69$_d$	86	17
Farley 1 (Category 2)	33A277$_g$	0091$_g$	3922$_g$	.14$_e$	.19$_e$	79	.583$_f$ 1.65$_e$ 2.8$_g$	80$_f$ 80$_e$ 100$_g$	66 89 99	-14 9 -1
McGuire 1 (Category 2)	20291 & 12008$_i$	1092$_i$	3854$_i$	.21$_h$	.88$_h$	210	.414$_h$ 1.38$_i$	160$_h$ 165$_i$	159 229	-1 64

Note: Subscripts identify references for source documents given at the end of this attachment

ATTACHMENT (1)

Table 3

Results from Surveillance Programs that Do Not Contain Weld Wire Heats Used in the Manufacture of Calvert Cliffs Beltline (Category 3)

Surveillance Program / Category	Weld Wire Heat	Flux Type	Flux Lot	Cu%	Ni%	Chemistry Factor	Fluence ($\times 10^{19}$ n/cm^2)	Measured Shift (@ 30 ft. - lbs.) (F)	Predicted Shift (PTS Rule) (F)	Predicted Shift Minus Measured Shift
Diablo Canyon 1 (Category 3)	27204_j	1092_j	3714_j	$.21_j$	$.98_j$	226	$.298_j$	110_j	151	41
Diablo Canyon 2 (Category 3)	21935 & 12008_k	1092_k	3869_k	$.22_k$	$.83_k$	205	$.351_k$ $.887_l$	174_k 204_l	146 198	-28 -6
D. C. Cook Unit 1 (Category 3)	13253_n	1092_n	3791_n	$.27_m$	$.74_m$	206	$.18_m$ $.62_m$ 1.06_m 1.88_m	80_m 165_m 200_m 205_m	112 178 209 242	32 13 9 37
Maine Yankee (Category 3)	$IP3571_o$	1092_o	3958_o	$.31_o$	$.76_o$	222	$.567_p$ 1.76_p 7.13_p	222_q 270_q 345_q	187 256 325	-35 -14 -20
Millstone Unit 2 (Category 3)	90136_r	0091_r	3998_r	$.30_r$	$.06_r$	136	$.378_r$	76_r	99	23
St. Lucie Unit 1 (Category 3)	90136_s	0091_s	3999_s	$.23_s$	$.11_s$	110	$.55_s$ $.716_s$	74_s 73_s	92 100	18 27
Fort Calhoun (Category 3)	305414_u	1092_u	3951_u	$.35_t$	$.60_t$	212	$.51_t$	238_t	172	-66
Kewaunee (Category 3)	$IP3571_v$	1092_v	3958_v	$.20_v$	$.77_v$	189	$.599_v$ 2.07_v 2.89_v	175_v 235_v 230_v	162 226 242	-13 -9 12

Note: Subscripts identify references for source documents given at the end of this attachment

Table 4

Reactor Vessels Included on the NRC List Provided with the RAI without Applicable Surveillance Results (Category 4)

Vessel	Reason for Exclusion from Consideration
Cooper	BWR
Fermi No. 2	BWR
Fitzpatrick	BWR
Hatch No. 1	BWR
Hatch No. 2	BWR
LaSalle	BWR
Pilgrim	BWR

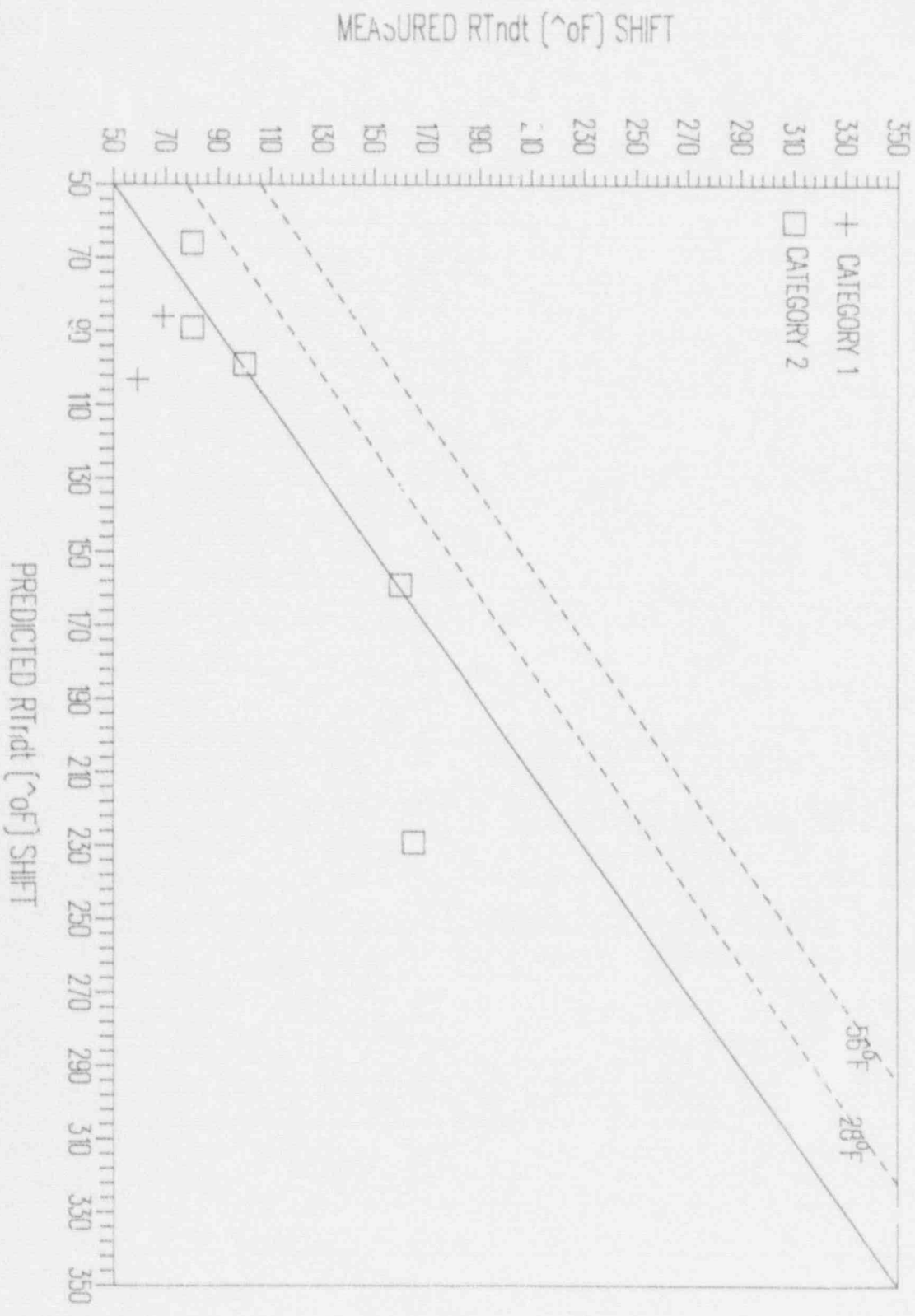

FIGURE 1: NRC RAI CATEGORY 1 & 2 SURVEILLANCE DATA
MEASURED RTndt SHIFT VS. PREDICTED RTndt SHIFT

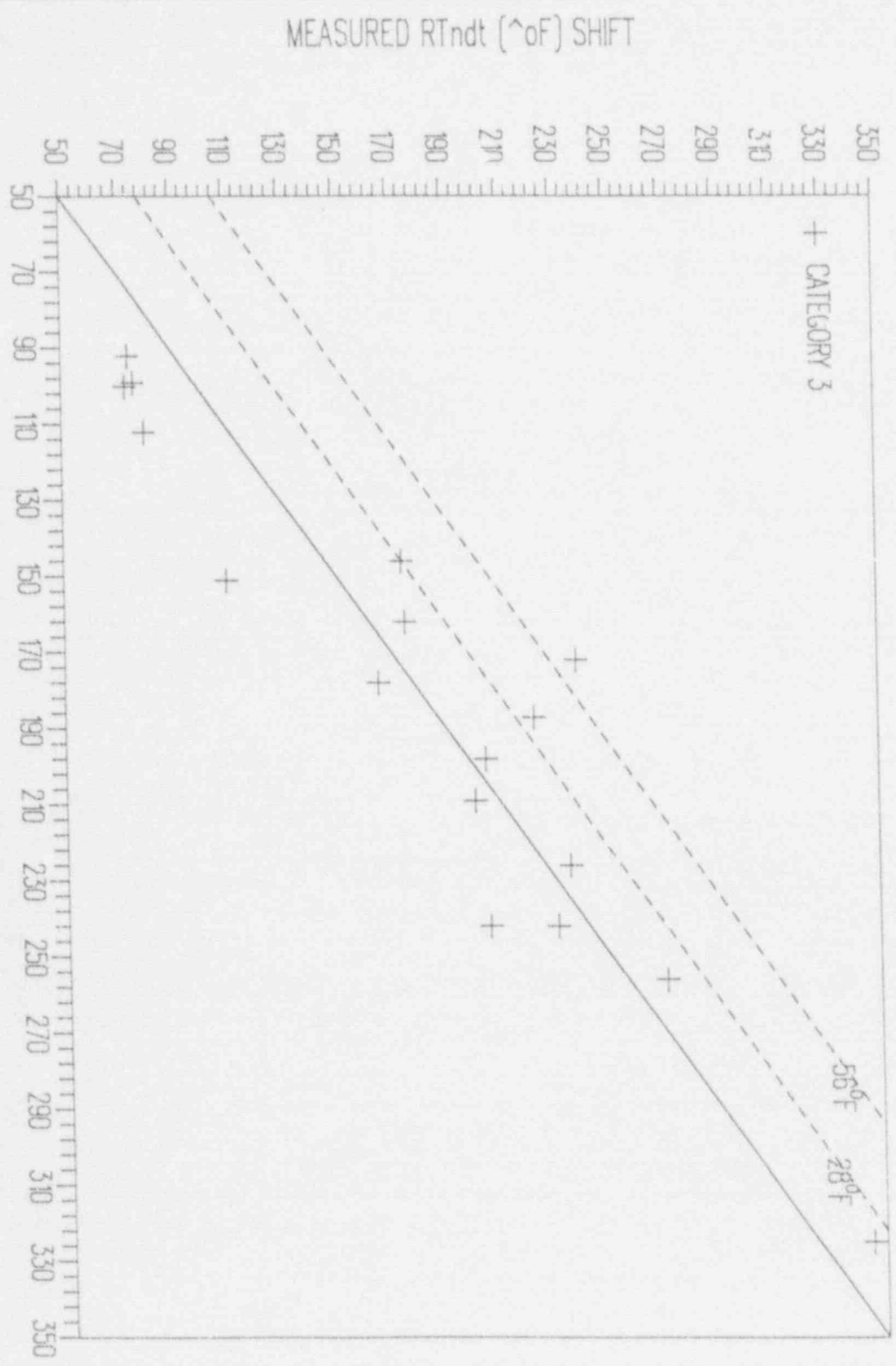

FIGURE 2: NRC RAI CATEGORY 3 SURVEILLANCE DATA
MEASURED RTndt SHIFT VS. PREDICTED RTndt SHIFT

Question 3

How were the embrittlement effects of operating the Calvert Cliffs reactors with the core critical and cold leg temperatures less than 525°F considered? If the reactor vessels were irradiated (fluence greater than 10^{16} n/cm^2) at temperatures less than 525°F, what was the neutron fluence at the various irradiation temperatures? What was the effect of this low temperature irradiation on the RTPTS value for the reactor vessel?

RESPONSE

Calvert Cliffs operates in accordance with a power-dependent cold leg temperature program that ranges from 532°F at zero power with the reactor critical to 548°F at 100% power. Consequently, we did not consider any embrittlement effects that may be realized by operating the Calvert Cliffs reactors with the core critical and cold leg temperature less than 525°F.

DISCUSSION

A review of plant operating records verified that, with the exception of fleeting excursions during transients at low power, the cold leg temperature has remained above 525°F. We conservatively estimate that no more than 5 Effective Full Power Hours (EFPH) of critical operation has occurred with cold leg temperature below 525°F. Such transitory events correspond to a resultant fluence substantially below 10^{16} n/cm^2.

Consequently, the effect of such minimal low temperature irradiation on the RT_{PTS} value is negligible. This has been confirmed by Calvert Cliffs' surveillance capsule results that demonstrate the shift in the reference temperature to be less than predicted.

In addition, BG&E knows of no technical justification supporting 10^{16} n/cm^2 as a valid criterion beyond which embrittlement effects at low irradiation temperatures must be "considered." Therefore, until a technical basis is demonstrated, 10^{16} n/cm^2 does not appear to be an appropriate "screening criterion" and is not accepted by BG&E.

REFERENCES

a) CENPD-34, "Summary Report on Manufacture of Test Specimens and Assembly of Capsules for Irradiation Surveillance of Calvert Cliffs - Unit 1 Reactor Vessel Materials," February 4, 1972.

b) Creel, G.C., letter dated December 13, 1991, "Response to the 1991 Pressurized Thermal Shock Rule."

c) Perrin, J. S., E. O. Fromm, D. R. Farmelo, R. S. Denning, and R. G. Jung," Calvert Cliffs Unit 1 Nuclear Plant Reactor Pressure Vessel Surveillance Program Capsule 263," Battelle, December 15, 1980.

d) Norris, E. B., "Reactor Vessel Material Surveillance Program for Calvert Cliffs Unit 2 Analysis of 263° Capsule," SwRI-7524, September, 1985.

e) Boggs, R. S., S. E. Yanichko, C. A. Cheney, and W. T. Kaiser, "Analysis of Capsule U from Alabama Power Company Joseph M. Farley Unit 1 Reactor Vessel Radiation Surveillance Program," WCAP-10474, February, 1984.

f) Yanichko, S. E., S. L. Anderson, and W. T. Kaiser, "Analysis of Capsule Y from the Alabama Power Company Farley Unit 1 Reactor Vessel Radiation Surveillance Program," WCAP-9717, June, 1980.

g) Shogan, R. P., L. Albertin, S. E. Yanichko, and E. P. Lippencott, "Analysis of Capsule X from the Alabama Power Company Joseph M. Farley Unit 1 Reactor Vessel Radiation Surveillance Program," WCAP-11563, Rev. 1, September, 1987.

h) Yanichko, S.E., T. V. Congedo, and W. T. Kaiser, "Analysis of Capsule U from the Duke Power Company McGuire Unit 1 Reactor Vessel Radiation Surveillance Program," WCAP-10786, February, 1985.

i) Yanichko, S. E., S. L. Anderson, L. Albertin, and N. K. Ray, "Analysis of Capsule X from the Duke Power Company McGuire Unit 1 Reactor Vessel Radiation Surveillance Program," WCAP-12354, August, 1989.

j) Yanichko, S. E., S. L. Anderson, J. C. Schmertz, and L. Albertin, "Analysis of Capsule S from the Pacific Gas & Electric Company Diablo Canyon Unit 1 Reactor Vessel Radiation Surveillance Program," WCAP-11567, December, 1987.

k) Yanichko, S. E., S. L. Anderson, and L. Albertin, "Analysis of Capsule U from the Pacific Gas & Electric Company Diablo Canyon Unit 2 Reactor Vessel Radiation Surveillance Program," WCAP-11851, May, 1988.

l) Terek, E., S. L. Anderson, and L. Albertin, "Analysis of Capsule X from the Pacific Gas & Electric Company Diablo Canyon Unit 2 Reactor Vessel Radiation Surveillance Program," WCAP-12811, December, 1990.

m) Terek, E., S. L. Anderson, L. Albertin, and N. K. Ray, "Analysis of Capsule U from the American Electric Power Company D. C. Cook Unit 1 Reactor Vessel Radiation Surveillance Program," WCAP-12483, January, 1990.

n) Tillinghast, J., letter to E. G. Case dated November 7, 1977, "D. C. Cook Unit 1 Reactor Vessel Material Surveillance Program."

o) Nichols, S. E., letter dated October 28, 1991, "Update of PTS Assessment to address the Revised PTS Rule."

p) Frizzie, C. D., letter dated September 30, 1991, "Proposed Change No. 163: Revision to Combined Heatup, Cooldown and Pressure Temperature Limitations to Reflect Analysis of Wall Capsule 253."

q) "Application of Reactor Vessel Surveillance Data for Embrittlement Management," CEOG Task 621, November, 1990.

r) "Northeast Utilities Service Company Millstone Nuclear Unit 2 Evaluation of Irradiated Capsule W-97, Reactor Vessel Materials Irradiation Surveillance Program," Combustion Engineering, TR-N-MCM-008, April, 1982.

s) Chicots, J. M., E. P. Lippincott, L. Albertin, and N. K. Ray, "Analysis of the Capsule at 104° from the Florida Power and Light Company St. Lucie Unit 1 Reactor Vessel Radiation Surveillance Program," WCAP-12751, November, 1990.

t) Omaha Public Power District Fort Calhoun Station Unit 1 Evaluation of Irradiated Capsule W-225 Reactor Vessel Materials Irradiation Surveillance Program, "Combustion Engineering TR-O-MCM-001, revision 1, August, 1980.

u) Short, T. E., letter to G. E. Lear dated September 8, 1977, Docket No. 50-285-813.

v) Yanichko, S. E., S. L. Anderson, and L. Albertin, "Analysis of Capsule P from the Wisconsin Public Service Corporation Kewaunee Nuclear Plant Reactor Vessel Radiation Surveillance Program," WCAP-12020, November, 1988.

ATTACHMENT (2)

Proprietary Affidavit for Attachment (3)

Baltimore Gas & Electric Company
Docket Nos. 50-317 and 50-318
May 22, 1992

AFFIDAVIT PURSUANT

TO 10 CFR 2.790

Combustion Engineering, Inc.)
State of Connecticut)
County of Hartford) SS.:

I, S. A. Toelle, depose and say that I am the Manager, Nuclear Licensing, of Combustion Engineering, Inc., duly authorized to make this affidavit, and have reviewed or caused to have reviewed the information which is identified as proprietary and referenced in the paragraph immediately below. I am submitting this affidavit in conformance with the provisions of 10 CFR 2.790 of the Commission's regulations in conjunction with Baltimore Gas & Electric Company for withholding this information.

The information for which proprietary treatment is sought is contained in the following document:

Attachment to B-MECH-92-109, "Response to USNRC Question on Differences in Reported Nickel Content," May 14, 1992.

This document has been appropriately designated as proprietary.

I have personal knowledge of the criteria and procedures utilized by Combustion Engineering in designating information as a trade secret, privileged or as confidential commercial of financial information.

Pursuant to the provisions of paragraph (b) (4) of Section 2.790 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the

information sought to be withheld from public disclosure, included in the above referenced document, should be withheld.

1. The information sought to be withheld from public disclosure, which is owned and has been held in confidence by Combustion Engineering, is the fabrication processes for reactor vessel welds.

2. The information consists of test data or other similar data concerning a process, method or component, the application of which results in substantial competitive advantage to Combustion Engineering.

3. The information is of a type customarily held in confidence by Combustion Engineering and not customarily disclosed to the public. Combustion Engineering has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The details of the aforementioned system were provided to the Nuclear Regulatory Commission via letter DP-537 from F. M. Stern to Frank Schroeder dated December 2, 1974. This system was applied in determining that the subject document herein is proprietary.

4. The information is being transmitted to the Commission in confidence under the provisions of 10 CFR 2.790 with the understanding that it is to be received in confidence by the Commission.

5. The information, to the best of my knowledge and belief, is not available in public sources, and any disclosure to third parties has been made pursuant to regulatory provisions or proprietary agreements which provide for maintenance of the information in confidence.

6. Public disclosure of the information is likely to cause substancial harm to the competitive position of Combustion Engineering because:

   a. A similar product is manufactured and sold by major pressurized water reactor competitors of Combustion Engineering.

   b. Development of this information by C-E required thousands of manhours and hundreds of thousands of dollars. To the best of my knowledge and belief, a competitor would have to undergo similar expense in generating equivalent information.

   c. In order to acquire such information, a competitor would also require considerable time and inconvenience to establish the fabrication processes for reactor vessel welds.

d. The information required significant effort and expense to obtain the licensing approvals necessary for application of the information. Avoidance of this expense would decrease a competitor's cost in applying the information and marketing the product to which the information is applicable.

e. The information consists of the fabrication processes for reactor vessel welds, the application of which provides a competitive economic advantage. The availability of such information to competitors would enable them to modify their product to better compete with Combustion Engineering, take marketing or other actions to improve their product's position or impair the position of Combustion Engineering's product, and avoid developing similar data and analyses in support of their processes, methods or apparatus.

f. In pricing Combustion Engineering's products and services, significant research, development, engineering, analytical, manufacturing, licensing, quality assurance and other costs and expenses must be included. The ability of Combustion Engineering's competitors to utilize such information without similar expenditure of resources may enable them to sell at prices reflecting significantly lower costs.

g. Use of the information by competitors in the international marketplace would increase their ability to market nuclear steam supply systems by reducing the costs associated with

their technology development. In addition, disclosure would have an adverse economic impact on Combustion Engineering's potential for obtaining or maintaining foreign licensees.

Further the deponent sayeth not.

S. A. Toelle

S. A. Toelle
Manager
Nuclear Licensing

Sworn to before me
this 15th day of May, 1992

Laurie J. White

Notary Public

My commission expires: 3/31/94

ATTACHMENT (3)

ABB/CE Proprietary Response to Question No. 1 of NRC's March 31, 1992, Request for Additional Information Regarding Baltimore Gas and Electric Company's Response to the 1991 PTS Rule, Dated December 13, 1991

Baltimore Gas & Electric Company
Docket Nos. 50-317 and 50-318
May 22, 1992