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VICE PRESIDENT
NUCLEAR ENERGY

May 12, 1988

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
Fastener Testing

Gentlemen:

On November 5, 1987, our Project Manager, Scott McNeil, selected ten bolts and two nuts from our warehouse with the intention of testing them to determine their physical properties. We selected an equal number of fasteners from the same bins and tested them at our material testing facility.

At Mr. McNeil's request, we have attached a table summarizing the results of our testing. Please send us the results of your testing in a format similar to the attached table.

We found three minor discrepancies with the specification requirements.

| <u>Item</u> | <u>Discrepancy</u> |
|-------------|--|
| 72-175(1) | Hardness was 0.3 HRC (or 1.2%) below the minimum hardness of 25 HRC. |
| 72-175(2) | Hardness was 0.4 HRC (or 1.4%) below the minimum hardness of 25 HRC. |
| 72-229(2) | Hardness was 1.5 HRC (or 4.4%) above the maximum hardness of 34 HRC. |

These hardness variations are minor and, based on past experience, would not adversely affect the strength or ductility of the material.

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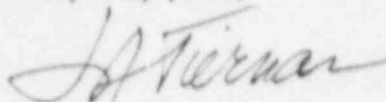
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Mr. McNeil also requested a list of vendors that BG&E purchases fasteners from, or have purchased fasteners from in the past. We have attached such a list. It is not intended to be all-inclusive, but it does represent our principal vendors.

Should you have any additional questions regarding fasteners used at Calvert Cliffs, please do not hesitate to contact us.

Very truly yours,



JAT/WPM/dlm

Attachment

cc: D. A. Brune, Esquire
J. E. Silberg, Esquire
R. A. Capra, NRC
S. A. McNeil, NRC
W. T. Russell, NRC
D. C. Trimble, NRC

ELEMENTAL WEIGHT PERCENT

| <u>PART ID</u> | <u>MARKINGS</u> | <u>SIZE</u> | <u>C</u> | <u>Mn</u> | <u>P</u> | <u>S</u> | <u>Si</u> | <u>Cr</u> | <u>Mo</u> | <u>HARDNESS (HRC)</u> |
|----------------|-----------------|-------------|----------|-----------|----------|----------|-----------|-----------|-----------|---------------------------|
| 72-155(1) | KS Grade 5 | 5/8" x 1" | 0.375 | 0.973 | 0.025 | 0.025 | 0.222 | 0.089 | 0.02 | 30.1 |
| 72-155(2) | FM Grade 5 | 5/8" x 1" | 0.324 | 0.911 | 0.012 | 0.017 | 0.230 | 0.072 | 0.02 | 30.2 |
| 72-165 | FM Grade 5 | 9/16" x 3" | 0.303 | 0.876 | 0.013 | 0.017 | 0.252 | 0.106 | 0.01 | 26.1 |
| 72-175(1) | Grade 5 | 3/8" x 3" | 0.384 | 0.824 | 0.015 | 0.018 | 0.242 | 0.066 | 0.01 | 24.7 |
| 72-175(2) | Grade 5 | 3/8" x 3" | 0.451 | 0.830 | 0.015 | 0.020 | 0.259 | 0.063 | 0.01 | 24.6 |
| 72-218(1) | KS Grade 5 | 5/16" x 1 | 0.464 | 0.801 | 0.023 | 0.024 | 0.237 | 0.084 | 0.02 | 27.3 |
| 72-218(2) | KS Grade 5 | 5/16" x 1 | 0.401 | 0.832 | 0.023 | 0.022 | 0.236 | 0.084 | 0.02 | 26.2 |
| 72-226 | J Grade 5 | 3/8" x 1" | 0.399 | 0.882 | 0.016 | 0.015 | 0.035 | 0.269 | 0.00 | 25.7 |
| 72-229(1) | KS Grade 5 | 1/2" x 3" | 0.357 | 0.906 | 0.014 | 0.016 | 0.240 | 0.079 | 0.01 | 33.7 |
| 72-229(2) | KS Grade 5 | 1/2" x 3" | 0.358 | 0.868 | 0.014 | 0.017 | 0.249 | 0.080 | 0.01 | 35.5 |
| 445767(1) | (-)2H AME | Nut 1 1/8" | 0.448 | 0.839 | 0.026 | 0.017 | 0.237 | 0.130 | 0.01 | 25.4 |
| 445767(2) | (-)2H AME | Nut 1 1/8" | 0.399 | 0.925 | 0.026 | 0.023 | 0.239 | 0.153 | 0.02 | 26.0 |

Table No. 1: Chemistry and Hardness Results

**Principal Vendors
of
BG&E Fasteners**

1. A&G Engineering Company
4640 East LaPalma Avenue
Anaheim, CA 92806
Tel: (800) 242- 6587
2. Leonard Jed, Company
1301 Covington Street
Baltimore, MD 21230
Tel: (301) 685-1482
3. Kenneth G. Lilly Fasteners
P. O. Box 6005
Newark, DE 19711
Tel: (302) 366-7640
4. Standard Nut & Bolt
Abbott & Hatch Streets
Cumberland, RI 02864
Tel: (401) 722-6760
5. Sta-Put Fastener Manufacturing Company
3900 Vero Road
Baltimore, MD 21227
Tel: (301) 247-5500
6. Vincent Brass and Aluminum
Charlotte, NC 28230
Tel: (800) 438-6914
7. Mil-Spec Fasteners
Route 30 Box 59A
Hampstead, MD 21074
Tel: (301) 239-7761
8. A & A Bolt & Screw
1110 Batavia Farm Road
Baltimore, MD 21237
Tel: (301) 687-8831
9. C-S Metal Services, Inc.
7325 Washington Boulevard
Baltimore, MD 21227
Tel: (301) 796-5661