

50-298



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

April 24, 1998

Mr. G. R. Horn  
Sr. Vice President of Energy Supply  
Nebraska Public Power District  
1414 15th Street  
Columbus, NE 68601

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING REACTOR  
PRESSURE VESSEL INTEGRITY AT COOPER NUCLEAR STATION - (TAC NO.  
MA1185)

Dear Mr. Horn:

Generic Letter (GL) 92-01, Revision 1, Supplement 1 (GL 92-01, Rev. 1, Supp. 1), "Reactor Vessel Structural Integrity" was issued in May 1995. This GL requested licensees to perform a review of their reactor pressure vessel (RPV) structural integrity assessments in order to identify, collect, and report any new data pertinent to the analysis of the structural integrity of their RPVs and to assess the impact of those data on their RPV integrity analyses relative to the requirements of Section 50.60 of Title 10 of the Code of Federal Regulations (10 CFR Part 50.60), 10 CFR 50.61, Appendices G and H to 10 CFR Part 50 (which encompass pressurized thermal shock (PTS) and upper shelf energy (USE) evaluations), and any potential impact on low temperature overpressure (LTOP) limits or pressure-temperature (P-T) limits.

After reviewing your response, the NRC issued you a letter dated July 30, 1996. In this letter we acknowledged receipt of your response, noted that additional RPV information may become available as a result of Owners Group efforts and requested that you provide us with the results of the Owners Groups' programs relative to your plant. We further indicated that a plant specific TAC Number may be opened to review this material. Following issuance of these letters, the BWR Vessel and Internals Project (BWRVIP) submitted the report "Update of Bounding Assessment of BWR/2-6 Reactor Pressure Vessel Integrity Issues (BWRVIP-46)." This report included bounding assessments of new data from 1) the Combustion Engineering Owners Group (CEOG) database released in July 1997, which contains all known data for CE fabricated welds in PWR and BWR vessels; 2) Framatome Technologies Incorporated (FTI) analyses of Linde 80 welds which are documented in NRC Inspection Report 99901300/97-01 dated January 28, 1998; 3) FTI's analysis of electro-slag welds which was referenced in a Dresden and Quad Cities P-T limits submittal dated September 20, 1996; and 4) Chicago Bridge and iron quality assurance records. New data for one vessel fabricated by Hitachi was also included in the BWRVIP report.

The staff is requesting that you re-evaluate the RPV weld chemistry values that you have previously submitted as part of your licensing basis in light of the information presented in the CEOG, FTI and BWRVIP reports. The staff expects that you will assess this new information to determine whether any values of RPV weld chemistry need to be revised for your facility. Therefore, in order to provide a complete response to items 2, 3 and 4 of the GL, the NRC requests that you provide a response to the enclosed request for additional information (RAI) within 90 days of receipt of this letter. If a question does not apply to your situation, please indicate this in your RAI response along with your technical basis and, per GL 92-01, Rev. 1, Supp. 1, provide a certification that previously submitted evaluations remain valid.

9805040057 980424  
PDR ADOCK 05000298  
P PDR

10005

NRC FILE CENTER COPY

11  
DF01

The information provided will be used in updating the Reactor Vessel Integrity Database (RVID). Also, please note that RPV integrity analyses utilizing newly identified data could result in the need for license amendments in order to maintain compliance with 10 CFR Part 50.60, and Appendices G and H to 10 CFR Part 50, and to address any potential impact on P-T limits. If additional license amendments or assessments are necessary, the attached requests that you provide a schedule for such submittals.

If you should have any questions regarding this request, please contact James Hall at (301)-415-1336.

Sincerely,

ORIGINAL SIGNED BY:

James R. Hall, Senior Project Manager  
Project Directorate IV-1  
Division of Reactor Projects III/IV  
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosure: As stated

cc: See next page

DISTRIBUTION:

Docket File	PUBLIC	PD4-1 r/f	J. Hannon
C. Hawes	ACRS	OGC (15B18)	
T. Gwynn, RIV	J. Hall	E. Adensam (EGA1)	

Document Name: COOA1185.LTR

OFC	PM/PD4-1	LA/PD4-1	D/PD4-1
NAME	JHall/vw <i>JRH</i>	CHawes <i>CMH</i>	JHannon
DATE	4/23/98	4/23/98	4/24/98

OFFICIAL RECORD COPY

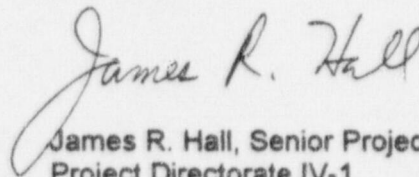
Mr. G. R. Horn

-2-

The information provided will be used in updating the Reactor Vessel Integrity Database (RVID). Also, please note that RPV integrity analyses utilizing newly identified data could result in the need for license amendments in order to maintain compliance with 10 CFR Part 50.60, and Appendices G and H to 10 CFR Part 50, and to address any potential impact on P-T limits. If additional license amendments or assessments are necessary, the attached requests that you provide a schedule for such submittals.

If you should have any questions regarding this request, please contact James Hall at (301)-415-1336.

Sincerely,



James R. Hall, Senior Project Manager  
Project Directorate IV-1  
Division of Reactor Projects III/IV  
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosure: As stated

cc: See next page

Mr. G. R. Horn  
Nebraska Public Power District

Cooper Nuclear Station

cc:

Mr. John R McPhail, General Counsel  
Nebraska Public Power District  
P. O. Box 499  
Columbus, NE 68602-0499

Lincoln Electric System  
ATTN: Mr. Ron Stoddard  
Box 80869  
Lincoln, NE 68501

Nebraska Public Power District  
ATTN: Mr. J. H. Swailes  
Vice President of Nuclear Energy  
P. O. Box 98  
Brownville, NE 68321

MidAmerican Energy  
ATTN: Dr. William D. Leech, Manager-Nuclear  
907 Walnut Street  
P. O. Box 657  
Des Moines, IA 50303-0657

Randolph Wood, Director  
Nebraska Department of Environmental  
Control  
P. O. Box 98922  
Lincoln, NE 68509-8922

Nebraska Public Power District  
ATTN: Mr. B. L. Houston, Nuclear  
Licensing & Safety Manager  
P. O. Box 98  
Brownville, NE 68321

Mr. Larry Bohiken, Chairman  
Nemaha County Board of Commissioners  
Nemaha County Courthouse  
1824 N Street  
Auburn, NE 68305

Senior Resident Inspector  
U.S. Nuclear Regulatory Commission  
P. O. Box 218  
Brownville, NE 68321

Regional Administrator, Region IV  
U.S. Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 1000  
Arlington, TX 76011

Ms. Cheryl Rogers, LLRW Program Manager  
Division of Radiological Health  
Nebraska Department of Health  
301 Centennial Mall, South  
P. O. Box 95007  
Lincoln, NE 68509-5007

Mr. Ronald A. Kucera, Department Director  
of Intergovernmental Cooperation  
Department of Natural Resources  
P.O. Box 176  
Jefferson City, MO 65102

## REQUEST FOR ADDITIONAL INFORMATION

### REACTOR PRESSURE VESSEL INTEGRITY

#### Section 1.0: Assessment of Best-Estimate Chemistry

The staff recently received the BWRVIP report "Update of Bounding Assessment of BWR/2-6 Reactor Pressure Vessel Integrity Issues (BWRVIP-46)".

Based on this information, in accordance with the provisions of Generic Letter 92-01, Revision 1, Supplement 1, the NRC requests the following:

1. An evaluation of the bounding assessment in the reference above and its applicability to the determination of the best-estimate chemistry for all of your RPV beltline welds. Based upon this reevaluation, supply the information necessary to completely fill out the data requested in Table 1 for each RPV beltline weld material. If the limiting material for your vessel's P-T limits evaluation is not a weld, include the information requested in Table 1 for the limiting material also.

With respect to your response to this question, the staff notes that some issues regarding the evaluation of the data were discussed in a public meeting between the staff, NEI, and industry representatives on November 12, 1997. A summary of this meeting is documented in a meeting summary dated November 19, 1997, "Meeting Summary for November 12, 1997, Meeting with Owners Group Representatives and NEI Regarding Review of Responses to Generic Letter 92-01, Revision 1, Supplement 1 Responses" (Reference 1). The information in Reference 1 may be useful in helping you to prepare your response.

In addition to the issues discussed in the referenced meeting, you should also consider what method should be used for grouping sets of chemistry data (in particular, those from weld qualification tests) as being from "one weld" or from multiple welds. This is an important consideration when a mean-of-the-means or coil-weighted average approach is determined to be the appropriate method for determining the best-estimate chemistry. If a weld (or welds) were fabricated as weld qualification specimens by the same manufacturer, within a short time span, using similar welding input parameters, and using the same coil (or coils in the case of tandem arc welds) of weld consumables, it may be appropriate to consider all chemistry samples from that weld (or welds) as samples from "one weld" for the purposes of best-estimate chemistry determination. If information is not available to confirm the aforementioned details, but sufficient evidence exists to reasonably assume the details are the same, the best-estimate chemistry should be evaluated both by assuming the data came from "one weld" and by assuming that the data came from an appropriate number of "multiple welds". A justification should then be provided for which assumption was chosen when the best-estimate chemistry was determined.

#### Section 2.0: P-T Limit Evaluation

2. If the limiting material for your plant changes or if the adjusted reference temperature for the limiting material increases as a result of the above evaluations, provide the revised  $RT_{ndt}$  value for the limiting material. In addition, if the adjusted  $RT_{NDT}$  value increased, provide a schedule for revising the P-T limits. The schedule should ensure that compliance with 10 CFR 50 Appendix G is maintained.

ENCLOSURE

Reference

1. Memorandum dated November 19, 1997, from Keith R. Wichman to Edmund J. Sullivan, "Meeting Summary for November 12, 1997, Meeting with Owners Group Representatives and NEI Regarding Review of Responses to Generic Letter 92-01, Revision 1, Supplement 1 Responses."

Attachment: Table 1

