



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

50-237

April 30, 1998

Mr. Oliver D. Kingsley, President
Nuclear Generation Group
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 500
Downers Grove, IL 60515

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING REACTOR
PRESSURE VESSEL INTEGRITY AT DRESDEN NUCLEAR POWER STATION
UNITS 2 AND 3 (TAC NOS. MA1186 AND MA1187)

Dear Mr. Kingsley:

Generic Letter 92-01, Revision 1, Supplement 1 (GL), "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 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 ComEd's response, the NRC issued ComEd a letter dated April 21, 1997, for Dresden, Units 2 and 3. In this letter the NRC acknowledged receipt of ComEd's response, noted that additional RPV information may become available as a result of Owners Group efforts and requested that ComEd provide the NRC with the results of the Owners Groups' programs relative to Dresden. We further indicated that a plant specific TAC Number may be opened to review this material. Following issuance of these letters, the Boiling Water Reactor 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 that contains all known data for Combustion Engineering (CE) fabricated welds in Pressurized Water Reactor (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 ComEd re-evaluate the RPV weld chemistry values that ComEd has previously submitted as part of the licensing basis in light of the information presented in the CEOG, FTI and BWRVIP reports. The staff expects that ComEd will assess this new information to determine whether any values of RPV weld chemistry need to be revised for Dresden. Therefore, in order to provide a complete response to items 2, 3 and 4 of the GL, the NRC requests that ComEd provide a response to the enclosed request for additional information (RAI)

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O. Kingsley

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April 30, 1998

within 90 days of receipt of this letter. If a question does not apply to Dresden, please indicate this in the RAI response along with the technical basis and, per the GL, provide a certification that previously submitted evaluations remain valid.

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 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 enclosed requests that ComEd provide a schedule for such submittals.

If there should be any questions regarding this request, please contact me at 301-415-2863.

Sincerely,

ORIG: SIGNED BY:

Lawrence W. Rossbach, Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket Nos. 50-237, 50-249

Enclosure: RAI

cc w/encl: See next page

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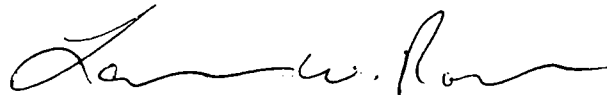
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Lawrence W. Rossbach, Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket Nos. 50-237, 50-249

Enclosure: RAI

cc w/encl: See next page

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Units 2 and 3

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REQUEST FOR ADDITIONAL INFORMATION

REACTOR PRESSURE VESSEL INTEGRITY

Section 1.0: Assessment of Best-Estimate Chemistry

The staff recently received the Boiling Water Reactor Vessel and Internals Project (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 the reactor pressure vessel (RPV) beltline welds. Based upon this reevaluation, supply the information necessary to completely fill out the data requested in Table 1 (attached) for each RPV beltline weld material. If the limiting material for the vessel's pressure-temperature (P-T) limits evaluation is not a weld, include the information requested in Table 1 for the limiting material also.

With respect to ComEd's 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 (Reference 1). The information in Reference 1 may be useful in helping to prepare the response.

In addition to the issues discussed in the referenced meeting, ComEd 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 Dresden 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 Part 50, Appendix G, is maintained.

Reference

1. Memorandum 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," dated November 19, 1997.

Attachment: Table 1

ENCLOSURE

TABLE 1

Facility: _____
 Vessel Manufacturer: _____

Information Requested on RPV Weld and/or Limiting Materials

RPV Weld Wire Heat ⁽¹⁾	Best-Estimate Copper	Best-Estimate Nickel	EOL ID Fluence (x 10 ¹⁹)	Assigned Material Chemistry Factor (CF)	Method of Determining CF ⁽²⁾	Initial RT _{NDT} (RT _{NDT(U)})	σ_i	σ_Δ	Margin	ART or RTndt at EOL

(1) or the material identification of the limiting material as requested in Section 1.0 (1.)

(2) determined from tables or from surveillance data

Discussion of the Analysis Method and Data Used for Each Weld Wire Heat

Weld Wire Heat

Discussion