

**PERRY NUCLEAR POWER PLANT**

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**Donald C. Shelton**  
SENIOR VICE PRESIDENT  
NUCLEAR

August 17, 1995  
PY-CEI/NRR-1977L

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D.C. 20555

Perry Nuclear Power Plant  
Docket No. 50-440  
Response to Generic Letter 92-01, Revision 1, Supplement 1,  
Reactor Vessel Structural Integrity

Gentlemen:

By letters dated July 2, 1992 (PY-CEI/NRR-1500L), and October 25, 1993 (PY-CEI/NRR-1699L), Perry Nuclear Power Plant (PNPP) provided the response to Generic Letter (GL) 92-01, Revision 1, "Reactor Vessel Structural Integrity, 10 CFR 50.54(f)." The NRC staff, in its April 6, 1994 letter, presented data taken from the PNPP response to GL 92-01, Revision 1, and previously docketed information and requested that PNPP "verify the information for your facility is accurate as indicated in Enclosures 1 and 2." The results of this verification were confirmed by a letter dated June 16, 1994 (PY-CEI/NRR-1812L).

The NRC subsequently issued GL 92-01, Revision 1, Supplement 1, "Reactor Vessel Structural Integrity," asking licensees to review data pertaining to Reactor Pressure Vessel (RPV) integrity. In accordance with the reporting requirements of this supplement, the PNPP response to information requirement (1) is presented below.

Item (1) Provide "a description of those actions taken or planned to locate all data relevant to the determination of RPV integrity, or an explanation of why the existing data base is considered complete as previously submitted;"

Response: PNPP will undertake a two-step approach to ensure the data relevant to the determination of RPV integrity has been located. First, another review of the currently known data relevant to RPV integrity will be conducted to verify completeness. Secondly, PNPP will make inquiries with the RPV supplier to ascertain whether any additional pertinent information is available. These actions will be completed in support of the follow-on response to this GL supplement.

Additionally, PNPP supports the BWR Vessel and Internals Project (BWRVIP) effort to respond to the GL 92-01, Revision 1, Supplement 1 issues, which are described in the attachment to this letter. PNPP will evaluate the significance of the results of this BWRVIP effort with respect to PNPP RPV integrity.

Operating Companies  
Cleveland Electric Illuminating  
Toledo Edison

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August 17, 1995

Page 2 of 2

If you have questions or require additional information, please contact  
Mr. James D. Kloosterman, Manager - Regulatory Affairs, at (216) 280-5833.

Very truly yours,

  
for Donald C. Shelton

TAH:sc

Attachment

cc: NRC Project Manager  
NRC Resident Inspector Office  
NRC Region III  
State of Ohio

# BWRVIP

BWR Vessel &  
Internals Project

Issue Management and Resolution

August 10, 1995

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D. C. 20555-0001

SUBJECT: BWRVIP Response to NRC Generic Letter 92-01, Revision 1,  
Supplement 1, Reactor Vessel Structural Integrity

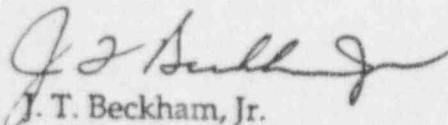
Attached is the BWRVIP Action Plan to develop a generic BWR response to the requests described in NRC Generic Letter 92-01, Revision 1, Supplement 1.

The BWRVIP utilities have approved the attached Action Plan for developing a generic response to the requests in the Generic Letter and are proceeding with that work. This transmittal of the BWRVIP Action Plan does not represent a commitment for any utility. Each utility will provide a response to the Generic Letter directly to the NRC. The utility submittals can reference or adopt this BWRVIP Action Plan as determined by the utility.

The BWRVIP agrees with the statements in the Generic Letter that the nature of BWR operating characteristics are such that pressurized thermal shock (PTS) and low temperature over pressure (LTOP) events do not apply to BWRs. Furthermore, the BWRVIP believes that the issues in the Generic Letter that are applicable to BWRs, though important, do not represent a near term plant operational concern.

If you have any questions on this subject please feel free to call Tom Spry of ComEd at (708) 663-7268 or Robin Dyle of Southern Nuclear at (205) 877-7121.

Sincerely,



J. T. Beckham, Jr.  
Southern Nuclear Operating Company  
Chairman, BWR Vessel & Internals Project

Reply To: J. T. Beckham, Jr., BWRVIP Chairman, Southern Nuclear Operating Co., 42 Inverness  
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## BWRVIP ACTION PLAN FOR RPV INTEGRITY DATA

### BACKGROUND

Generic Letter (GL) 92-01, Revision 1, Supplement 1, was issued by the NRC as a result of determining that weld chemistry variability, specifically copper, was greater than previously expected for certain weld heats in Combustion Engineering (CE) fabricated vessels. The GL requests that all U. S. plants develop a plan to locate all data relevant to their RPV integrity by August 17, 1995, and to then adjust plant evaluations based on that data by November 20, 1995. This action plan describes the BWR Vessel and Internals Project (BWRVIP) response to the information requests in the Generic Letter.

The BWRVIP intends to complete the work requested in the Generic Letter as expeditiously as possible. The BWRVIP intends to work with the Nuclear Energy Institute (NEI) RPV Integrity Data Task Force, which includes representatives of all Owners' Groups, to develop standard methods of evaluating and applying RPV integrity data. While the process of locating, retrieving and evaluating additional data is expected to be time consuming, the BWRVIP has developed a plan described here for generic application to all BWRVIP members that meets the technical requirements of the GL.

As part of the BWRVIP response to the GL, the BWRVIP is determining the effort involved in locating and retrieving the available RPV data. Recognizing that such retrieval cannot be completely performed by November 20, the BWRVIP plans to develop a preliminary generic response to GL requests 2, 3 and 4. This will be provided along with a progress report by November 20, 1995. Based on the BWRVIP preliminary evaluation of the effort associated with this GL and input from all the Owners' Groups, an elapsed time to finalize the response is expected to be at least 24 months. Additional progress reports will be provided. The details of the plan are provided below.

1. **Response to GL Request 1. The GL Supplement requests, by August 17, 1995, "a description of those actions taken or planned to evaluate all data relevant to the determination of RPV integrity..."**

The BWRVIP will review available industry data bases, such as RVID from the NRC, published data from ABB-CE and hard copy of RPV DATA from the

Westinghouse Owners' Group (WOG), and will review the collected records (at GE) of beltline materials used for past vessel integrity evaluations. The BWRVIP will review and evaluate information in these data bases and the response to be provided by November 20, 1995 will discuss any inconsistencies found. Resolution of any inconsistencies will be addressed in the BWRVIP response to GL requests 2 and 4 as described below. These data will be used to identify BWR and PWR plants with common materials (sister plants) and to generate a complete list of beltline materials for each BWR vessel fabricator. The list for each fabricator will identify all plate, weld and forging materials in each plant's beltline, and any known sister plant(s) for each material. The list will also document the best estimate vessel integrity data. ABB-CE is already performing a comprehensive data retrieval for owners of CE-fabricated vessels, including BWRs. The information available from ABB-CE will be incorporated into the BWRVIP work.

The BWRVIP will request of vessel fabricators a proposal by November 20 to, by material, a) identify any vessels (BWR or PWR) which they fabricated which have the same material, and either b) retrieve and document all additional data relevant to vessel integrity on each material or c) verify that no additional data are available.

Requests for proposals will be sent to the following BWR fabricators: B&W, CB&I/CBIN, Hitachi and Ishikawajima-Harima Industries (IHI).

The plan is to obtain proposals by November 20, 1995. However, the resulting data would not be collected and documented until considerably past that date. Therefore, *preliminary* generic evaluations will be performed with available data and documented in the response to be provided by November 20. The preliminary evaluations will address the remaining three GL supplement issues as follows.



2. Response to GL Request 2. The GL Supplement requests, by November 20, 1995, "an assessment of any change in best-estimate chemistry based on consideration of all relevant data."

It is the intent of the BWRVIP to assess changes in best estimate chemistry using a standard industry method, to be developed in cooperation with the NEI RPV Integrity Data Task Force. This process is expected to take more than a year. The November 20 evaluation will show that the current chemistries, and thus the current pressure-temperature (P-T) curves, have adequate safety margin for use during that time. This evaluation will address the current understanding of variations in chemistry and the large margins inherent in P-T curves.

3. Response to GL Request 3. The GL supplement requests, by November 20, 1995, "a determination of the need for use of the ratio procedure in accordance with the established Position 2.1 of Regulatory Guide 1.99, Revision 2, for those licensees that use surveillance data to provide a basis for RPV integrity evaluation..."

For most BWRs, with one set or no sets of surveillance data, this is not a near-term issue, and that will be explained. For a few, the Position 2.1 method has been used to adjust the Adjusted Reference Temperature (ART). The past applications of the Position 2.1 method will be described. Future industry-standardized application will be part of the longer range effort.

4. Response to GL Request 4. The GL supplement requests, by November 20, 1995, "a written report providing ... the results of any necessary revisions to the evaluation of RPV integrity ..."

Aside from the impact on ART, chemistry variability, namely copper, can impact BWR upper shelf energy (USE) compliance. Vessel USE was evaluated generically by the BWR Owners' Group by means of an Equivalent Margin Analysis (EMA). That analysis [1] will be reviewed, in light of the known variations in copper (e.g., in the industry data bases such as RVID and RPVDATA), to determine the impact, if any, on conclusions in that report.

A weld-specific analysis of USE will be performed for any materials determined to have >0.35% copper, which is the maximum evaluated in the EMA.

### SUMMARY

The BWRVIP will, by November 20, determine the effort required to locate and retrieve from vessel fabricators additional data related to RPV integrity. The process of data retrieval, and development of standard industry practices for applying the data, will require at least 24 months to complete. Therefore, the assessments in the response to be provided by November 20 will be made with preliminary data to show that adequate margins exist in the near term in BWR P-T curves and USE equivalent margin analysis.

### REFERENCE

- [1] Mehta, et. al., "Equivalent Margin Analysis for Low Upper Shelf Energy in BWR/2-6 Vessels," GE Report NEDO-32205-A, Revision 1, February 1994.