



Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station
600 Rocky Hill Road
Plymouth, MA 02360

Michael A. Balduzzi
Site Vice President

October 16, 2006

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

SUBJECT: Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station
Docket No. 50-293
License No. DPR-35

Pilgrim Response to NRC Request for Additional Information
Related to Proposed License Amendment to Change P-T Curves
(TAC No. MD1218)

REFERENCE:

1. NRC Letter, Request for Additional Information Regarding Technical Specification Changes to Pressure and Temperature Curves, dated August 18, 2006
2. Entergy Letter No. 2.06.018, Proposed License Amendment to Change Technical Specification 3.6.A.2, pressure-Temperature Limit Curves, dated April 12, 2006

LETTER NUMBER: 2.06.090

Dear Sir or Madam:

Attachment No. 1 to this letter provides Entergy's response to NRC Request for Additional Information (Ref. 1) in support of the proposed P-T Curve license amendment (Ref. 2).

The attached response does not invalidate the no significant hazards consideration determination included in the original application (Ref. 2).

Attachment 1 includes a proprietary Transware Enterprises Inc. Report No. ENT-FLU-001-R-001, "Pilgrim Nuclear Power Station Reactor Pressure Vessel Fluence Evaluations at end of Cycle 15 and 54 EFPY", Rev. 0 and Structural Integrity Associates, Inc. Calculation No., PNPS-22Q-301, "Revised Pressure-Temperatures Curves for Pilgrim", Rev. 0. These documents are proprietary information and affidavits signed by an authorized representative of each firm are attached pursuant to 10 CFR 2.390. It is requested that these proprietary documents be withheld from public disclosure as stated in the respective affidavits.

A substitute proprietary version delineating the proprietary information and a non-proprietary version of Transware Report ENT-FLU-001-R-001, Rev. 0 will be submitted by December 31, upon receipt from Transware Enterprises, Inc.

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There are no commitments made in this letter.

If you have any questions or require additional information, please contact Bryan Ford at (508) 830-8403.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on the 16th of OCT 2006.

Sincerely,



for

Michael A. Balduzzi

WGL/dl

Attachment: 1. Entergy Response to NRC Request for Additional Information (1 page), Structural Integrity Associates, Inc., Pilgrim Calculation PNPS-22Q-301, Rev. 0 (33 pages) and Transware Enterprises Inc. Report, ENT-FLU-001-R-001, Rev. 0 (64 pages)

cc: Mr. James Shea, Project Manager
Office of Nuclear Reactor Regulation
Mail Stop: 0-8C-2
U.S. Nuclear Regulatory Commission
1 White Flint North
11555 Rockville Pike
Rockville, MD 20852

Ms. Cristine McCombs, Director
Mass. Emergency Management Agency
400 Worcester Road
Framingham, MA 01702

U.S. Nuclear Regulatory Commission
Region 1
475 Allendale Road
King of Prussia, PA 19406

Mr. Robert Walker, Director
Radiation Control Program
Commonwealth of Massachusetts
90 Washington Street
Dorchester, MA 02121

Senior Resident Inspector
Pilgrim Nuclear Power Station

ATTACHMENT 1
(to Entergy letter No. 2.06.090)

Entergy Response to NRC Request for Additional Information

NRC Request:

In a letter dated April 12, 2006, Entergy submitted information and requested Pilgrim Technical Specification (TS) 3.6.A.2 changes, regarding revisions to the pressure temperatures (PT) limit curves. The revised PT limits are based on recalculated vessel fluence values using the RAMA code. The technical analysis in section 4 of the submittal gives peak fluence values for 54 effective full power years (EFPYs) 1-338A/C weld and the lower intermediate shell location. However, the submittal includes curves for 24, 34, 44, and 54 EFPYs of operation for which fluence values are not presented. In addition, the RAMA approval includes limitations regarding the benchmarking of the code. Accordingly, please respond to the following request for additional information:

1. Provide fluence values for the exposure for which you calculate limit curves.
2. Identify the limiting material (for each of the exposures if required) and
3. Address the RAMA limitations for the Pilgrim applications.

Entergy Response:

The attached Pilgrim calculations, File No. PNPS-22Q-301, ΔRT_{NDT} and ART Evaluation, Revision 0, provides Pilgrim Adjusted Reference Temperature Calculations for 24, 34, 48, and 54 EFPYs (Table 3, 4, 5, and 6). These Tables show limiting material (plates and welds) characteristics and fluence values calculated at 24, 36, 48, and 54 EFPYs of operation. Entergy selected these values in developing the P-T curves, as they present the most conservative limiting values given the maximum copper content in the welds using the Regulatory Guide 1.190 regulatory positions, as explained in the proposed license amendment regulatory analysis.

The attached Transware Report, ENT-FLU-001-R-001, Rev. 0 provides a summary of RAMA limitations for Pilgrim applications. These limitations are based upon the fluence calculations completed for Pilgrim capsule No. 1 (removed from Pilgrim vessel with 4.17 EFPY operations) and RAMA predicted fluence values at the location where the first capsule was placed. There is no definitive explanation for the bias factor, investigations into the source data and calculation methods showed no apparent discrepancies, except for the fact that the fluence values are extremely sensitive to the capsule location and orientation. Since the industry has established a reliable benchmark evaluation agreement between the actual fluence calculations and predicted values using RAMA methodology, Entergy has selected the RAMA predicted values as the basis for Pilgrim P-T curves and adjusted reference temperatures (ART) values.

Documents Attached:

Pilgrim Calculation, PNPS-22Q-301, Rev. 0 (33 pages), and
Transware Enterprises Inc. Report, ENT-FLU-001-R-001, Rev. 0, (64 pages)

Structural Integrity Associates, Inc., Pilgrim Calculation, PNPS-22Q-301, Rev. 0

(33 pages)



Affidavit

I, **Gary L. Stevens**, state as follows:

1. I am a Senior Associate of Structural Integrity Associates, Inc. (SI) and have been delegated the function of reviewing the information described in paragraph (2) which is sought to be withheld, and have been authorized to apply for its withholding.
2. The information sought to be withheld is contained in the attachment: Structural Integrity Associates calculation "ΔRTNDT and ART Evaluation, PNPS-22Q-301, Revision 0, January 2006." This entire document is to be treated as SI proprietary information because it contains substantial information that is proprietary to other organizations (Transware Enterprises, Inc., Electric Power Research Institute (EPRI) and the BWR Vessel and Internals Program (BWRVIP)). Such information was provided to SI in confidence and on behalf of SI's client, Entergy.

Paragraph 3 of this affidavit provides the basis for the proprietary determination.

3. SI is making this application for withholding of proprietary information on the basis that such information was provided to SI under the protection of a proprietary / confidentiality agreement between SI and TWE. In a separate affidavit requesting withholding of such proprietary information prepared by TWE, TWE relies upon the exemption of disclosure set forth in the "Freedom of Information Act ("FOIA"), 5 USC Sec. 552(b)(4), and the Trade Secrets Act, 18 USC Sec. 1905, and the NRC regulations 10CFR9.17(a)(4) and 2.390(a)(4) for "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (Exemption 4). The material for which exemption from disclosure is here sought is all "confidential and commercial information," and some portions also qualify under the narrower definition of "trade secret," within the meanings assigned to those terms for purposes of FOIA Exemption 4 in, respectively, *Critical Mass Energy Project v. Nuclear Regulatory Commission*, 975F2d871 (DC Cir. 1992), and *Public Citizen Health Research Group v. FDA*, 704F2d1280 (DC Cir. 1983)." (The preceding quotation is taken from the TWE affidavit.)

Additional information in the calculation is proprietary to EPRI and the BWRVIP, and such information was used under the terms of a proprietary agreement between SI, EPRI, and the BWRVIP.

4. Some of the information requested to be withheld is considered to be proprietary because it was provided to SI in confidence under the terms of a proprietary agreement between SI and TWE. Additional information was provided under a proprietary agreement between SI, EPRI, and the BWRVIP.

5. Public disclosure of the information sought to be withheld is likely to cause substantial harm to the identified organizations with which SI has proprietary agreements.

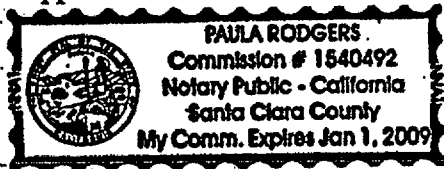
I declare under penalty of perjury that the above information and request are true, correct, and complete to the best of my knowledge, information, and belief.

Executed at San Jose, CA this 12th day of October, 2006.

Gary L. Stevens
Gary L. Stevens, P. E.
Senior Associate

State of California)
)
County of Santa Clara)

Subscribed and sworn to (or affirmed) before me on this 12th day of October, 2006, by Gary L. Stevens, personally known to me or proved to me on the basis of satisfactory evidence to be the person who appeared before me.



(Seal)

Signature *Paula Rodgers*