

10CFR 50.90

September 11, 2002

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555Peach Bottom Atomic Power Station (PBAPS), Units 2 & 3
Facility Operating License Nos. DPR-44 and DPR-56
NRC Docket Nos. 50-277 and 50-278

Subject: Response to the Request for Additional Information Regarding License Amendment Request 01-01190, Power Uprate Request for Appendix K Measurement Uncertainty Recapture

Reference: 1. Letter from Mr. M. P. Gallagher to U. S. NRC, dated May 24, 2002.
2. Letter from U.S. NRC to Mr. J. L. Skolds, dated August 12, 2002

Dear Sir/Madam:

This letter is being sent to supplement the License Amendment Request (LAR) to increase the licensed Rated Thermal Power (RTP) level by approximately 1.62% (from 3458 MWt to 3514 MWt) (Reference 1). The following issues will be addressed in this letter:

- Proprietary and Non-Proprietary Responses to NRC Requests for Additional Information (Reference 2)
- Clarifications to testing requirements in LAR 01-01190 (Reference 1)
- General Electric Errata and Addenda, dated July 10, 2002, for NEDC-33064P, "Safety Analysis Report for Peach Bottom Atomic Power Station Thermal Power Optimization" (Attachment 2 of Reference 1)

There is no impact to the No Significant Hazards Consideration submitted in Reference 1.

Additionally, there are no commitments contained within this letter.

Attachment 1 to this letter provides the responses to the Requests for Additional Information. Attachment 1 contains information proprietary to General Electric Company (GE). GE requests that the document be withheld from public disclosure in accordance with 10 CFR 2.790(a)(4). An affidavit supporting this request is also contained in Attachment 1. Attachment 5 contains a non-proprietary version of Attachment 1.

A POI

Supplement to PBAPS Units 2 and 3 License Amendment Request 01-01190
September 11, 2002
Page 2

Attachment 2 to this letter contains proposed revised Technical Specifications Pages 3.4-25 to 3.4-27 (mark-ups and camera ready) for PBAPS Unit 3. The proposed revisions involve changes to the notes on the Pressure/Temperature Limit curves.

Attachment 3 to this letter provides clarifications to the PBAPS Safety Analysis Report for Thermal Power Optimization (TSAR).

Attachment 4 to this letter contains a General Electric Errata and Addenda to NEDC-33064P, dated July 10, 2002. This information is considered proprietary to GE. GE requests that the document be withheld from public disclosure in accordance with 10 CFR 2.790(a)(4). An affidavit supporting this request is contained in Attachment 4. The non-proprietary version of NEDC-33064P was sent via letter from M.P. Gallagher to the US NRC, dated June 27, 2002. The non-proprietary version of NEDC-33064P is not affected by Attachment 4.

If you have any questions or require additional information, please do not hesitate to contact us.

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

Respectfully,

09-11-02
Executed on

Michael P. Gallagher
Michael P. Gallagher
Director, Licensing and Regulatory Affairs
Mid-Atlantic Regional Operating Group

Enclosures: Attachment 1: **Proprietary** - Responses to NRC Requests for Additional Information
Attachment 2: TS Mark-ups and Camera-ready Pages
Attachment 3: Clarifications of Testing Requirements in LAR 01-01190
Attachment 4: **Proprietary** - General Electric Errata and Addenda, dated July 10, 2002
Attachment 5: Non-Proprietary version of Attachment 1, "Responses to NRC Requests for Additional Information"

cc: H. J. Miller, Administrator, Region I, USNRC
A. C. McMurtry, USNRC Senior Resident Inspector, PBAPS
J. Boska, Senior Project Manager, USNRC (by FedEx)
R. R. Janati - Commonwealth of Pennsylvania

ATTACHMENT 2

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 AND 3

Docket Nos. 50-277
50-278

License Nos. DPR-44
DPR-56

Supplement to
License Amendment Request (LAR) 01-01190
"PBAPS Measurement Uncertainty Recapture Power Uprate"

Marked-Up & Camera-Ready Technical Specification Pages

UNIT 3

TS pages 3.4-25 to 3.4-27

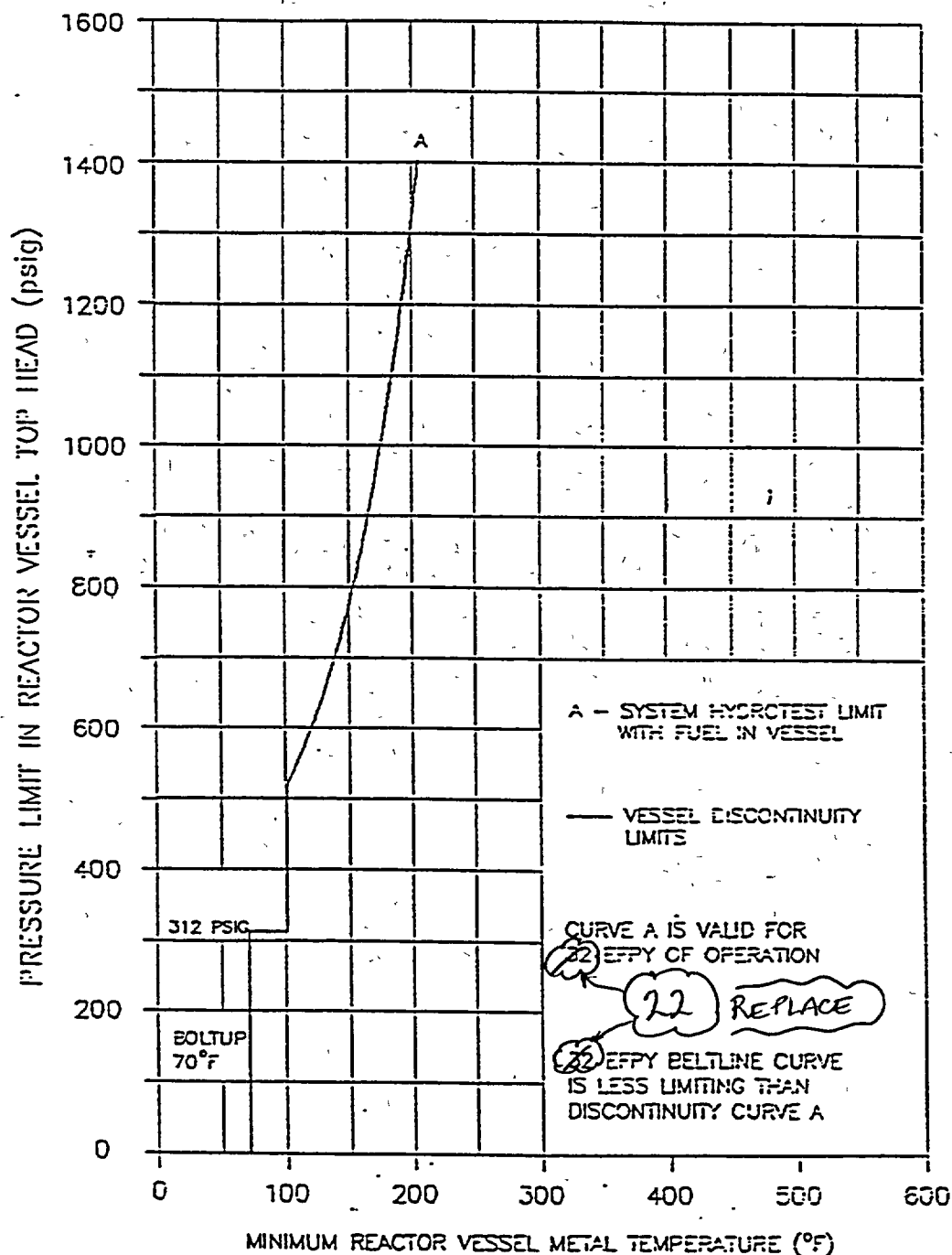


Figure 3.4.9-1 (page 1 of 1)

Temperature/Pressure Limits for
Inservice Hydrostatic and Inservice Leakage Tests

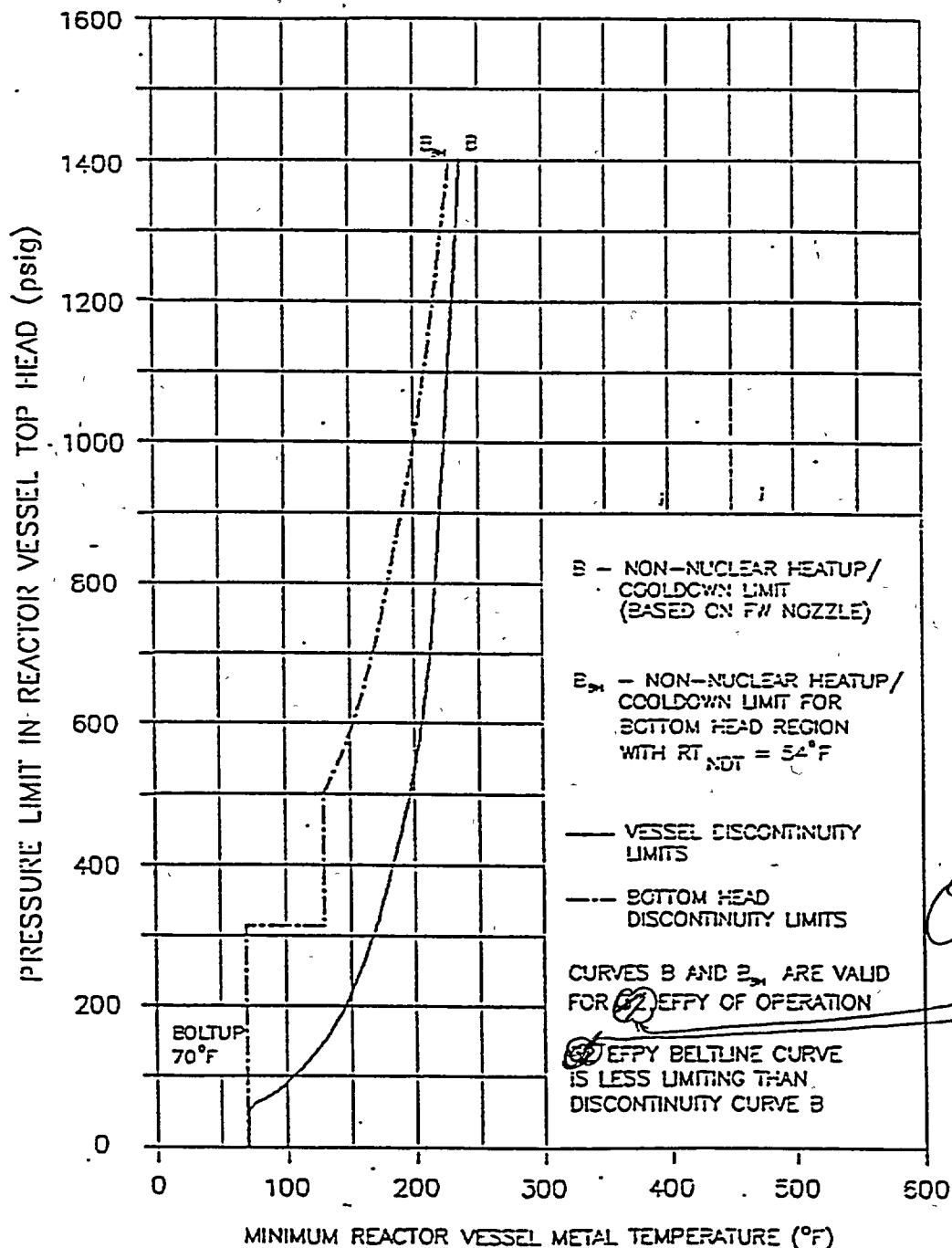


Figure 3.4.9-2 (page 1 of 1)

Temperature/Pressure Limits for
Non-Nuclear Heatup and Cooldown Following a Shutdown

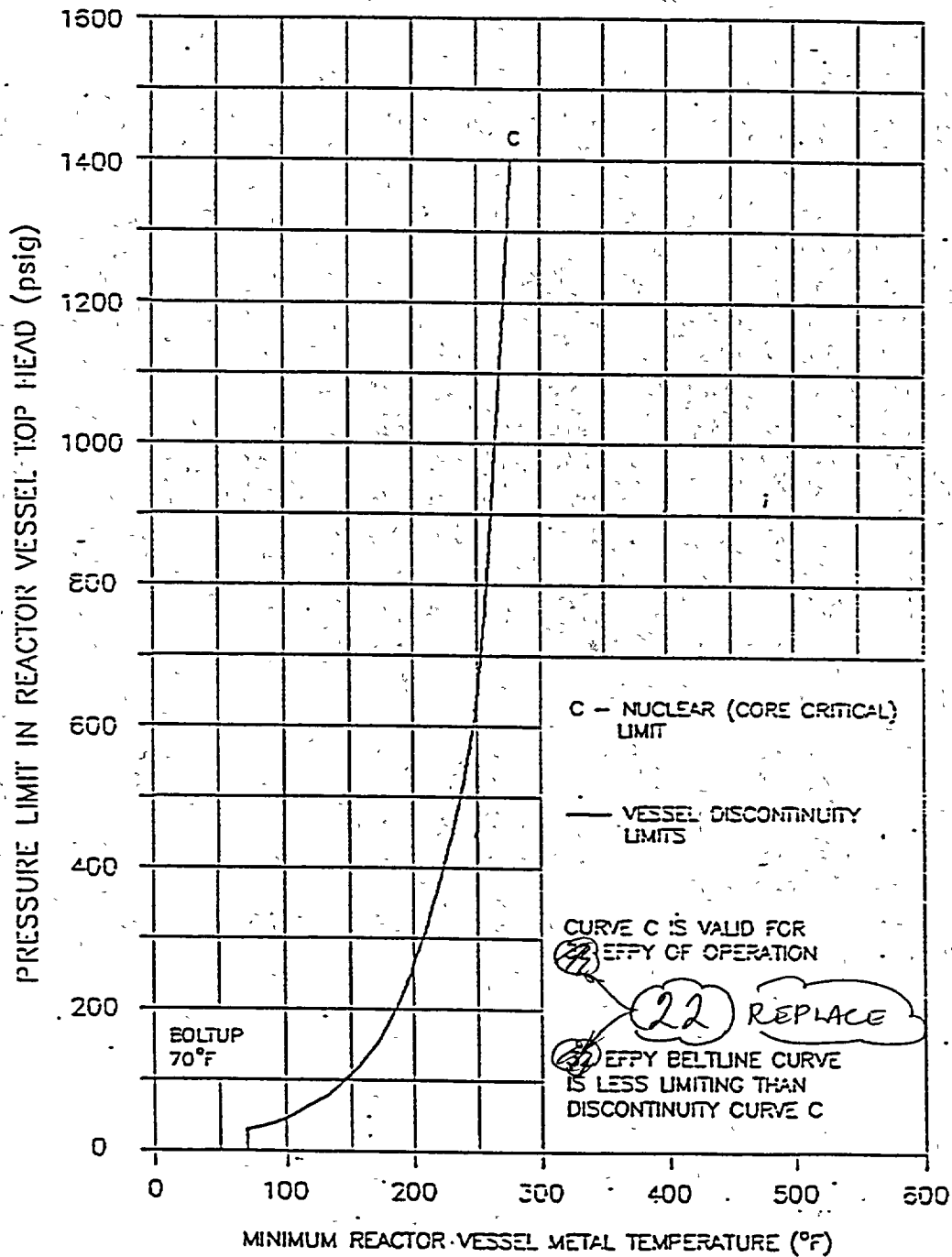


Figure 3.4.9-3 (page 1 of 1)

Temperature/Pressure Limits for Criticality

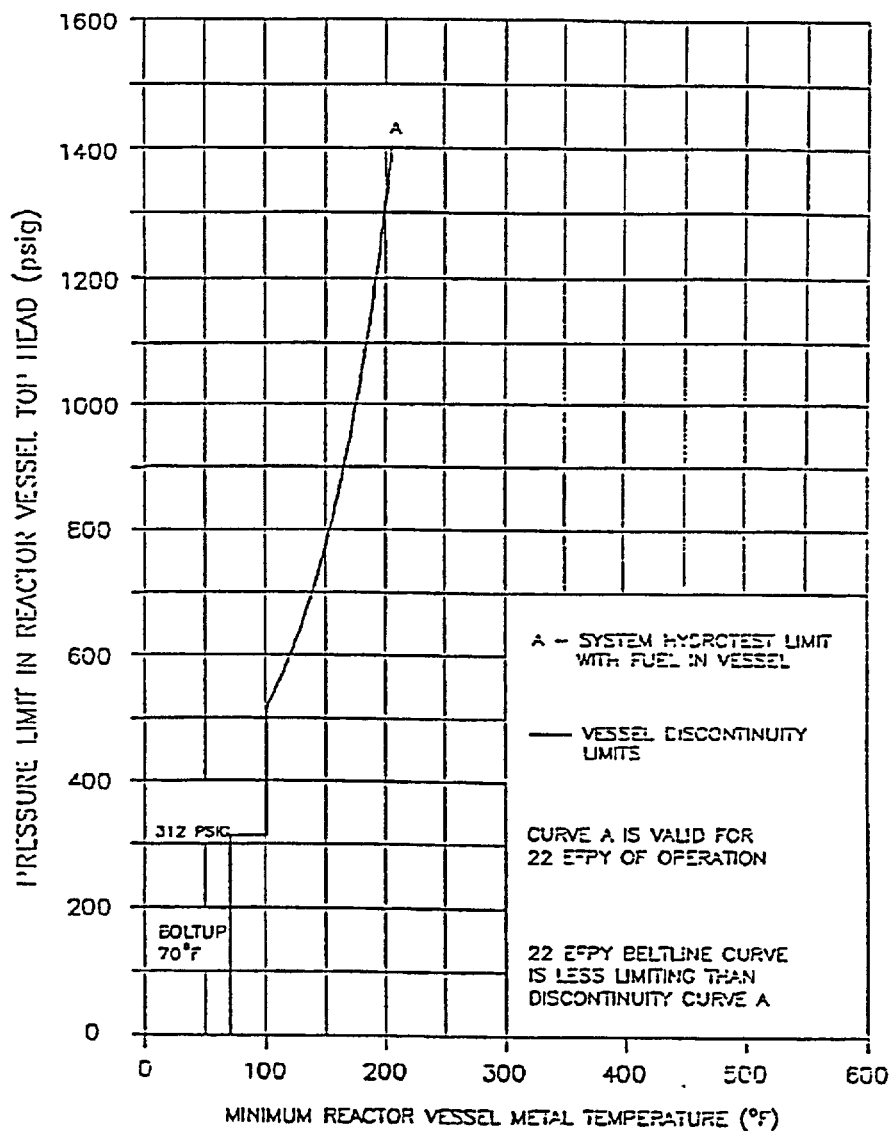


Figure 3.4.9-1 (page 1 of 1)

Temperature/Pressure Limits for
Inservice Hydrostatic and Inservice Leakage Tests

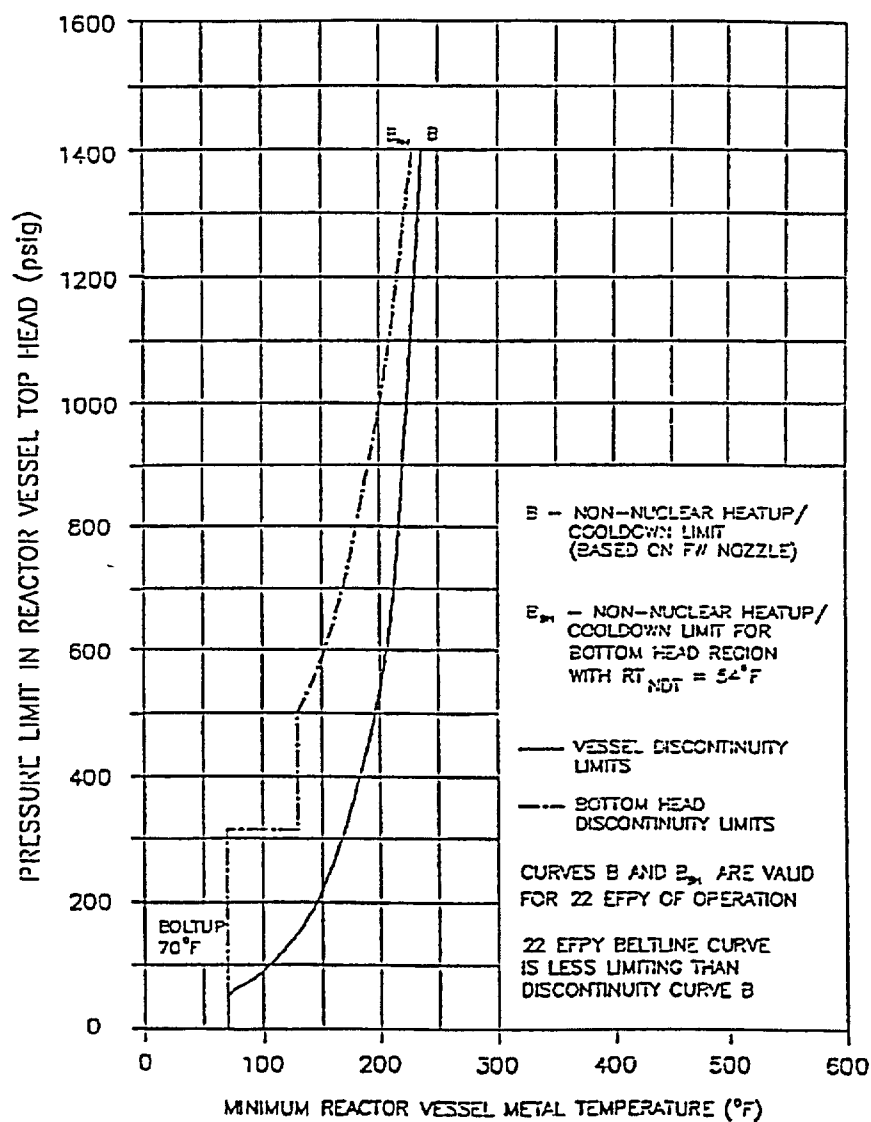


Figure 3.4.9-2 (page 1 of 1)

Temperature/Pressure Limits for
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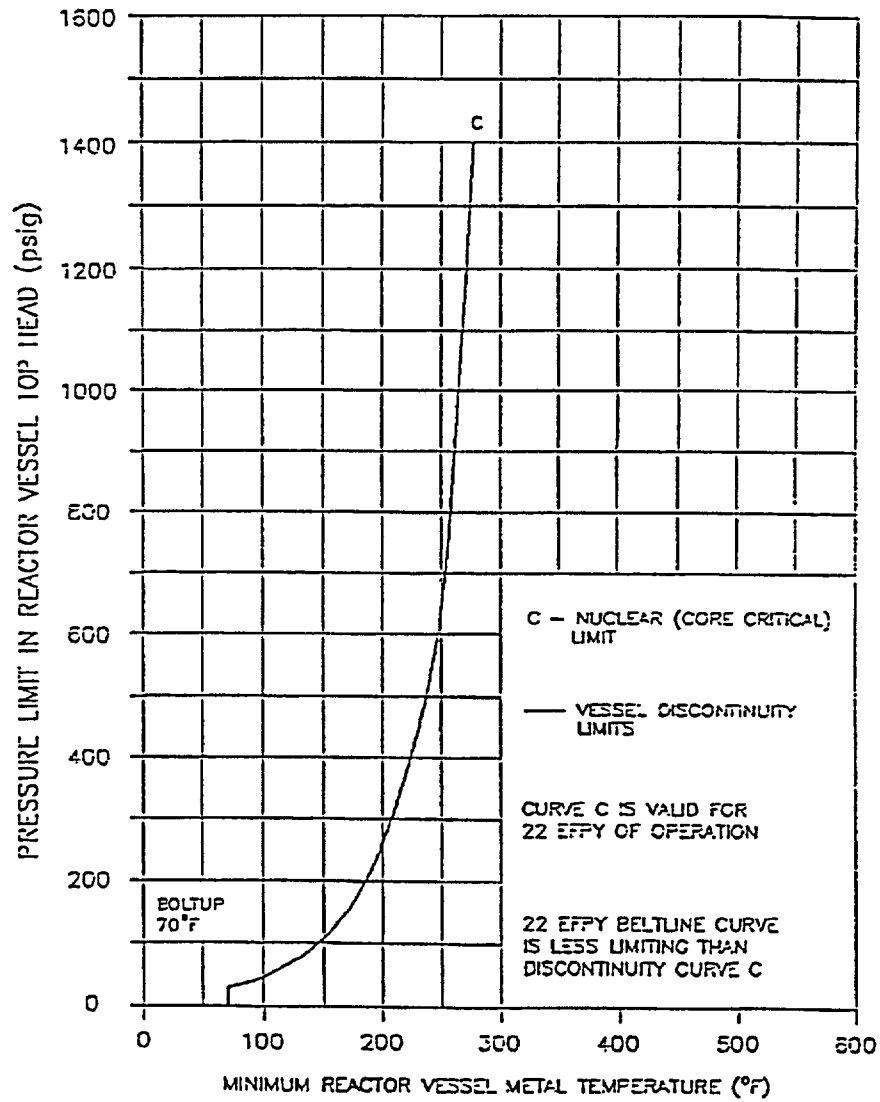


Figure 3.4.9-3 (page 1 of 1)

Temperature/Pressure Limits for Criticality

ATTACHMENT 3

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 AND 3

Docket Nos. 50-277
50-278

License Nos. DPR-44
DPR-56

Supplement to
License Amendment Request (LAR) 01-01190
"PBAPS Measurement Uncertainty Recapture Power Uprate"

Clarifications of Testing Requirements in LAR 01-01190

There are two clarifications that need to be made to the PBAPS Safety Analysis Report for Thermal Power Optimization (TSAR). The TSAR, NEDC-33064P, was Attachment 2 to the letter from M.P. Gallagher to the US NRC, dated May 24, 2002. These clarifications are described below.

1. Vibration data for the Main Steam and Feedwater Piping (TSAR Section 3.4)

Section 3.4 of the TSAR states,

"Because PBAPS has already performed a 5% power uprate, further extrapolation of the original plant startup vibration data is not considered prudent. Therefore, a piping vibration startup test program, which meets the ASME code, will be performed. Vibration data for the MS and FW piping inside containment will be acquired using remote sensors, such as displacement probes, velocity sensors, and accelerometers."

An evaluation was performed by Exelon Nuclear to address the above TSAR start-up vibration testing for the Main Steam and Feedwater systems for PBAPS Units 2 and 3 Thermal Power Optimization (TPO). This evaluation was performed utilizing existing piping analysis, design calculations, existing piping support configurations, plant historical information, and industry operating experience relative to power uprate. Systems reviewed include Main Steam, Feedwater, High Pressure Coolant Injection (HPCI) steam inlet, and Reactor Core Isolation Cooling (RCIC) steam inlet systems, which expanded the assessment provided in the referenced NEDC document. The criteria for acceptance are provided below.

- ASME/ANSI design primary stresses within code allowables.
- Review of hanger locations to assure that the piping is adequately designed to withstand effects of vibration.
- No, or minimal vibration issues or events identified, based on plant archive, or resolution (via modification of plant equipment) of any plant vibration concerns.
- Acceptable conclusions when compared with industry vibration events of similar in-house plant equipment.

Based on NEDC-33064P, an increase in vibration levels is expected to be less than 4% of existing vibration levels for flow velocities that increase by less than 1.8% due to TPO rerate. Per results of the evaluation performed, the increase is not considered to have an adverse impact on the piping systems since all systems are concluded to be adequately designed and supported. Piping design and support configurations are concluded to meet ASME/ANSI code requirements, and the only significant vibration identified historically, which could be impacted by TPO (Unit 3 HPCI steam inlet outside drywell) was successfully addressed by a modification to add additional supports to the Unit 3 HPCI steam supply piping. As part of the modification, a portion of the Unit 3 Main Steam piping that was identified to potentially have the most significant vibration was tested in accordance with ASME criteria, and concluded to be within the acceptable vibration limits ASME OM-3 of 0.5 inches per second, or ips (measured at less than 0.2 ips). Based on review of industry events, the piping vibration issues experienced at Quad Cities are not considered to be likely for Peach Bottom because the rerated conditions at Quad Cities had a more significant impact on plant equipment (due to 17% uprate, versus <1.8% uprate at PBAPS). The impact of flow induced vibration on vessel internals, which is

concluded to be within acceptable limits, and start up vibration measurements (not required), are addressed in the GE report. Therefore, the existing plant configuration is concluded to be acceptable to accommodate the rerated conditions without an adverse impact due to flow-induced vibration. However, the Unit 3 HPCI Steam Supply piping outside the reactor primary containment, which was modified due to excessive pipe vibration, will have start up vibration testing performed to assure that any pipe vibrational increase does not have an adverse impact on the system.

2. Pressure Control Testing

Section 10.4, Testing, of the TSAR states,

"Performance of the pressure and FW level control systems will be recorded at steady-state point defined above. The checks will utilize the methods and criteria described in the original startup testing of these systems to demonstrate acceptable operational capability. Water level changes of ± 3 inches and pressure setpoint step changes of ± 3 psi will be used."

After the 5/24/02 License Amendment Request submittal, while planning for the pressure control testing, it was identified that PBAPS pressure control system had been modified such that step changes via test circuitry are no longer available. Since the proposed testing is not possible, Exelon asked GE to propose alternate testing. The attached GE letter provides alternate solutions. Other stations have implemented similar strategies for this small uprate.

From the attached letter, GE proposes the following options:

"GE recommends the following options for the performance of the 3-psi pressure changes for pressure control testing.

1. *Manually adjust the pressure regulator pressure setpoint for the recommended pressure changes*
OR
2. *Follow the following sequence:*
 - a. *Switch the pressure control system to manual*
 - b. *Make the recommended pressure adjustment (± 3 psi)*
 - c. *Switch the pressure control system back to automatic*

While neither of the options is a pure step change, the GE experience is that both options provide a sufficient disturbance to the pressure control system for determination of adequate control as described in References 1 and 2. Note that Option 1 was used at the River Bend Station for that plant's startup testing for five-percent power uprate."

PBAPS plans to use Option 1 above in their pre-uprate testing program.

g

GE Nuclear Energy

*General Electric Company
175 Curtner Avenue, San Jose CA 95125*

June 20, 2002

GE-PBAPS-TPO-091

DRF 0000-0000-5735

Action Requested by: N/A

Response to: Telcon request

Project Deliverable: N/A

cc: K. Cole
H. Hoang
M. Ball

To: Michael Baker (Exelon)

From: Michael Dick

Author: Michael Dick

Subject: Pressure Control Testing for PBAPS TPO

Reference:

1. "Licensing Topical Report Generic Guidelines and Evaluations for General Electric Boiling Water Reactor Thermal Power Optimization", NEDC-32938P, Class III, July 2000. (TLTR)
2. GE-NE-0000-0000-7689-01, Class III, April 2002, Peach Bottom Atomic Power Station Units 2 and 3, Thermal Power Optimization, T1005 Final Task Report, Startup Test Specifications

The purpose of this letter is to provide Exelon additional information concerning pressure regulator testing at the TPO condition. Exelon has stated that the PBAPS pressure control system had been modified such that test step changes via test circuitry are no longer available.

GE recommends the following options for the performance of the 3-psi pressure changes for pressure control testing.

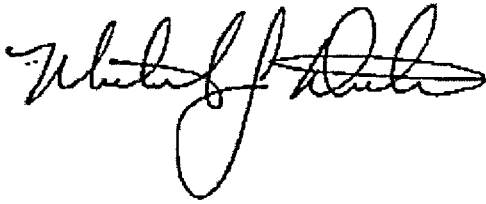
1. Manually adjust the pressure regulator pressure setpoint for the recommended pressure changes

OR

2. Follow the following sequence:
 - a. Switch the pressure control system to manual
 - b. Make the recommended pressure adjustment (± 3 psi)
 - c. Switch the pressure control system back to automatic

While neither of the options is a pure step change, the GE experience is that both options provide a sufficient disturbance to the pressure control system for determination of adequate control as described in References 1 and 2. Note that Option 1 was used at the River Bend Station for that plant's startup testing for five-percent power uprate.

If you have any questions in this matter, please contact me.

A handwritten signature in black ink, appearing to read "Michael J. Decker". The signature is fluid and cursive, with a large, stylized "M" and "J".

MJD