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2CAN030602

March 20, 2006

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: License Amendment Request
Proposed Technical Specification to Remove Reactor Coolant System Structural Integrity Requirements
Arkansas Nuclear One, Unit 2
Docket No. 50-368
License No. NPF-6

Dear Sir or Madam:

Attached for your review and approval is a proposed Technical Specification (TS) change to remove the reactor coolant system structural integrity requirements contained in TS 3.4.10.1 and its associated Bases from the Arkansas Nuclear One, Unit 2 (ANO-2) TSs. Removal of TS 3.4.10.1 is consistent with NUREG-1432 in that it does not meet the criteria of 10 CFR 50.36 for inclusion in the TSs.

The proposed change has been evaluated in accordance with 10 CFR 50.91(a)(1) using criteria in 10 CFR 50.92(c) and it has been determined that this change involves no significant hazards considerations. The bases for these determinations are included in Attachment 1. Proposed TS page markups are contained in Attachment 2.

There are no new commitments being made as a result of this request.

The proposed change is neither exigent nor emergency. Once approved, the amendment shall be implemented within 60 days.

If you have any questions or require additional information, please contact David Bice at 479-858-4626.

A001

I declare under penalty of perjury that the foregoing is true and correct. Executed on March 20, 2006.

Sincerely,

TGM/dlb

Attachments:

1. Analysis of Proposed Technical Specification Change
2. Proposed Technical Specification Changes (mark-up)

cc: Dr. Bruce S. Mallett
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**Attachment 1**

**2CAN030602**

**Analysis of Proposed Technical Specification Change**

## 1.0 DESCRIPTION OF PROPOSED CHANGES

The proposed change removes the requirements of the Arkansas Nuclear One, Unit 2 (ANO-2) reactor coolant system structural integrity requirements contained in Technical Specifications (TS) 3.4.10.1 and the associated TS Bases from the TSs. The proposed change is consistent with NUREG 1432, *Standard Technical Specifications Combustion Engineering Plants*, Revision 3.1 (Reference 1).

## 2.0 PROPOSED CHANGE

The proposed changes to the Arkansas Nuclear One, Unit 2 TSs are as follows:

- TS 3.4.10.1, *Reactor Coolant System Structural Integrity*, is being removed from the ANO-2 TSs.

- An administrative change is being made to TS pages 3/4 4-22a, 23, 23a, and 23b to renumber them as TS Pages 3/4 4-23, 24, 25, and 26, respectively. This change provides for cleaner sequential TS page numbering as a result of the deletion of TS 3.4.10.1. This portion of the change is administrative in nature and is not discussed further in this transmittal.

The Bases for TS 3.4.10.1 will be deleted. However, this will be performed under the ANO-2 TS Bases Control Program and is not included in this submittal.

## 3.0 BACKGROUND

The purpose of TS 3.4.10.1, *Reactor Coolant System Structural Integrity*, is to specify the requirements of maintaining the structural integrity of the ASME Class 1, 2 and 3 components. This specification was originally intended to support assurance that structural integrity and operational readiness of these components are maintained at an acceptable level throughout the life of the facility. The specification is applicable in all operational modes. However, the specification does not provide actions for plant shutdown if its Limiting Condition for Operation (LCO) is not met. In addition, the specification contains no surveillance requirements. This is because the specification addresses the passive pressure boundary function of ASME Code Class 1, 2 and 3 components as established by compliance with the Inservice Inspection (ISI) program. The ISI program is required pursuant to 10 CFR 50.55a (Reference 2). Furthermore, the specification wording could be misconstrued to conflict with normal outage-related activities, including removal of Reactor Coolant System (RCS) manways and the Reactor Vessel head in preparation for refueling, a time in which the RCS pressure boundary would no longer be intact. This TS does not fulfill any of the criteria of 10 CFR 50.36(c)(2)(ii) for retention in the TSs.

Maintaining a program-type requirement within an LCO creates significant interpretation issues for Operations personnel. The RCS structural integrity TS was part of the original TSs and, therefore, no basis history is available regarding its intent. However, the TS 3.4.10.1 appears to have been included to help ensure that plant heatup and startup would not occur until all required portions of the RCS were verified to meet ISI acceptance criteria following inspections performed during a plant outage (normally performed during refueling outages). Meeting this acceptance criteria helps ensure the integrity of the RCS pressure boundary during all modes of operation, including accident events. However, the RCS pressure boundary is purposely

breached during Mode 5 and 6 operations to support plant outage activities and such openings are not historically considered a violation of TS 3.4.10.1. Furthermore, TS 3.4.10.1 contains no actions suggesting it was designed to accommodate integrity concerns once plant heatup has commenced. RCS structural integrity ISI activities are performed only during plant outages when conditions exist that permit access to the RCS pressure boundary and are not monitored or controlled through application of the ISI program during the operational cycle. Other TSs are designed to monitor the structural integrity of the RCS during operation and provide actions to shutdown the unit if compliance is not maintained. For example, RCS heatup and cooldown rates protect against applying undue stresses as a result of pressure/temperature transients on RCS components and piping. RCS leakage TSs provide a means of protecting the RCS integrity by detecting and monitoring leakage. Therefore, it is not necessary to apply TS 3.4.10.1 when integrity issues become evident during plant operation above cold shutdown. Because TS 3.4.10.1 is redundant to other regulation, it is acceptable to remove the TS 3.4.10.1 requirements from the TSs.

Removal of this specification does not reduce the controls that are necessary to ensure compliance with the ASME Code or the need to maintain the RCS pressure boundaries. Structural Integrity is maintained by compliance with 10 CFR 50.55a (Reference 2) as implemented through the ANO-2 ISI program.

## 4.0 TECHNICAL ANALYSIS

The purpose of TS 3.4.10.1, *Reactor Coolant System Structural Integrity*, is to specify the requirements of maintaining the structural integrity of the ASME Class 1, 2 and 3 components. However, this is redundant to and does not contain the detail of the requirements contained within 10 CFR 50.55a, *Codes and Standards*. 10 CFR 50.36(c)(2)(ii) (Reference 3) states that a TS LCO of a nuclear reactor must be established for each item meeting one or more of the following criteria:

Criterion 1 *Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.*

This specification is not applicable to installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the RCS. This specification does not meet Criterion 1.

Criterion 2 *A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.*

This specification is not applicable to a process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. Although the specification is related to the integrity of the RCS pressure boundary, compliance is maintained by meeting the requirements of 10 CFR 50.55a through implementation of the ANO-2 ISI program and is not specifically monitored or controlled during plant operation. This specification does not meet Criterion 2.

Criterion 3 *A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.*

No specific TS-related structure, system, or component (SSC) is being revised or removed from the TSs. Each TS SSC must continue to meet the requirements of 10 CFR 50.55a as implemented through the ANO-2 ISI program. This RCS Structural Integrity specification does not meet Criterion 3.

Criterion 4 *A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.*

As stated above, no specific TS-related structure, system, or component (SSC) is being revised or removed from the TSs. Each TS SSC must continue to meet the requirements of 10 CFR 50.55a as implemented through the ANO-2 ISI program. This RCS Structural Integrity specification does not meet Criterion 4.

The scope of this specification has been evaluated against the criteria of 10 CFR 50.36(c)(2)(ii) and none of these criteria require that the RCS Structural Integrity controls are appropriate for retention in the ANO-2 TSs. This conclusion is consistent with NUREG 1432, *Standard Technical Specifications Combustion Engineering Plants*, Revision 3.1

In addition to the above, ISI-related requirements were removed from the ANO-2 TSs to be consistent with NUREG 1432 in Amendment 233, dated September 24, 2001 (Reference 4). The removal of these requirements was based on their redundancy to 10 CFR 50.55a. During this process, TS 3.4.10.1 should also have been removed from the TSs since it too is redundant to 10 CFR 50.55a requirements. As previously mentioned, NUREG 1432 does not contain this specification.

Based on the above discussion, removal of RCS structural integrity requirements contained in TS 3.4.10.1 from the TSs is acceptable.

## 5.0 REGULATORY ANALYSIS

### 5.1 Applicable Regulatory Requirements

The proposed change has been evaluated to determine whether applicable regulations and requirements continue to be met. Entergy has determined that the proposed change does not require any exemptions or relief from regulatory requirements, other than the TSs, and does not affect conformance with any General Design Criterion (GDC) differently than described in the ANO-2 Safety Analysis Report (SAR).

Although the RCS structural integrity controls of ANO-2 TS 3.4.10.1 are being removed from the TSs, ANO-2 is still required to comply with the ASME Code requirements in accordance with 10 CFR 50.55a. Therefore, there is no impact on any regulatory requirement as a result of the proposed change.

5.2 Determination of No Significant Hazards Consideration

Entergy Operations, Inc. (Entergy) is proposing that the Arkansas Nuclear One Unit 2 (ANO-2) Operating License be amended to revise the Technical Specification (TS) requirements for Reactor Coolant System (RCS) structural integrity. The proposed changes will remove the RCS Structural Integrity TS 3.4.10.1 from the TSs. This specification is redundant to the ASME Code compliance as required by 10 CFR 50.55a. The proposed change is consistent with NUREG 1432, *Standard Technical Specifications Combustion Engineering Plants*, Revision 3.1.

Entergy Operations, Inc. has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed change to remove the RCS structural integrity controls from the TSs does not impact any mitigation equipment or the ability of the RCS pressure boundary to fulfill any required safety function. Since no accident mitigation or initiators are impacted by this change, no design basis accidents are affected.

   Therefore, the proposed change does not involve a significant increase in the probability or consequences of any accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any previously evaluated?

   Response: No.

   The proposed change will not alter the plant configuration or change the manner in which the plant is operated. No new failure modes are being introduced by the proposed change.

   Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed change involve a significant reduction in the margin of safety?

   Response: No.

   Removal of TS 3.4.10.1 from the TSs does not reduce the controls that are required to maintain the RCS pressure boundary for ASME Code Class 1, 2, or 3 components. No equipment or RCS safety margins are impacted due to the proposed change.

   Therefore, the proposed change does not involve a significant reduction in the margin of safety.

Based on the above, Entergy concludes that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

5.3 Environmental Considerations

The proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

## 6.0 PRECEDENCE

The proposed change to remove of TS 3.4.10.1 from the TSs is consistent with NUREG 1432, *Standard Technical Specifications Combustion Engineering Plants*, Revision 3.1 and is similar to that issued for the Millstone Nuclear Power Station, Unit No. 2 in Amendment 264 dated February 1, 2002 and the Waterford Steam Electric Station, Unit 3 in Amendment 189 dated September 22, 2003.

## 7.0 REFERENCES

1. NUREG 1432, *Standard Technical Specifications Combustion Engineering Plants*, Revision 3.1

2. 10 CFR 50.55a, *Codes and Standards*

3. 10 CFR 50.36, *Technical Specifications*

4. ANO-2 Technical Specification Amendment 233, *Issuance of Amendment RE: Technical Specification 4.0.5 Transfer and Modification (TAC No. MB 2551)*, dated September 24, 2001

**Attachment 2**

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**Proposed Technical Specification Changes (mark-up)**

4.4.9.1.1 The Reactor Coolant System temperature and pressure shall be determined to be within the limits at least once per 30 minutes during system heatup, cooldown, and inservice leak and hydrostatic testing operations.

4.4.9.1.2 The reactor vessel material irradiation surveillance specimens shall be removed and examined, to determine changes in material properties, at the intervals shown in SAR Table 5.2-12. The results of these examinations shall be used to update Figures 3.4-2A, 3.4-2B and 3.4-2C.

Figure 3.4-2A

**HEATUP CURVE** – 32 EFPY
REACTOR COOLANT SYSTEM PRESSURE/TEMPERATURE LIMITS

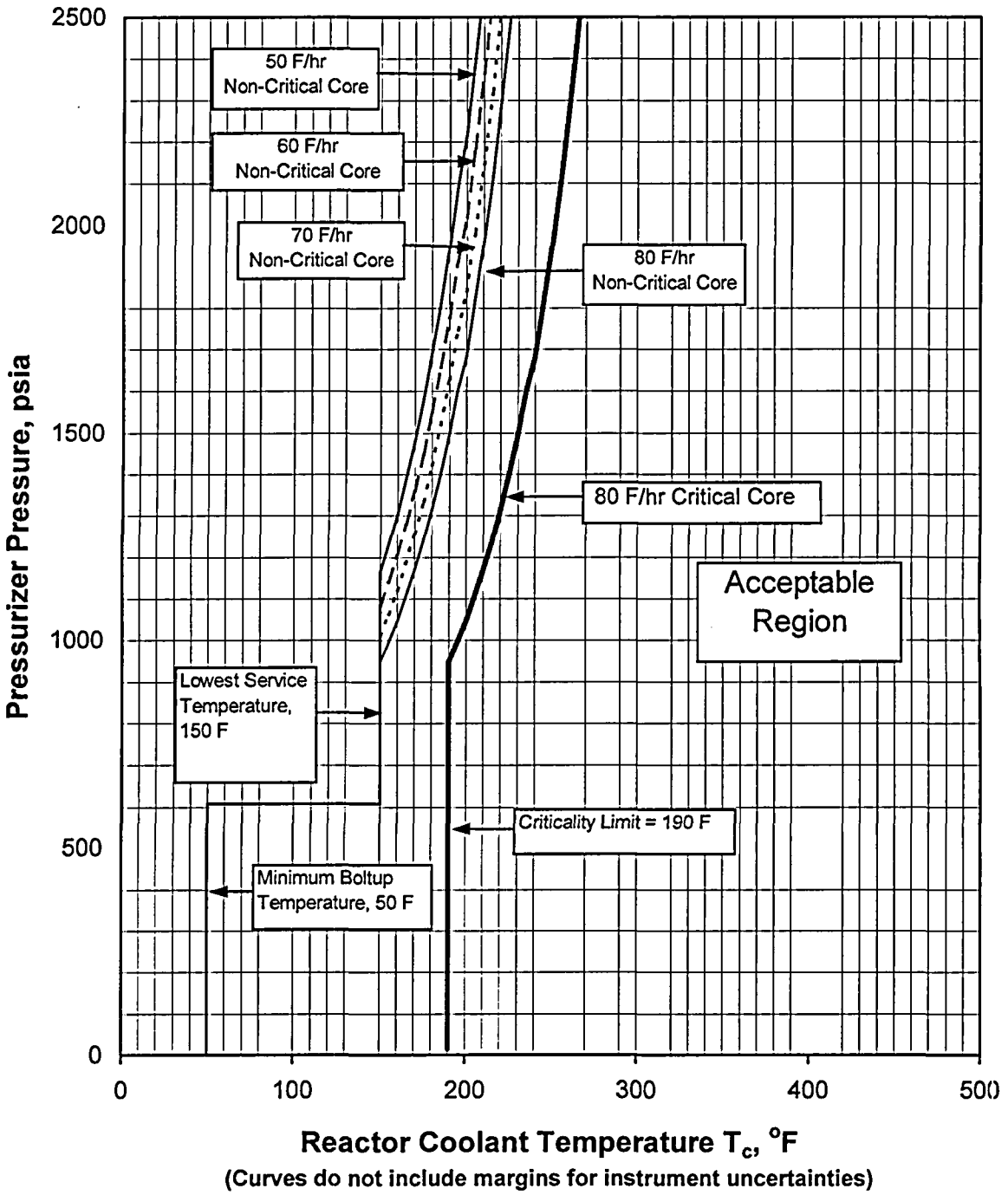


Figure 3.4-2B

COOLDOWN CURVE – 32 EFPY
REACTOR COOLANT SYSTEM PRESSURE/TEMPERATURE LIMITS

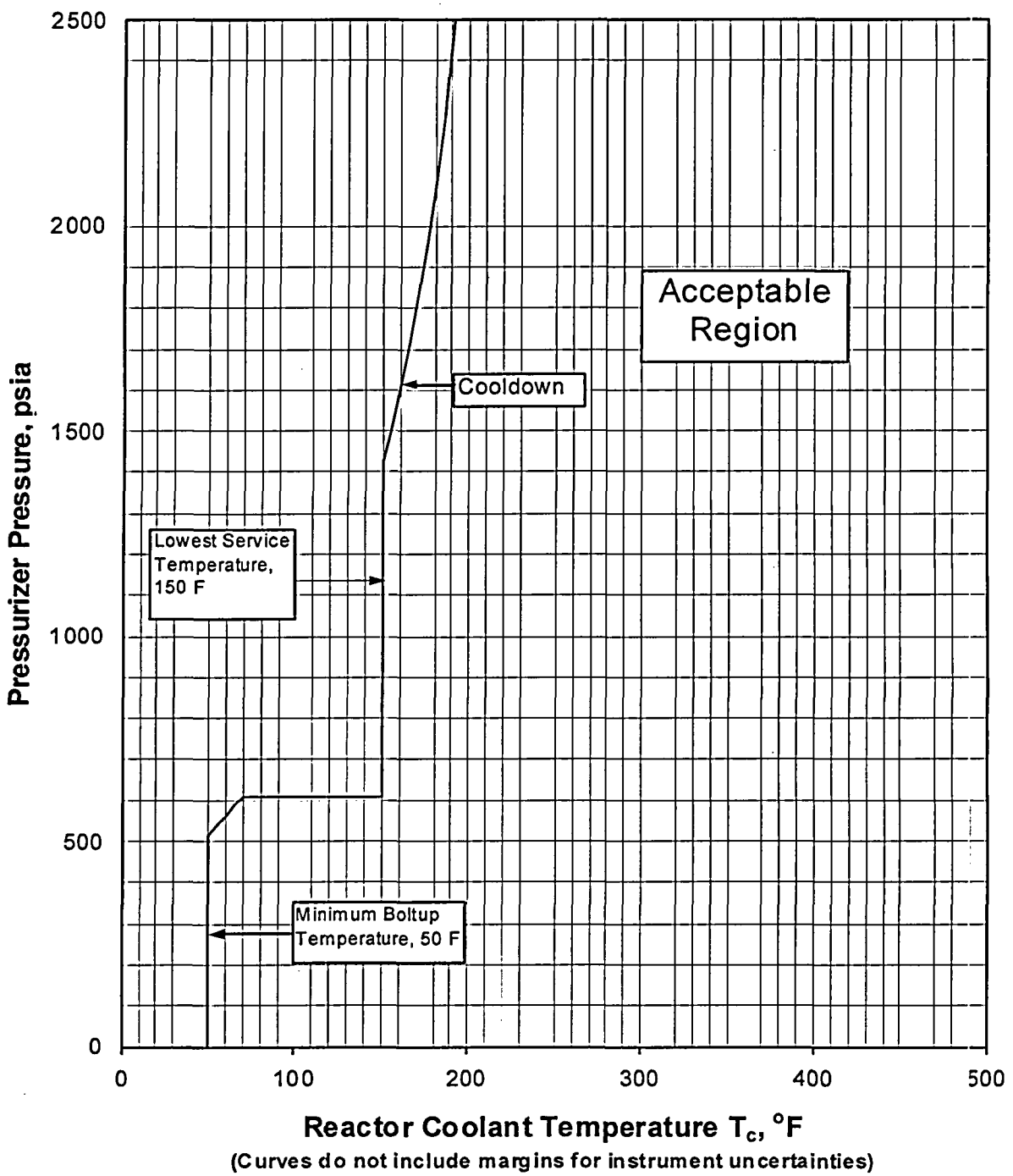
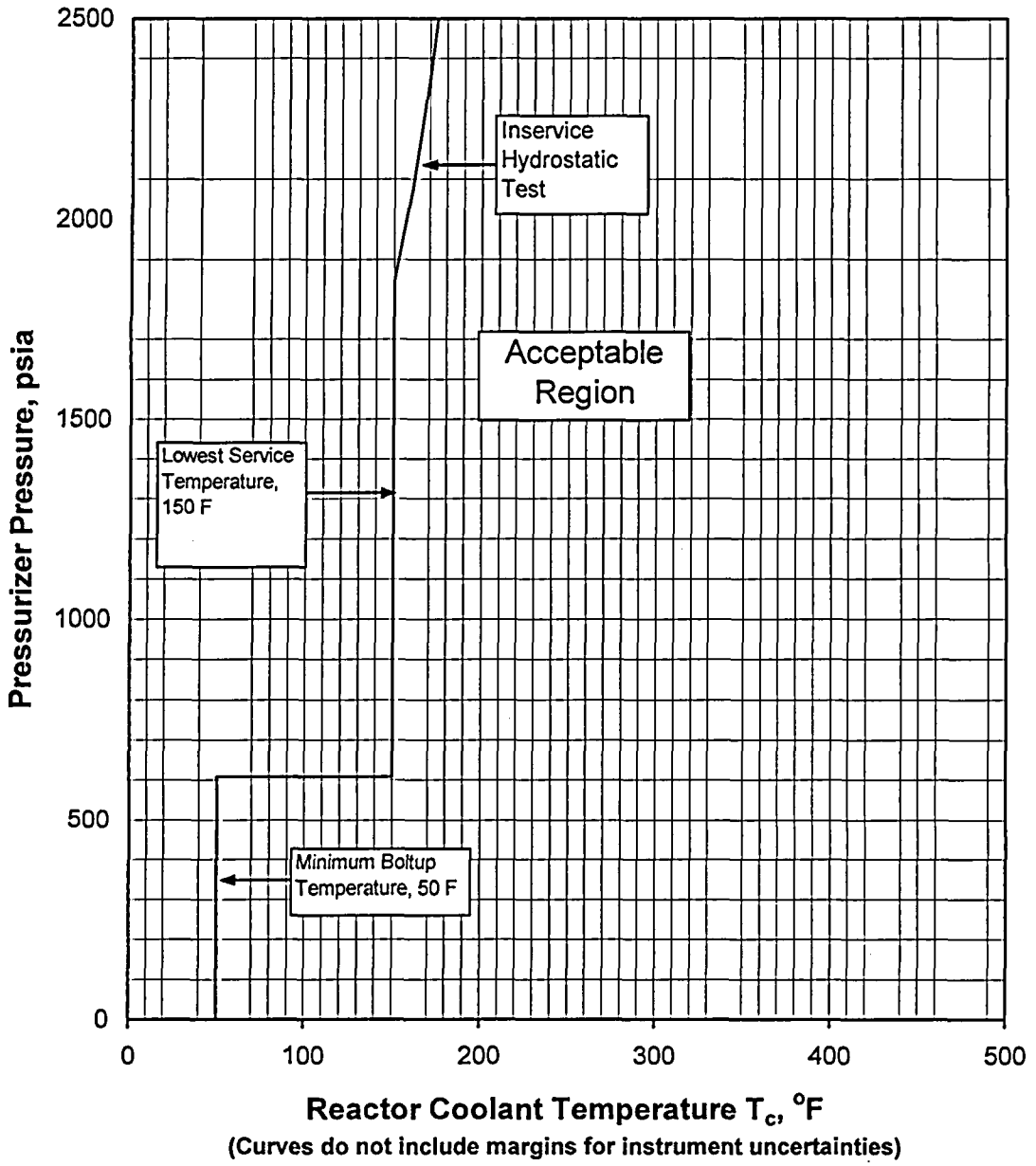


Figure 3.4-2C

**INSERVICE HYDROSTATIC TEST CURVE** - 32 EFPY
REACTOR COOLANT SYSTEM PRESSURE/TEMPERATURE LIMITS




**(Curves do not include margins for instrument uncertainties)**

~~REACTOR COOLANT SYSTEM~~

~~3/4.4.10 STRUCTURAL INTEGRITY~~

~~ASME CODE CLASS 1, 2 AND 3 COMPONENTS~~

~~LIMITING CONDITION FOR OPERATION~~

~~3.4.10.1 The structural integrity of ASME Code Class 1, 2 and 3 components shall be maintained.~~

~~APPLICABILITY: ALL MODES~~

~~ACTION:~~

~~a. With the structural integrity of any ASME Code Class 1 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) prior to increasing the Reactor Coolant System temperature more than 50°F above the minimum temperature required by NDT considerations.~~

~~b. With the structural integrity of any ASME Code Class 2 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) prior to increasing the Reactor Coolant System temperature above 200°F.~~

~~c. With the structural integrity of any ASME Code Class 3 component(s) not conforming to the above requirements, restore the structural integrity of the affected component to within its limit or isolate the affected component from service.~~

~~SURVEILLANCE REQUIREMENTS~~