



Commonwealth Edison

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Chicago, Illinois 60690 - 0767

November 17, 1989

Dr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Byron Station Unit 2
Application for Amendment to Facility
Operating License NPF-66
NRC Docket No. 50-455

Dear Dr. Murley:

Pursuant to 10 CFR 50.90, Commonwealth Edison proposes to amend Appendix A, Technical Specification of Facility Operating License NPF-66. The proposed amendment changes the Byron Unit 2 heatup and cooldown curves, the pressure operated relief valve Low-Temperature Overpressure Protection (LTOP) setpoints, and their bases. These changes resulted from the NRC Generic Letter 88-11, NRC Position on Radiation Embrittlement of Reactor Vessel Materials and its Impact on Plant Operations.

A detailed description of the proposed change is presented in Attachment A. The revised Technical Specification pages are contained in Attachment B.

The proposed change has been reviewed and approved by both on-site and off-site review in accordance with Commonwealth Edison procedures. Commonwealth Edison has reviewed this proposed amendment in accordance with 10 CFR 50.92(c) and has determined that no significant hazards consideration exists. This evaluation is documented in Attachment C. An Environmental Assessment has been completed and is contained in Attachment D.

The Byron Unit 2 heatup and cooldown curves in the Technical Specification are valid until 2 Effective Full Power Years is reached. The earliest the Unit can reach this has been calculated to be March 1, 1990. Therefore, Commonwealth Edison requests that this proposed amendment be approved by February 15, 1990. Commonwealth Edison also requests that once the proposed amendment is approved, a sixty day period be allowed for the implementation of the LTOP setpoints and for the controller setpoint change for the PORVs.

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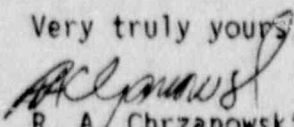
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November 17, 1989

Commonwealth Edison is notifying the State of Illinois of our application for this amendment by transmitting a copy of this letter and its attachments to the designated State Official.

Please direct any questions regarding this matter to this office.

Very truly yours,


R. A. Chrzanowski
Nuclear Licensing Administrator

cc: Byron Resident Inspector
Braidwood Resident Inspector
S. P. Sands - NRR
L. N. Olshan - NRR
Region III Office
Office of Nuclear Facility Safety - IDNS

Permission to process
Westinghouse Ltr Request
MT/SMART-078(89)
is granted in attached
letter dated 1/10/90

ATTACHMENT A

DETAILED DESCRIPTION

In Generic Letter 88-11, NRC Position on Radiation Embrittlement of Reactor Vessel Materials and its Impact on Plant Operations, the NRC called attention to Revision 2 to Regulatory Guide (RG) 1.99, "Radiation Embrittlement of Reactor Vessel Materials," a document which became effective May 1988. A technical analysis was performed to determine heatup and cooldown limit curves and the reference temperature for pressurized thermal shock (PTS) based on RG 1.99 Rev 2 methodology. Revised heatup and cooldown curves for Byron Unit 2 are proposed as a result of evaluating the analyses. Additionally, licensees were to evaluate the possibility for the need to revise the Low-Temperature Overpressurization (LTOP) setpoints and enable temperatures as they are determined from the P-T limits which are revised as a result of RG 1.99 Rev 2. The GL 88-11 stated that the Standard Review Plan (SRP) 5.2.2 "Overpressurization Protection" and the associated Branch Position RSB 5-2, in particular, paragraph II.B, was changed and might prevent overly restrictive operation based on LTOP setpoints. The revisions date of the SRP was November, 1988.

There are two major changes to RG 1.99 Rev 2, that changed the analysis for Byron Unit 2 heatup and cooldown curves. These are as follows: the method of calculation for the adjusted reference temperature and the exclusion of the phosphorous content in the Chemistry Factor (CF) since it is less than of secondary importance - leaving the CF parameters of copper and nickel.

As a result, new Byron Unit 2 heatup and cooldown curves have been developed in a Westinghouse report titled "Byron Unit 2 and Braidwood Unit 2 Reactor Vessel Heatup and Cooldown Limit Curves for Normal Operation", dated February, 1989, and is contained in Addendum A. The proposed change replaces the present curves with the curves revised in accordance with RG 1.99 Rev 2 methodology.

In addition, the PORV LTOP setpoints and enabling temperature analysis has been reviewed in accordance with the GL 88-11 statement that the LTOP setpoints and enable temperatures, which are determined from the P-T limits may need to be revised. The results of this review indicated that the enable temperatures are not affected by the revised P-T curves. The LTOP setpoints for Unit-2, which were affected, have been revised to become more restrictive (i.e. lower) based upon the RG 1.99 Rev 2 calculations.

The bases have also been changes and are included in Attachment B. These changes reflect the revised Unit 2 heatup and cooldown curve calculations and LTOP setpoints based on RG 1.99 Rev 2.

Thus, all the changes have resulted from following GL 88-11 and reevaluating the heatup and cooldown curves (P-T) using the methodology from RG 1.99 Rev 2.

The present heatup and cooldown curves in Technical Specification 3.4.9.1 are applicable to approximately 2 EFPY for Byron Unit 2. Unit 1 heatup and cooldown curves in Technical Specification 3.4.9.1 are applicable to approximately 29.5 EFPY Heatup and 32 EFPY Cooldown based on RG 1.99 Rev 2 analysis. Thus, the proposed change is being submitted for Byron Unit 2 only to allow the curves to be issued by the NRC and placed in the Technical Specifications prior to the Unit 2 2EFPY which is estimated to occur at the earliest in March, 1990.

The results of the vessel irradiated specimen sample from the last outage on Unit 2 are not available for inclusion in the analysis and generation of the heatup and cooldown curves at this time. However, when the specimen sample analysis results are obtained, if they affect the heatup and cooldown curves, a revision to the curves will be submitted.

Addendum A

Byron Unit 2 and Braidwood Unit 2

Reactor Vessel Heatup

Cooldown Limit Curves for

Normal Operation



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January 10, 1990

Dr. Thomas E. Murley
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Attn: Document Control Desk

Subject: Byron Station Units 1 and 2
Supplement to Application for Amendment
to Facility Operating Licenses Nos. NPF-37 and NPF-66
NRC Docket Nos. 50-454 and 50-455

Reference: a) November 17, 1989 letter from R.A. Chrzanowski
to Dr. T.E. Murley

Dear Dr. Murley:

In reference (a), pursuant to 10 CFR 50.90, Commonwealth Edison proposed to amend Appendix A, Technical Specifications of Facility Operating License NPF-66. The proposed changes to the Technical Specifications included requested changes to Byron Unit 1 Reactor Coolant System Heat-up Limitation Curve, Figure 3.4-2a, to incorporate a reduced applicability limitation. Therefore, we wish to also amend Facility Operating License NPF-37 to include the previously requested revision to Figure 3.4-2a.

Additionally, in response to NRC questions posed during a December 20, 1989 phone conversation, we wish to change the proposed change to Figure 3.4-2a to incorporate further clarification of curve applicability. The calculations performed per Regulatory Guide 1.99 Revision 2, which resulted in the applicability limitations to 29.5 EFPY (Reference 2), utilized actual copper content of 0.05 Wt. % instead of the conservative 0.1 Wt. % of the existing curve. The new proposed change to Figure 3.4-2a provides further clarification of this applicability limitation. This change to Figure 3.4-2a, Technical Specification page 3/4 4-33, is attached.

The desired changes to the amendment for Figure 3.4-2a and reference to this amendment in Facility License NPF-37 have been reviewed and approved by both on-site and off-site review in accordance with 10 CFR 50.92(e). The remainder of the previous submittal [reference (a)] remains as originally requested. Since no new changes have occurred other than clarifying the applicability and basis of the Unit 1 curve, the original safety analysis, significant hazards evaluation and environmental assessment remain valid.

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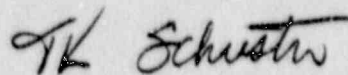
January 10, 1990

Additionally, it is permissible to distribute copies of the Letter Report MT/SMART-078(89) prepared by Westinghouse Electric for Commonwealth Edison. The Letter Report was contained in the original amendment submittal of reference (a).

Commonwealth Edison is notifying the State of Illinois of this supplement to the application for the amendment by transmitting a copy of this letter and its attachments to the designated State Official.

Please direct any questions regarding this submittal to this office.

Very truly yours,



T.K. Schuster
Nuclear Licensing Administrator

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Attachment

cc: Senior Resident Inspector-Byron
L.N. Olshan-NRR
Office of Nuclear Reactor Safety-IDNS

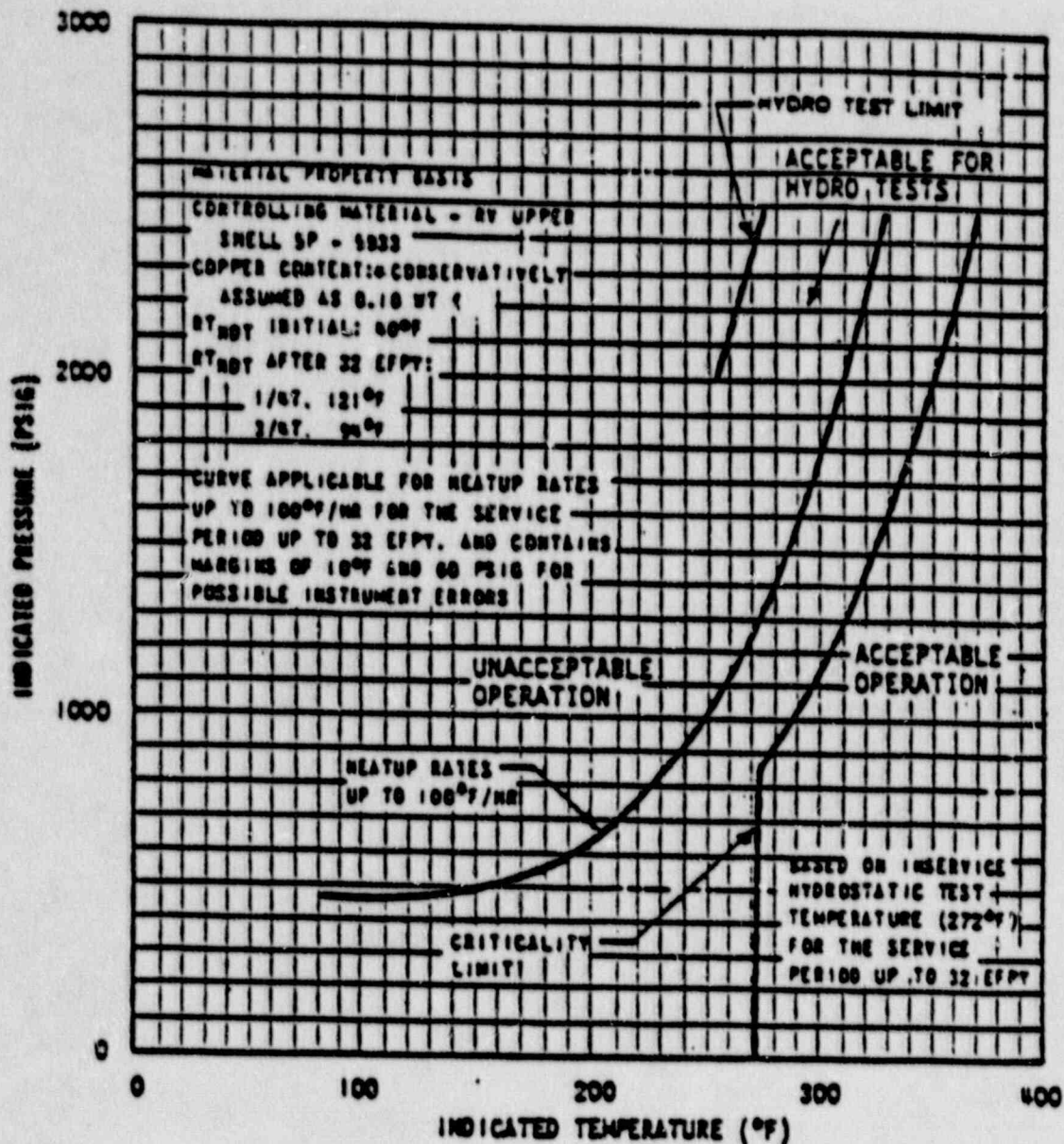


FIGURE 3.4-2a

REACTOR COOLANT SYSTEM HEATUP LIMITATIONS
 APPLICABLE UP TO 32 EFPY*(UNIT 1)

*Applicability date has been reduced per Regulatory Guide 1.99 Rev. 2 to 29.5 EFPY. The calculation to determine applicability utilized actual copper content of 0.05 Wt%.