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 STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Publi 05000529
 STN-50-530 Palo Verde Nuclear Station, Unit 3, Arizona Publi 05000530
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SUBJECT: Discusses potential nonconservatism in element of C-E large break LOCA evaluation model.C-E evaluation model used for large break LOCA analyses unacceptable for demonstrating compliance w/10CFR50.Addl info expected by 850830.

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Arizona Nuclear Power Project

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Director of Nuclear Reactor Regulation
Attention: Mr. George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

July 12, 1985
ANPP-33006-EEVB/KLM

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2, and 3
Docket Nos. STN 50-528 (License No. NPF-41)/529/530
Potential LOCA Analysis Non-Conservatism
File: 85-056-026; G.1.01.10

- References: (A) C-E letter, LD-85-031, A.E. Scherer to G. W. Knighton, dated July 2, 1985
- (B) C-E letter, LD-81-096, A.E. Scherer to R.L. Tedesco, dated December 21, 1981

Dear Mr. Knighton:

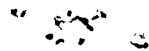
On July 2, 1985, Combustion Engineering (C-E) notified the Nuclear Regulatory Commission of a potential non-conservatism in one element of C-E's large break loss-of-coolant accident (LOCA) evaluation model (Reference (A)). The particular element in question was the treatment of axial power distribution and peaking factor. C-E stated that this potential non-conservatism applied to all plants for which they had performed ECCS performance evaluations using this large break LOCA model.

At a meeting with the NRC staff on July 10, 1985, C-E provided more detailed information on this subject as well as a summary of the status of those plants for which C-E currently provides the large break LOCA evaluations. PVNGS Units 1, 2, and 3 were included in that summary. As reported in that meeting, C-E's estimate of the increase in peak clad temperature (PCT), resulting from a more adverse axial power distribution and peaking factor is 34°F. This is based on a preliminary evaluation of the CESSAR worst-case large break LOCA analyses. ANPP currently references the CESSAR LOCA analyses.

The current maximum PCT presented in CESSAR and at the July 10, 1985 meeting for PVNGS Units 1, 2, and 3 is 2169°F. Additional information, however, reveals that this value does not reflect the most recent large-break LOCA evaluation. To address an earlier NRC concern involving cladding ballooning and flow blockage models, documented in NUREG-0630, C-E submitted a supplemental large break LOCA analysis on the CESSAR docket (Reference (B)). This supplemental analysis was reviewed by the staff and was approved in the CESSAR Safety Evaluation Report (NUREG-0852) Supplement 1. The PCT reported in this supplemental analysis was 2152°F which provides a margin of 48°F to the acceptance criteria for PCT stated in 10CFR50.46. Incorporation of the more adverse axial power distribution is not expected to increase PCT to the regulating limit of 2200°F. ANPP believes, therefore, that ECCS performance continues to be in compliance with the acceptance criteria of 10CFR50.46.

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The staff indicated in the July 10, 1985 meeting that the current C-E evaluation model used for large break LOCA analyses is not deemed to be an acceptable tool for demonstrating compliance to 10CFR50.46. As a result of this position, ANPP will be pursuing this issue further with C-E and; if necessary, a new analysis will be provided. We expect to provide additional information, including any scheduler commitments, by August 30, 1985.

If you have any additional questions or comments on this issue please contact Mr. W. F. Quinn of my staff.

Very truly yours,

EE Van Brunt/DBK

E. E. Van Brunt, Jr.
Executive Vice President
Project Director

EEVB/KLM/slh

cc: E. A. Licitra
R. P. Zimmerman
A. C. Gehr

