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Ted C. Feigenbaum
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Docket No. 50-213
B15951

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

Haddam Neck Plant
Comments on Preliminary Accident
Sequence Precursor Analysis

The purpose of this letter is to provide Connecticut Yankee Atomic Power Company's (CYAPCO) comments on the preliminary Accident Sequence Precursor (ASP) Program analysis of operational events and conditions⁽¹⁾ which occurred at the Haddam Neck Plant (HNP).

CYAPCO has reviewed the preliminary ASP report and concurs that this event was a potentially significant accident sequence precursor although differing with some assumptions used in the ASP. CYAPCO's specific comments are discussed below.

The preliminary ASP report calculated a conditional core damage probability increase of $2.4E-4$ for pressure locking of the low-pressure safety injection valves at the Haddam Neck Plant. This is essentially the initiating event frequency for a large-break LOCA assumed in the ASP program. No contribution from other valves (e.g., SI-MOV-861A through D) was estimated and any contribution from small or medium break LOCA was not considered.

On behalf of CYAPCO, Northeast Utilities Service Company's (NUSCO) PRA Section has performed a detailed analysis of the core damage frequency impact of the condition (see Attachment 1).

⁽¹⁾ S. Dembek letter to T. C. Feigenbaum, "Review of Preliminary Accident Sequence Precursor Analysis of Condition at Haddam Neck Plant," dated August 23, 1996.

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The analysis took into account the following:

- identification of valves potentially most affected
- identification of the initiators impacted, and
- a best estimate assessment of the conditional probability of valve failure, by adjusting the common mode failure probability of the valves.

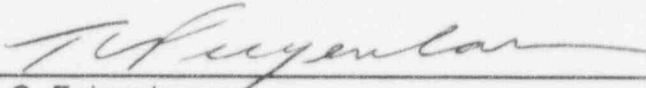
The latter accounted for realistic thermal conditions, experience, as well as estimates of valve bonnet pressure and required opening forces. For example, the valves are cycled open and closed during plant heat-up to attempt to preclude the pressure-locking condition. Moreover, a number of conservative design basis assumptions were made in the reportability decision, such as limiting undervoltage conditions, which would not necessarily be present for most large break LOCA conditions. LER 50-213/95-010-01, states that when these conservative assumptions are removed, the low pressure safety injection valves would have performed their function of opening with offsite power available.

CYAPCO believes that the ASP report is too conservative in estimating the conditional core damage probability. The NUSCO quantification assumed a conditional probability of valve failure other than 1.0. The basis for this assumption was provided in the LER as to why the valves would likely have functioned for a large break LOCA without Loss of Offsite Power.

In summary, CYAPCO concurs that this event was a potentially significant accident sequence precursor, although differing with some assumptions used in the ASP. CYAPCO appreciates the opportunity to review this report and provide comments to the NRC Staff. Please contact Mr. G. P. van Noordennen at (860) 267-3938, if you should have any comments or questions.

Very truly yours,

CONNECTICUT YANKEE ATOMIC POWER COMPANY



T. C. Feigenbaum
Executive Vice President and
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Attachment

cc: H. J. Miller, Region I Administrator
S. Dembek, NRC Project Manager, Haddam Neck Plant
W. J. Raymond, Senior Resident Inspector, Haddam Neck Plant

Attachment 1

Haddam Neck Plant
An Analysis of the Risk Impact Due to
Pressure Locking and
Thermal Binding of CY ECCS MOVs

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