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Docket No. 50-213

Director of Nuclear Reactor Regulation
Attn: Mr. D. L. Ziemann, Chief
Operating Reactors Branch #2
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Reference: (1) D. L. Ziemann letter to W. G. Counsil dated November 29, 1978.

Gentlemen:

Haddam Neck Plant
Containment Purging

In Reference (1), the NRC Staff described two specific events which have occurred recently at two operating nuclear facilities and have raised several questions relative to potential failures of automatic isolation of large diameter containment purge penetrations which have been used during normal operation. These events and information gained from subsequent licensing actions have raised concerns relative to potential failures affecting the purge penetration valves, and potentially leading to possible degradations in containment integrity and Emergency Core Cooling System (ECCS) performance. In light of the above, the NRC Staff requested that Connecticut Yankee Atomic Power Company (CYAPCO) commit to cease containment purging through the 42 inch diameter purge valves during operation (hot shutdown, hot standby, startup, and power operation) or provide justification for either limited or unlimited purging at the Haddam Neck Plant. This justification was to be in accordance with guidance provided in Reference (1). However, it was further requested that pending completion of the NRC Staff review of such justification, CYAPCO should commit either to cease purging during operation, or maintain it to an absolute minimum (i.e., less than 90 hours per year).

In addition, Reference (1) requested that CYAPCO review the design of all safety actuation signal circuits which incorporate a manual override feature to ensure that overriding of one safety actuation signal does not also cause the bypass of any other safety actuation signal.

CYAPCO has reviewed purging procedures at the Haddam Neck Plant and has determined the following. The valves in the containment purge system are 42 inches in diameter and are manually operated valves. Consequently, purging during normal operation using these valves already is prohibited by Technical Specifications

3.11 and 1.8. Technical Specification 3.11 B.(1) states that "Containment integrity shall be maintained whenever the reactor coolant system is above 300 psig and 200°F. The shutdown margin shall be greater than 3% Δk with all rods inserted when the containment is open". (i.e., cold shutdown). Accordingly, Technical Specification 1.8.2 states that "Containment integrity shall exist when: all penetrations required to be closed during accident conditions are either

a) capable of being closed by operable containment automatic isolation valves, or

b) closed by manual valves, blind flanges, or deactivated automatic valves secured and locked in their closed positions".

For this reason, CYAPCO has not used these manual 42 inch purge valves in any operating mode other than the cold shutdown condition and is currently prohibited from doing so by Technical Specifications. The Haddam Neck Plant containment building is designed such that atmospheric cleanup is performed by four Containment Air Recirculation (CAR) units, which are internal systems. The Purge System (42") is utilized after the plant is either in the cold shutdown or refueling mode. Therefore, no action is warranted to address the Staff concern.

With regard to circuitry, CYAPCO has reviewed signal circuits and determined that no accident signal can be bypassed at the system level without initiating continuous indication in the control room. At the equipment level, the control switches for 14 items of safety related equipment include a pull-to-lock feature, which when selected renders the equipment unavailable for automatic operation. At the present time, indication is not available to identify those systems with components whose pull-to-lock feature has been selected other than by visual inspection of control switch positions.

In order to more positively assure that any system with equipment with its pull-to-lock feature selected is immediately and continuously indicated, it is the intention of CYAPCO to provide annunciation of such a configuration on the main control board. This indication will identify the safety system(s) impacted by the equipment which has been locked out.

It is currently envisioned that this proposed change will be initiated, reviewed, and favorably dispositioned in accordance with 10CFR50.59. If the design change is determined to be technically acceptable and not to constitute an unreviewed safety question, the circuit changes necessary to provide this annunciation will be installed during the refueling outage scheduled for 1980.

We trust the above information is responsive to the requests of Reference (1).

Very truly yours,

CONNECTICUT YANKEE ATOMIC POWER COMPANY

W. G. Counsil

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Vice President