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Mr. L. J. Sobon, Manager
BWR Containment Licensing
Mail Code 682
General Electric Company
175 Curtner Avenue
San Jose, California 95125

Dear Mr. Sobon:

By letter dated March 3, 1977, (L. J. Sobon to R. Tedesco), General Electric addressed two areas of concern relating to quencher loads on containment structures. They were the identification of the primary parameter associated with the subsequent SRV actuation effect and the need for in-plant testing of leaking SRV's. A qualitative assessment of several parameters, which could potentially influence subsequent activation SRV loads, was provided. Based on this evaluation, General Electric concluded that the SRV line temperature is the key parameter. Following this rationale, General Electric further concluded that the leaking SRV would result in lower loads on structures than the first actuation without leakage.

Based on our evaluation of the provided information, we find that the conclusions reached have not been justified. In particular, we cannot agree that based upon the available information that the leaking SRV would result in lower loads. Therefore, we continue to believe that future test programs should include a testing phase to investigate the leaking SRV effect. We have reached these conclusions for the following reasons.

1. All SRV parameters were not included in the qualitative assessment. For example, the initial in-line air/steam mixture temperature was not included. This parameter, we believe, is rather important; since the Monticello test data (NEDE-21465, Preliminary Report In-Plant Safety/Relief Valve Discharge Load Test - Monticello Plant) indicate that this temperature for the subsequent actuation is consistently higher than the first actuation. This temperature change should have an effect on the load increase for subsequent actuation, and therefore, cannot be precluded from the evaluation.
2. There is no known experimental evidence or analytical model to support your qualitative assessment that SRV line temperature is the key parameter. The experiments, which have been conducted either for quencher or for ramshead, were not designed to isolate

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the effect of specific parameters on subsequent actuation. In addition, the analytical model for a ramshorn device is still the subject of an ongoing effort. Therefore, the analytical model alone cannot be used to support this conclusion.

3. The conclusion that a leaking SRV should result in lower loads does not appear to agree with the Monticello test results. The test data indicate that a leaking SRV could result in a load increase ranging from 13% to 25% in comparison with those tests without steam leakage.

Since there remains significant uncertainty on whether or not a leaking SRV would increase hydrodynamic loads on structures, we believe future SRV test programs should include an investigation into this area. Specifically, provisions within the Caorso test plan should be added to include leaking SRV effects since this is the next scheduled SRV test program.

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Robert L. Tedesco, Assistant Director
for Plant Systems
Division of Systems Safety
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