

D900612

The Honorable Kenneth M. Carr
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Carr:

SUBJECT: GENERIC ISSUE-84, COMBUSTION ENGINEERING PLANTS WITHOUT
POWER OPERATED RELIEF VALVES

During the 362nd meeting of the Advisory Committee on Reactor Safeguards, June 7-9, 1990, we reviewed the staff's proposed resolution of Generic Issue-84, "CE Plants Without PORVs." We had the benefit of discussions with members of the NRC staff and representatives of Combustion Engineering Incorporated (CE). We also had the benefit of the referenced document.

Generic Issue-84 (GI-84) applies to six operating CE units that do not have PORVs or other means to rapidly reduce reactor coolant pressure through the venting of steam from the system pressurizer. These are the six CE units designed after 1970: San Onofre Units 2 and 3; Waterford Unit 3; and Palo Verde Units 1, 2, and 3. These units do have enhanced capability to reduce pressure by means of essentially safety grade auxiliary pressurizer spray systems.

This generic issue was established to determine if the capacity for "feed and bleed cooling" afforded by PORVs should be required for these units. Most pressurized water reactors can "bleed" through PORVs and "feed" with high pressure makeup pumps as an emergency means for removing decay heat from the core. While this cooling mode is believed to be useful in reducing risk of core overheating in some circumstances, the NRC has not made feed and bleed capability a requirement.

In its report dated December 15, 1981, the Committee expressed concern over a lack of means to feed and bleed in these plants during its review of the CE System-80 standard plant design. At the Committee's request, studies of the pros and cons of installation of PORVs on the CE plants were conducted by NRC and CE. These studies indicated ambiguity as to whether there would be a small reduction or a small increase in risk resulting from a backfit addition of PORVs. In 1983, the Committee agreed with a staff decision to incorporate this issue into the then ongoing effort on Unresolved Safety Issue (USI) A-45, "Shutdown Decay Heat Removal Requirements." However, the ultimate resolution of USI A-45 in 1988 did not explicitly address the PORV concern, which was therefore carried on as GI-84.

The staff has now proposed that installation of PORVs not be required for the affected plants. The reasons cited for this decision are that such action is not required to meet any of the Commission's regulations, and that a cost benefit analysis, as called for under provisions of the backfit rule, indicates such

system modifications are not justified. In general, risk analyses, which are an important input to the assessment of cost and benefits, lack the accuracy needed to make decisions about the very small differences in risk, plus or minus, that could be created by addition of PORVs to these plants. We also note that the risk analyses that have been conducted for resolution of GI-84 were limited in that they did not include consideration of external events as initiators. Nevertheless, we believe that these analyses have been useful and we concur with the staff recommendations.

Sincerely,

Carlyle Michelson
Chairman

Reference:

Draft Commission Paper, "Evaluation of the Need for Primary System High Capacity Manual Venting Capability on Combustion Engineering (CE) Plants Without PORVs (GI-84)," transmitted by memorandum dated April 27, 1990 from Warren Minners, Office of Nuclear Regulatory Research, NRC, to Raymond F. Fraley, ACRS.