

D900313

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

Dear Chairman Carr:

SUBJECT: CONTAINMENT PERFORMANCE IMPROVEMENT PROGRAM - PROPOSED
RECOMMENDATIONS FOR MARK II, MARK III, ICE CONDENSER, AND
DRY CONTAINMENTS

During the 359th meeting of the Advisory Committee on Reactor Safeguards, March 8-10, 1990, we discussed the staff's proposed recommendations from the Containment Performance Improvement (CPI) program for plants with Mark II, Mark III, ice condenser, and dry containments. The staff intends to inform licensees with such plants of these recommendations in a supplement to Generic Letter 88-20 (Reference 1) and, by this action, will consider the CPI program completed. Our Containment Systems Subcommittee discussed this matter with the staff during a meeting on February 6, 1990. We also had the benefit of the documents referenced.

The CPI program is one element described in SECY-88-147, "Integrated Plan for Closure of Severe Accident Issues." Other elements in this plan are the Individual Plant Examination (IPE) program (Generic Letter 88-20), severe accident research, external event resolution, accident management, and improved plant operation. The CPI program was to identify any severe accident vulnerabilities that appeared to be generic to plants with a given type of containment. It was then to develop new regulatory requirements or guidance for reducing those vulnerabilities. Recommendations were to be derived by the staff and its contractors through study of risk analyses reported in NUREG-1150, other PRAs, and results from severe accident research. The intent was to identify any new requirements in the near term so that licensees could implement them along with any plant improvements identified in their own IPE efforts.

Mark I containments for BWRs were considered first. Staff guidance for Mark I plants was provided in Supplement No. 1 to Generic Letter 88-20 and in Generic Letter 89-16. We provided comments on the Mark I CPI program in our report dated January 19, 1989 to then NRC Chairman Zech.

The remaining four containment types have been considered as a group. The staff reports that it has "found no improvements for these containment types that would warrant generic implementation for all containments of a given type." However, it has identified some ways, unique to each containment design, in which plants may be particularly vulnerable to severe accident threats. While the staff has decided not to prescribe remedies for the generic problems it has identified, it does intend to provide licensees

with technical insights and information that the staff believes to be of particular import. This will permit these lessons to be factored into IPEs and accident management programs that are being initiated by licensees. Summaries of the staff's concerns for each containment type are given in the proposed supplement to Generic Letter 88-20. More technical details will be provided in a series of reports that are being prepared by contractors to the staff and are expected to be available during June 1990.

The approach proposed by the staff is appropriate and we endorse the proposed supplement. We agree that the CPI program can now be terminated. As stated in our report of January 19, 1989 on the Mark I CPI program, the IPE program can be an effective and efficient means to identify and ameliorate risk-significant issues related to containment performance. The IPE and accident management programs will benefit by considering conclusions from these staff studies.

However, we recommend that the staff caution the licensees not to focus exclusively on the set of issues raised by the CPI program. For one thing, the designs analyzed in NUREG-1150 do not adequately represent the full spectrum of plants. For another, conclusions about risk and phenomena are subject to large uncertainties. Licensees should retain a broad perspective in their studies. The original intent of the IPE program, that is, to search "for possible ... 'outliers' that might be missed absent a systematic search," is applicable to issues of both prevention and mitigation.

Sincerely,

Carlyle Michelson
Chairman

References:

1. Memorandum dated February 22, 1990 from Warren Minners, Director, Division of Safety Issue Resolution, RES, to Raymond F. Fraley, ACRS, Subject: ACRS Review of Supplement 2 [sic] to Generic Letter 88-20, Individual Plant Examinations, with enclosures:
 - (a) Proposed Draft Supplement to Generic Letter 88-20, "Completion of Containment Performance Improvement Program and Forwarding of Insights for Use in the Individual Plant Examination for Severe Accident Vulnerabilities" (Predecisional)
 - (b) Draft memorandum for the Commissioners from James M. Taylor, Executive Director for Operations, Subject: Recommendations of Containment Performance Improvement Program for Plants with Mark II, Mark III, Ice Condenser, and Dry Containments (Predecisional)
2. Letter dated November 23, 1988 from D. Crutchfield, USNRC

- Office of Nuclear Reactor Regulation, to Licensees, Subject: Individual Plant Examination for Severe Accident Vulnerabilities - 10 CFR § 50.54(f) (Generic Letter 88-20)
3. Letter dated September 1, 1989 from James G. Partlow, USNRC Office of Nuclear Reactor Regulation, to Licensees, Subject: Installation of a Hardened Wetwell Vent (Generic Letter 89-16)
 4. Letter dated August 29, 1989 from James G. Partlow, USNRC Office of Nuclear Reactor Regulation, to Licensees, Subject: Initiation of the Individual Plant Examination for Severe Accident Vulnerabilities - 10 CFR § 50.54(f) - Generic Letter 88-20, Supplement No. 1
 5. U.S. Nuclear Regulatory Commission, NUREG-1150, "Severe Accident Risks: An Assessment for Five U.S. Nuclear Power Plants (Second Draft for Peer Review)," Volumes 1 and 2, June 1989
 6. SECY-88-147, Memorandum dated May 28, 1988 for the Commissioners from Victor Stello, Executive Director for Operations, Subject: Integration Plan for Closure of Severe Accident Issues