

7590-01 (P)

## NUCLEAR REGULATORY COMMISSION

## Assurance of Equipment Operability and Containment Integrity

## During Design-Basis Accident Conditions; Issued

AGENCY: Nuclear Regulatory Commission

ACTION: Notice of Issuance

SUMMARY: The Nuclear Regulatory Commission (NRC) has issued Generic Letter 96-06 to notify all licensees of nuclear power reactors about several safety-significant issues that have been identified as a result of recent NRC inspection activities, licensee notifications, and event reports, and that warrant action by the NRC to assure that they have been adequately addressed and resolved; these issues include:

- (1) Cooling water systems serving the containment air coolers may be exposed to the hydrodynamic effects of waterhammer during either a loss-of-coolant accident (LOCA) or a main steamline break (MSLB). These cooling water systems were not designed to withstand the hydrodynamic effects of waterhammer and corrective actions may be needed to satisfy system design and operability requirements.
- (2) Cooling water systems serving the containment air coolers may experience two-phase flow conditions during postulated LOCA and MSLB scenarios. The heat removal assumptions for design-basis accident scenarios were based on single-phase flow conditions. Corrective actions may be needed to satisfy system design and operability requirements.
- (3) Thermally induced overpressurization of isolated water-filled piping

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sections in containment could jeopardize the ability of accident-mitigating systems to perform their safety functions, and could also lead to a breach of containment integrity via bypass leakage. Corrective actions may be needed to satisfy system operability requirements.

This generic letter requests that licensees determine the susceptibility of their facility containment air cooler cooling water systems to either waterhammer or two-phase flow conditions during postulated accident conditions, determine the susceptibility of piping systems that penetrate the containment to thermal expansion of fluid and overpressurization, and assess the operability of affected systems and take corrective action, as appropriate to satisfy system design and operability requirements. Licensees are also required to submit a written response. This generic letter is available in the NRC Public Document Room under accession number 9609250096.

DATES: The generic letter was issued on September 30, 1996.

ADDRESSEES: Not applicable.

FOR FURTHER INFORMATION CONTACT: James E. Tatum at (301) 415-2805.

SUPPLEMENTARY INFORMATION: The actions requested in this generic letter are considered compliance backfits under the provisions of 10 CFR 50.109 and existing NRC procedures to ensure that containment integrity is maintained, that safety-related components and piping systems are capable of performing their intended safety functions and satisfying their licensing-basis code criteria, respectively, and that containment integrity and safety-related piping systems and components are not adversely affected by the occurrence of waterhammer, two-phase flow, or thermal overpressurization that may occur in safety-related and non-safety-related systems that penetrate containment.

Dated at Rockville, Maryland, this 30th day of September, 1996.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in dark ink, appearing to read "Brian K. Grimes". The signature is written in a cursive style with a prominent initial "B".

Brian K. Grimes, Acting Director  
Division of Reactor Program Management  
Office of Nuclear Reactor Regulation