

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
WASHINGTON, D.C. 20555

April 2, 1985

IE INFORMATION NOTICE NO. 85-26: VACUUM RELIEF SYSTEM FOR BOILING WATER  
REACTOR MARK I AND MARK II CONTAINMENTS

Addressees:

All boiling water reactor (BWR) facilities having a Mark I or Mark II containment and holding either an operating license (OL) or construction permit (CP).

Purpose:

This notice is provided to alert recipients of potentially significant safety problems pertaining to the primary containment suppression chamber-to-reactor building vacuum relief system in BWRs with Mark I and Mark II containments. It is expected that recipients will review the information for applicability to their facilities and consider actions, if appropriate, to preclude similar problems occurring at their facilities. However, suggestions contained in this information notice do not constitute NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances:

Early in 1980, General Electric (GE) was notified by Philadelphia Electric Company (PECO) of a safety concern regarding the installed condition of the torus-to-reactor building vacuum relief system at Peach Bottom 2 and 3. The concern involved the equipment safety classification and separation of the controls to the butterfly valves of the system.

The butterfly valves of the torus-to-reactor building vacuum relief system in BWRs with Mark I containments perform the dual safety function of vacuum relief and containment isolation. Two identical system arrangements are provided, each of which can perform the vacuum relief function independently. In each line, the isolation function is provided by the normally closed air-operated butterfly valve and a check valve. Either or both of the safety functions have the potential for being jeopardized if the controls for the butterfly valves are inadequately separated or the valves and associated components are classified as non-safety related.

Following a technical review, GE concluded that insufficient technical information exists within their organization to adequately evaluate this safety concern for the individual BWR plants. Although the design requirements pertaining to the torus-to-reactor building vacuum relief system are generally

addressed in the GE specifications, the actual system design is within the scope of the architect-engineer of a facility. Consequently design configuration is not available within GE for their evaluation on a plant-specific basis.

Discussion:

After PECO notified GE of this safety concern, GE recommended to the BWR Owners' Group (BWROG) that facilities with Mark I containments upgrade their designs. The concern was discussed in several BWROG meetings during 1981-82, and it was concluded that any further action would only be appropriate on a plant-specific basis rather than on a generic basis.

The NRC staff has discussed the safety concern with GE and BWROG representatives and has concluded that the recommendations made to upgrade the designs may not have been implemented for all affected Mark I BWRs. Furthermore, a similar problem of inadequate separation for controls and safety classification also may exist in the suppression chamber-to-reactor building vacuum relief system for Mark II BWRs.

No specific action or written response is required by this information notice; however, contingent upon the results of further staff evaluation, a Bulletin or a Generic Letter requesting specific licensee actions may be issued. If you have any questions about this matter, please contact the Regional Administrator of the appropriate NRC regional office or this office.



Edward Jordan, Director  
Division of Emergency Preparedness  
and Engineering Response  
Office of Inspection and Enforcement

Technical Contact: R. N. Singh, IE  
(301) 492-8985

Attachment: List of Recently Issued IE Information Notices

LIST OF RECENTLY ISSUED  
 IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
85-25	Consideration Of Thermal Conditions In The Design And Installation Of Supports For Diesel Generator Exhaust Silencers	4/2/85	All power reactor facilities holding an OL or CP
85-24	Failures Of Protective Coatings In Pipes And Heat Exchangers	3/26/85	All power reactor facilities holding an OL or CP
85-23	Inadequate Surveillance And Postmaintenance And Post-modification System Testing	3/22/85	All power reactor facilities holding an OL or CP
85-22	Failure Of Limitorque Motor-Operated Valves Resulting From Incorrect Installation Of Pinon Gear	3/21/85	All power reactor facilities holding an OL or CP
85-21	Main Steam Isolation Valve Closure Logic	3/18/85	All PWR facilities holding an OL or CP
85-20	Motor-Operated Valve Failures Due To Hammering Effect	3/12/85	All power reactor facilities holding an OL or CP
85-19	Alleged Falsification Of Certifications And Alteration Of Markings On Piping, Valves And Fittings	3/11/85	All power reactor facilities holding an OL or CP
85-10 Sup. 1	Posstensioned Containment Tendon Anchor Head Failure	3/8/85	All power reactor facilities holding an OL or CP
84-18	Failures Of Undervoltage Output Circuit Boards In The Westinghouse-Designed Solid State Protection System	3/7/85	All Westinghouse PWR facilities holding an OL or CP

OL = Operating License  
 CP = Construction Permit