

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

March 7, 1984

IE INFORMATION NOTICE NO. 84-09, REVISION 1: LESSONS LEARNED FROM NRC  
INSPECTIONS OF FIRE PROTECTION  
SAFE SHUTDOWN SYSTEMS (10 CFR 50,  
APPENDIX R)

Addressees:

All nuclear power reactor facilities holding an operating license (OL) or  
construction permit (CP).

Purpose:

This Information Notice is a revision to IE Information Notice No. 84-09 issued  
on February 13, 1984. Attachment 1 to this revision is a replacement page  
which will accomplish a needed correction to subparagraph 4 of Section III of  
IE Information Notice 84-09. The revision on page 2 is indicated in comparative  
text and in the margin to highlight the change. Licensees should add the  
replacement page 2. No specific action or response is required as a result of  
this replacement.

If you have any questions regarding this matter, please contact the Regional  
Administrator of the appropriate NRC regional office or this office.



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Attachments:

1. Supplemental Guidance on 10 CFR 50 Appendix R Fire  
Protection Safe Shutdown Requirements, Replacement page 2
2. List of Recently Issued IE Information Notices.

### III. Protection of Equipment Necessary To Achieve Hot Shutdown

At one facility, redundant pressurizer heater control and power cables were separated by a partial horizontal pyrocrete barrier suspended from the overhead. At the same facility, two auxiliary feedwater pumps were located adjacent to each other and separated by a partial steel missile shield coated on one side with fire-retardant material. The separation criteria of Appendix R, Section III.G.2, were not met in that the coated shield did not meet the definition of a fire barrier of BTP APCS 9.5-1. No alternative means of feedwater supply was designated.

At a second facility, redundant pressurizer heater load centers were located within the same cabinet. At a third facility, redundant steamline isolation valve control cables for HPCI and RCIC pumps were located in close proximity without a fire rated barrier.

Appendix R, Section III.G.1, requires that fire protection features shall be provided for structures, systems, and components important to safe shutdown. These features shall be capable of limiting fire damage so that one train of systems necessary to achieve and maintain a hot shutdown condition from either the control room or emergency control station(s) is free of fire damage.

Sections III.G.2 and III.G.3 specify four alternatives that may be implemented outside of primary containment to assure that one redundant train of equipment, cabling and associated circuits necessary to achieve and maintain hot shutdown remains free of fire damage. The alternatives are:

1. Separation of redundant trains of equipment, cabling, and associated circuits by a three-hour fire barrier.
2. Enclosure of redundant trains of equipment, cabling, and associated circuits by a one-hour fire barrier with fire detection and automatic fire suppression systems installed in the area.
3. Separation of redundant trains of equipment, cabling, and associated circuits by a horizontal distance of 20 feet with no intervening combustibles and with fire detection and automatic fire suppression systems installed in the area.
4. Installation of alternative or dedicated shutdown capability independent of the equipment, cabling, and associated circuits under consideration, and installation of fire detection and fixed fire suppression systems in the area containing this alternative or dedicated shutdown capability under consideration.

It should be noted that Sections III.G.2.d, e and f of Appendix R, provide additional options for the separation of redundant trains of equipment and cables within non-inerted containments.

LIST OF RECENTLY ISSUED  
 IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
84-18	Stress Corrosion Cracking in Pressurized Water Reactor Syste <sup>m</sup> s	3/7/84	All power reactor facilities holding an OL or CP
84-17	Problems with Liquid Nitrogen Cooling Components Below the Nil Ductility Temperature	3/5/84	All power reactor facilities holding an OL or CP
84-16	Failure of Automatic Sprinkler System Valves to Operate	3/2/84	All power reactor facilities holding an OL or CP
84-15	Reporting of Radiological Releases	3/2/84	All power reactor facilities holding an OL or CP
84-14	Highlights of Recent Transport Regulatory Revisions by DOT and NRC	3/2/84	All NRC licensees
84-13	Potential Deficiency in Motor-Operated Valve Control Circuits and Annunciation	2/28/84	All power reactor facilities holding an OL or CP
84-12	Failure of Soft Seat Valve Seals	2/27/84	All power reactor facilities holding an OL or CP
84-11	Training Program Deficiencies	2/24/84	All power reactor facilities holding an OL or CP
84-10	Motor-Operated Valve Torque Switches Set Below the manufacturer's Recommended Value	2/21/84	All power reactor facilities holding an OL or CP
84-09	Lessons Learned from NRC Inspections of Fire Protection Safe Shutdown Systems (10 CFR 50, Appendix R)	02/13/84	All power reactor facilities holding an OL or CP

OL = Operating License  
 CP = Construction Permit