UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555

November 4, 1991

NRC INFORMATION NOTICE 91-70: IMPROPER INSTALLATION OF INSTRUMENTATION MODULES

Addressees

All holders of operating licenses or construction permits for nuclear power reactors.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to alert addressees regarding the possible improper installation of instrumentation modules that could result in inadequate seismic qualification of instrument cabinets. It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances

By letter of August 29, 1991, Entergy Operations, Inc., the licensee for the Arkansas Nuclear One facility, notified the NRC that it had identified that certain instrument modules located in the safety-related Foxboro instrument cabinets did not have vibration-dampening material installed. The licensee also noted that the instrument module guide rails were not installed for some of the modules and that some of the power supply brackets were missing. Through an engineering evaluation and contact with the vendor, the licensee determined that the cabinets and the instrumentation modules were not seismically qualified in the condition in which they were found. This finding prompted the licensee to declare the affected cabinets inoperable. The licensee took immediate action to place the plant in a Hot Shutdown condition in accordance with the technical specification requirements.

Discussion

The licensee reviewed the events leading up to the discovery of the improper installation of the instrumentation modules and found that it had purchased the Foxboro Specification 200 instrument nests and modules in 1984 as separate parts and arranged for their assembly at the site by the licensee's general contractor. In addition, another contractor assembled similar equipment offsite and then shipped it to the site for installation. It was noted that the vendor had shipped the subject vibration-dampening material, guide rails, and power supply brackets with the equipment. However, the shipping package did not include a parts list or any specific installation instructions for

IDR-11C

these components. While the licensee did procure the applicable vendor manuals, the manuals applied to the general line of Specification 200 equipment and did not address the special instructions for Class IE equipment since at that time Foxboro had not as yet developed the pertinent instructions. Also, the vendor's documentation did not include detailed installation drawings. A paragraph in the Class IE qualification test results indicated that the standard modules would need to be modified to meet seismic qualifications. However, the test report did not provide specific instructions for such a modification, and the licensee's review was not adequate to identify the need. In addition, the contractor personnel did not inquire regarding the purpose of the additional parts included in the shipping package.

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact the technical contact listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

Charles E. Rossi

Charles E. Rossi, Director
Division of Operational Events Assessment
Office of Nuclear Reactor Regulation

Technical contact: Walter P. Haass, NRR
(301) 492-3219

Attachment: List of Recently Issued NRC Information Notices

LIST OF RECENTLY ISSUED NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
91-69	Errors in Main Steam Line Break Analyses for Determining Containment Parameters	11/1/91	All holders of OLs or CPs for pressurized-water reactors.
91-68	Careful Planning Significantly Reduces the Potential Adverse Impacts of Loss of Offsite Power Events During Shutdown	10/28/91	All holders of OLs or CPs for nuclear power reactors.
90-51, Supp. 1	Failures of Voltage-Dropping Resistors in the Power Supply Circuitry of Electric Governor Systems	10/24/91	All holders of OLs or CPs for nuclear power reactors.
91-67	Problems With the Reliable Detection of Intergranular Attack (IGA) of Steam Generator Tubing	10/21/91	All holders of OLs or CPs for pressurized-water reactors.
91-66	(1) Erroneous Data in "Nuclear Safety Guide, TID-7016, Revision 2," (NUREG/CR-0095, ORNL/NUREG/CSD-6 (1978)) and (2) Thermal Scattering Data Limitation in the Cross-Section Sets Provided with the KENO and SCALE Codes	10/18/91	All fuel cycle licensees, critical mass licensees, interim spent fuel storage licensees, and all holders of operating licenses or construction permits for test, research, and nuclear power reactors.
91-65	Emergency Access to Low-Level Radioactive Waste Disposal Facilities	10/16/91	All NRC licensees.
91-64	Site Area Emergency Resulting From a Loss of Non-Class 1E Uninterruptible Power Supplies	10/09/91	All holders of OLs or CPs for nuclear power reactors.

OL = Operating License
CP = Construction Permit

these components. While the licensee did procure the applicable vendor manuals, the manuals applied to the general line of Specification 200 equipment and did not address the special instructions for Class IE equipment since at that time Foxboro had not as yet developed the pertinent instructions. Also, the vendor's documentation did not include detailed installation drawings. A paragraph in the Class IE qualification test results indicated that the standard modules would need to be modified to meet seismic qualifications. However, the test report did not provide specific instructions for such a modification, and the licensee's review was not adequate to identify the need. In addition, the contractor personnel did not inquire regarding the purpose of the additional parts included in the shipping package.

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact the technical contact listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

Charles E. Rossi, Director
Division of Operational Events Assessment
Office of Nuclear Reactor Regulation

Technical contact: Walter P. Haass, NRR
(301) 492-3219

Attachment: List of Recently Issued NRC Information Notices

* SEE PREVIOUS CONCURRENCE

OFC	:VIB/DRIS	:VIB/DRIS	:VIB/DRIS	:DRIS/NRR	:OGC	:OGCB/NRR
NAME	:WHaass	:GCwalina	:LNorrholm	:BGrimes	:	:CBerlinger
DATE	:10/9/91*	:10/9/91*	:10/10/91*	:10/21/91*	:10/23/91*	:10/23/91*

OFC	:DOEA/NRR	:RPB:ADM	:	:	:	:
NAME	:CRoss	:TechEd	:	:	:	:
DATE	:10/30/91	:10/24/91*	:	:	:	:

OFFICIAL RECORD COPY
Document Name: IN 9170

Discussion

The licensee reviewed the events leading up to the discovery of the improper installation of the instrumentation modules and found that it had purchased the Foxboro Specification 200 instrument nests and modules in 1984 as separate parts and arranged for their assembly at the site by the licensee's general contractor. In addition, another contractor assembled similar equipment off-site and then shipped it to the site for installation. It was noted that the vendor had shipped the subject vibration dampening material, guide rails, and power supply brackets with the equipment. However, the shipping package did not include a parts list or any specific installation instructions for these components. While the licensee did procure the applicable vendor manuals, the manuals applied to the general line of Specification 200 equipment and did not address the special instructions for Class IE equipment since at that time Foxboro had not as yet developed the pertinent instructions. Also, the vendor's documentation did not include detailed installation drawings. A paragraph in the Class IE qualification test results indicated that the standard modules would need to be modified to meet seismic qualifications. However, the test report did not provide specific instructions for such a modification, and the licensee's review was not adequate to identify the need. In addition, the contractor personnel did not inquire regarding the purpose of the additional parts included in the shipping package.

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact the technical contact listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

Charles E. Rossi, Director
Division of Operational Events Assessment
Office of Nuclear Reactor Regulation

Technical Contact: Walter P. Haass, NRR
301-492-3219

Attachment: List of Recently Issued NRC Information Notices

DISTRIBUTION

VIB R/F	DRIS R/F	BKGrimes	LJNorrholm	CBerlinger
CERossi	WHaass	GCwalina	OGC	

* SEE PREVIOUS CONCURRENCE

OFC	:VIB/DRIS	:VIB/DRIS	:VIB/DRIS	:DRIS/NRR	:OGC No legal objection	:OGCB/NRR
NAME	:WHaass	:GCwalina	:LNorrholm	:BGrimes	: SHLewis	:CBerlinger
DATE	:10/ /91*	:10/9/91*	:10/10/91*	:10/ /91	:10/23/91	:10/ /91

OFC	:DOEA/NRR	: TECH EDITOR	:	:	:	:
NAME	:CRossi	: JMain	:	:	:	:
DATE	:10/ /91	: 10/24/91	:	:	:	:

OFFICIAL RECORD COPY
Document Name: FOXBORO

Discussion

The licensee reviewed the events leading up to the discovery of the improper installation of the instrumentation modules and found that it had purchased the Foxboro Specification 200 instrument nests and modules in 1984 as separate parts and arranged for their assembly at the site by the licensee's general contractor. In addition, another contractor assembled similar equipment off-site and then shipped it to the site for installation. It was noted that the vendor had shipped the subject vibration dampening material, guide rails, and power supply brackets with the equipment. However, the shipping package did not included a parts list or any specific installation instructions for these components. While the licensee did procure the applicable vendor manuals, the manuals applied to the general line of Specification 200 equipment and did not address the special instructions for Class IE equipment since at that time Foxboro had not as yet developed the pertinent instructions. Also, the vendor's documentation did not include detailed installation drawings. A paragraph in the Class IE qualification test results indicated that the standard modules would need to be modified to meet seismic qualifications. However, the test report did not provide specific instructions for such a modification, and the licensee's review was not adequate to identify the need. In addition, the contractor personnel did not inquire regarding the purpose of the additional parts included in the shipping package.

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact the technical contact listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

Charles E. Rossi, Director
Division of Operational Events Assessment
Office of Nuclear Reactor Regulation

Technical Contact: Walter P. Haass, NRR
301-492-3219

Attachment: List of Recently Issued NRC Information Notices

DISTRIBUTION

VIB R/F	DRIS R/F	BKGrimes	LJNorrholm	CBerlinger
CERossi	WHaass	GCwalina	OGC	

OFC	:VIB/DRIS	:VIB/DRIS	:VIB/DRIS	:DRIS/NRR	:OGC	:OGCB/NRR
NAME	:WHaass	:GCwalina	:LNorrholm	:BGrimes:ld	:	:CBerlinger
DATE	:10/9/91	:10/9/91	:10/10/91	:10/ /91	:10/ /91	:10/ /91

OFC	:DOEA/NRR	:	:	:	:	:
NAME	:CRossi	:	:	:	:	:
DATE	:10/ /91	:	:	:	:	:

OFFICIAL RECORD COPY
Document Name: FOXBORO