

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

February 13, 1987

IE INFORMATION NOTICE NO. 87-11: ENCLOSURE OF VITAL EQUIPMENT WITHIN  
DESIGNATED VITAL AREAS

Addressees:

All nuclear power reactor facilities holding an operating license or construction permit.

Purpose:

This notice is provided to describe examples of significant degradation of facility security programs resulting from the failure to enclose vital equipment within designated vital areas. It is expected that recipients will review the information for applicability to their facilities and consider actions as appropriate to ensure that similar degradations do not exist or occur at their facilities. However, suggestions contained in this information notice do not constitute NRC requirements; therefore, no specific action or written response is required.

Past Related Correspondence:

IE Information Notice 85-79, "Inadequate Communications between Maintenance, Operations, and Security Personnel."

IE Information Notice 86-27, "Access Control at Nuclear Facilities."

Description of Circumstances:

Failure to provide adequate physical protection for vital equipment is one of the most significant safeguards vulnerabilities that can occur at a nuclear power facility. In recent months, plant walkdowns and inspections by NRC and licensee personnel have identified instances in which vital equipment was incompletely enclosed in a vital area designated in the physical security plan, resulting in inadequate protection. The following examples were discovered.

1. High-pressure coolant injection (HPCI) pump rooms and 480-V shutdown transformers were not enclosed within designated vital areas with positive access controls established.
2. 125-V dc power panels and steam supply piping designated as vital equipment was not enclosed within designated vital areas.

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3. The vital area barrier surrounding the diesel generator room had openings in it that would have allowed someone to reach in and manipulate valves on vital equipment.

In the first two examples, positive access controls or compensatory measures had not been established to restrict access to the vital equipment.

Discussion:

Failure to protect vital equipment by not ensuring that the equipment is located within an appropriately established and controlled vital area poses a potentially significant threat to the security and safety of the facility because of the opportunity for unauthorized and undetected access.

A review of the circumstances of the examples noted above indicate that the most significant factors contributing to the degradations in protection of vital equipment were:

- Failure by the licensee to adequately review and verify the as-built drawings relative to the location and identity of designated vital equipment.
- Failure of the site security organization to verify the location and protection afforded areas and equipment identified as vital in the physical security plan.
- Inadequate training of security and other licensee personnel in the necessity for appropriate protection for designated vital areas and equipment.
- Failure to adequately coordinate and followup on maintenance and modification activities that may result in exposing vital equipment to an inadequately protected environment.

No specific action or written response is required by this information notice. If you have any questions regarding this matter, please contact the Regional Administrator of the appropriate NRC regional office or the technical contact listed below.

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

Technical Contact: R. P. Rosano, IE  
(301) 492-4006

Attachments:

1. IE Information Notice 85-79
2. IE Information Notice 86-27
3. List of Recently Issued IE Information Notices

\*IE: PPMB  
DGable  
12/29/86

\*DD: DEPER  
SASchwartz  
2/9/87

\*D: DEPER  
ELJordan  
2/9/87

\*IE: DI: ORPB  
RPRosano: jj  
1/8/87

\*IE: DI: ORPB  
LJCunningham  
1/14/87

\*IE: DI: ORPB  
PFMcKee  
1/14/87

\*IE: DI: DD  
RLSpessard  
1/15/87

\*IE: DI: D  
JGPartlow  
1/28/87

\*IE: DEPER  
RLBaer  
2/4/87

OFC	: IE:DI:ORPB	: IE:DI:ORPB	: IE:DI:ORPB	: IE:DI:OD	: IE:DI:D	: IE:DEPER
NAME	: RPRosano:jj	: LJCummingham	: PFMCKee	: RLSpessard	: JGPartlow	: REBaer
DATE	: <del>12/ /86</del> 1/8/87	: <del>12/ /86</del> 1/14/87	: <del>12/ /86</del> 1/14/87	: 12/16/86	: 12/28/86	: <del>12/ /86</del> 2/4/87

OFC	: IE:PPMB	: DD:DEPER	: D:DEPER	:	:	:
NAME	: DGable	: SASchwartz	: ELJordan	:	:	:
DATE	: 12/ /86	: <del>12/ /86</del> 2/9/87	: 12/9/86	:	:	:

No specific action or written response is required by this information notice. If you have any questions regarding this matter, please contact the Regional Administrator of the appropriate NRC Regional Office of the technical contact listed below.

Edward L. Jordan, Director  
Division of Engineering and  
Quality Assurance  
Office of Inspection and Enforcement

Technical Contact: R. P. Rosano, (301)492-4006

Attachments:

IE Information Notice 85-79, "Inadequate Communications between Maintenance, Operations, and Security Personnel"  
IE Information Notice 86-27, "Access Control at Nuclear Facilities"

OFC	:IE:DI:ORPB	:IE:DI:ORPB	:IE:DI:ORPB	:IE:DI:DD	:IE:DI:D	:IE:DEPER
NAME	:RPRosano:jj	:LJCunningham	:PFMcKee	:RLSpessard	:JGPartlow	:REBaer
DATE	:12/ /86	:12/ /86	:12/ /86	:12/ /86	:12/ /86	:12/ /86

OFC	:IE:PPMB	:DD:DEPER	:D:DEPER	:	:	:
NAME	:DGable	:SASchwartz	:ELJordan	:	:	:
DATE	:12/29/86	:12/ /86	:12/ /86	:	:	:

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

September 30, 1985

IE INFORMATION NOTICE NO. 85-79: INADEQUATE COMMUNICATIONS BETWEEN MAINTENANCE,  
OPERATIONS, AND SECURITY PERSONNEL

Addressees:

All nuclear power reactor facilities holding an operating license (OL) or construction permit (CP), research and nonpower reactor facilities, and fuel fabrication and processing facilities using or processing formula quantities of special nuclear material.

Purpose:

This information notice is provided to alert addressees of the need to ensure that actions of a temporary or permanent nature taken by operations, maintenance, or other personnel that may affect the integrity of the physical barriers used to control access to protected, material access, and vital areas, or other portions of the overall security program, are coordinated with the organization directly responsible for security before being implemented. It is expected that the recipients will review the information for applicability to their facilities and consider actions, if necessary, to preclude a similar problem occurring at their facilities. Suggestions contained in this information notice do not constitute NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances:

During plant walkdowns and/or inspections, NRC and licensee personnel have identified instances where actions by plant organizational elements other than security have resulted in the degradation of protected and vital area barriers and other security/safeguards measures without proper compensation. Some examples are:

- o removal of portions of protected and vital area barriers, including fences, hatches, or other portals that allow unauthorized access to the protected area or vital areas
- o removal of equipment that had formed part of the barrier, such as piping or valves that would allow passage of small objects into or out of a material access area or vital area
- o creation of holes in protected and vital area barriers to facilitate construction

- o leaving vital area door alarms in access mode after work is completed
- o removal of essential telephone lines from an independent power source
- o building or placing equipment, structures, or vehicles within the isolation zone of the protected area or within exterior "clear" zones of sensitive facilities, such as storage vaults

The incidents that lead to the issuance of this information notice have resulted in the degradation of protected and vital area barriers and access controls necessary for protection of vital equipment and, in one case, the loss of the means to communicate with local law enforcement officials or emergency response personnel. In many cases, the loss of this protection has been accompanied by the failure of the licensee to notify the NRC in accordance with the applicable provisions of 10 CFR 73.71, depending on the degree to which the security system has been degraded.


Discussion:

A review of each incident has indicated that the modification or repairs that degraded the protected and vital area barriers and communications systems were made without an adequate, or in some cases any, notification of the facility's security organization by the organization planning or performing the modifications or repairs.

The likelihood of degradation may be substantially lessened at sites where the organization responsible for security is part of the planning or scheduling phase of any facility modifications or repairs. In such facilities, the barriers and equipment necessary to provide security to the facility are identified and the proper compensatory measures planned and scheduled to allow for the efficient implementation of the planned modifications or repairs. An integrated planning system allows for all facility organizations to have input to the planning and scheduling phase of maintenance and facility modifications, especially when the actions taken can negatively impact on the effectiveness of other essential programs.

The reporting requirements of 10 CFR 73.71 may apply to security incidents of the type described above, depending on the degree to which the security system has been degraded.

No specific action or written response is required by this information notice. If you have any questions about this matter, please contact the Regional Administrator of the appropriate NRC regional office or this office.

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

Technical Contact: R. Rosano, IE  
(301) 492-4006

Attachment: List of Recently Issued IE Information Notices



LIST OF RECENTLY ISSUED  
 IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
85-78	Event Notification	9/23/85	All power reactor facilities holding an OL or CP
85-77	Possible Loss Of Emergency Notification System Due To Loss Of AC Power	9/20/85	All power reactor facilities holding an OL or CP
85-76	Recent Water Hammer Events	9/19/85	All power reactor facilities holding an OL or CP
85-75	Improperly Installed Instrumentation, Inadequate Quality Control And Inadequate Post-modification Testing	8/30/85	All power reactor facilities holding an OL or CP
85-74	Station Battery Problems	8/29/85	All power reactor facilities holding an OL or CP
84-70 Sup. 1	Reliance On Water Level Instrumentation With A Common Reference Leg	8/26/85	All power reactor facilities holding an OL or CP
85-73	Emergency Diesel Generator Control Circuit Logic Design Error	8/23/85	All power reactor facilities holding an OL or CP
85-72	Uncontrolled Leakage Of Reactor Coolant Outside Containment	8/22/85	All power reactor facilities holding an OL or CP
85-71	Containment Integrated Leak Rate Tests	8/22/85	All power reactor facilities holding an OL or CP
85-70	Teletherapy Unit Full Calibration And Qualified Expert Requirements (10 CFR 35.23 And 10 CFR 35.24)	8/15/85	All material licensees

OL = Operating License  
 CP = Construction Permit

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
WASHINGTON, DC 20555

April 21, 1986

IE INFORMATION NOTICE NO. 86-27: ACCESS CONTROL AT NUCLEAR FACILITIES

Addressees:

All nuclear power reactor facilities holding an operating license (OL) or construction permit (CP), research and nonpower reactor facilities, and fuel fabrication and processing facilities using or possessing formula quantities of special nuclear material.

Purpose:

This information notice is provided to describe examples of significant physical security problems in the area of access control. It is expected that recipients will review the information for applicability to their facilities and consider actions, if appropriate, to preclude similar problems from 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 at this time.

Description of Circumstances:

In recent months, the number of incidents related to degraded access control at nuclear facilities appears to have increased considerably. Breakdowns in positive access control, especially those that could have allowed access into vital areas (VAs) and material access areas (MAAs), are among the most significant safeguards vulnerabilities that can occur at nuclear facilities.

Examples of the most frequent access control problems are:

- Weapons have been found on vehicles by security personnel during protected area exit searches instead of entry searches. Also, individuals already granted access have discovered that they mistakenly brought weapons on site via vehicle or package. In some cases, no entry search was conducted, while in others, a search was conducted but the weapon was not detected. Security personnel have asked drivers of vehicles if they had any weapons on their persons, but failed to ask if there were any weapons in the vehicles.
- Individuals have gained access to facilities by tailgating or by using someone else's badge. Also, individuals not authorized access to VAs and MAAs have tailgated into those areas. In many cases, they were not challenged by the person being tailgated or by personnel working in the area. Some violators displayed badges that clearly indicated they were not authorized to be in the area, while others did not even display a badge.

- VA and MAA doors have been found unsecured because they would not close properly. Also, these doors have been found taped or propped open for operational convenience. In other instances, the closure time for power-controlled VA and MAA doors has been excessive, inviting tailgating or unauthorized entries. Poor maintenance programs and inadequate compensatory measures have frequently compounded these problems.
- Guards being used as compensatory measures for VA and MAA barriers and/or security alarm systems, have been found asleep at their posts or have left their posts before barriers and/or alarm systems have been returned to an effective state of operation.
- Responses to protected area and VA and MAA alarms have been very untimely and, in some cases, no responses have been made.

In several of these cases, NRC has taken escalated enforcement action for failure to properly control access to the site protected area and VAs. Under the NRC Enforcement Policy, failure to control access such that contraband is introduced into the site protected area or individuals are allowed access to protected areas or VAs without proper authorization may be categorized as Severity Level III or higher violations. Depending on the particular circumstances of such incidents, a substantial civil penalty may be imposed.


Discussion:

The above examples of frequent access control problems indicate that many licensees may share some of the following program management problems:

- Failure to properly train and motivate security personnel and other employees in discharging their security-related responsibilities.
- Failure to place appropriate priorities on maintenance of security equipment.
- Poor security awareness or attitudes by employees.
- Poor access control procedures, especially concerning searches, issuance of badges, and use of turnstiles.

Human error, ineffective training, and poor attitudes towards the security program appear to be the most significant factors in the problem areas identified. NRC inspectors are directing more inspection effort in these areas, and violations will be processed in accordance with NRC Enforcement Policy.

No specific action or written response is required by this information notice. If you have any questions regarding this matter, please contact the Regional Administrator of the appropriate NRC regional office, or this office.

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

Technical Contact: N. Ervin, IE  
(301) 492-7855

Attachment: List of Recently Issued IE Information Notices

LIST OF RECENTLY ISSUED  
 IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
86-26	Potential Problems In Generators Manufactured By Electrical Products Incorporated	4/17/86	All power reactor facilities holding an OL or CP
86-25	Traceability And Material Control Of Material And Equipment, Particularly Fasteners	4/11/86	All power reactor facilities holding an OL or CP
86-24	Respirator Users Notice: Increased Inspection Frequency For Certain Self-Contained Breathing Apparatus Air Cylinders	4/11/86	All power reactor facilities holding an OL or CP; research and test reactor facilities; fuel cycle licensees and Priority 1 material licensees
86-23	Excessive Skin Exposures Due To Contamination With Hot Particles	4/9/86	All power reactor facilities holding an OL or CP
86-22	Underresponse Of Radition Survey Instrument To High Radiation Fields	3/31/86	All power reactor facilities holding an OL or CP and research and test reactors
86-21	Recognition Of American Society Of Mechanical Engineers Accreditation Program For N Stamp Holders	3/31/86	All power reactor facilities holding an OL or CP and all recipients of NUREG-0040 (white book)
86-20	Low-Level Radioactive Waste Scaling Factors, 10 CFR Part 61	3/28/86	All power reactor facilities holding an OL or CP
86-19	Reactor Coolant Pump Shaft Failure At Crystal River	3/21/86	All power reactor facilities holding an OL or CP

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OL = Operating License  
 CP = Construction Permit

LIST OF RECENTLY ISSUED  
IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
87-10	Potential for Water Hammer During Restart of Residual Heat Removal Pumps	2/11/87	All BWR facilities holding an OL or CP
87-09	Emergency Diesel Generator Room Cooling Design Deficiency	2/5/87	All power reactor facilities holding an OL or CP
87-08	Degraded Motor Leads in Limitorque CD Motor Operators	2/4/87	All power reactor facilities holding an OL or CP
87-07	Quality Control of Onsite Dewatering/Solidification Operations by Outside Contractors	2/3/87	All power reactor facilities holding an OL or CP
87-06	Loss of Suction to Low-Pressure Service Water System Pumps Resulting From Loss of Siphon	1/30/87	All power reactor facilities holding an OL or CP
87-05	Miswiring in a Westinghouse Rod Control System	2/2/87	All Westinghouse power reactor facilities holding an OL or CP
87-04	Diesel Generator Fails Test Because of Degraded Fuel	1/16/87	All power reactor facilities holding an OL or CP
87-03	Segregation of Hazardous	1/15/87	All NRC licensees
87-02	Inadequate Seismic Qualification of Diaphragm Valves by Mathematical Modeling and Analysis	1/15/87	All power reactor facilities holding an OL or CP
87-01	RHR Valve Misalignment Causes Degradation of ECCS in PWRs	1/6/87	All PWR facilities holding an OL or CP

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OL = Operating License  
CP = Construction Permit