

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

February 28, 1990

**NRC INFORMATION NOTICE NO. 90-12: MONITORING OR INTERRUPTION OF  
PLANT COMMUNICATIONS**

Addressees:

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

Purpose:

This information notice is intended to inform licensees of the potential for monitoring and/or disruption of onsite radio communications at power reactors. 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 do not constitute NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances:

Between January 1989 and January 1990, an individual located offsite monitored and recorded onsite communications originating from the control room at Seabrook. No security transmissions were recorded, only routine outgoing operational messages from the control room. NRC representatives from both operations and safeguards randomly sampled portions of these taped communications. No safeguards or other sensitive information which could have jeopardized safety was found to have been intercepted. In an additional incident at Seabrook, an unauthorized transmission interrupted control room communications by transmitting on the same frequency. It was not determined if the outside transmitting source was on or offsite.

Discussion:

Although no safety or security compromise appears to have been involved in the Seabrook incidents, they demonstrate the potential for such compromise, considering power reactor transmittal of routine operational and security radio messages on unencrypted (clear) radio frequencies, and the potential for interruption from external sources. The intent of this notice is to call licensees' attention to the potential for similar type communication events at their facilities and the possible need for additional communications discipline for plant operations and security.

9002230379

ZA

ID#R-11C

*Continued*

In regard to plant security, 10 CFR 73.21 prohibits the transmission of safeguards information except by protected telecommunications circuits. This includes onsite and offsite radio and telephone communications. NUREG-0794, "Protection of Unclassified Safeguards Information," suggests that if protected (encrypted) frequencies are not used, routine radio transmissions between site security personnel be limited to message formats or codes that do not disclose facility safeguards features or response procedures.

There are no specific requirements related to the security of radios and telephones for transmission of information on site in support of operations. Radios have been increasingly used as a means to provide more mobile and efficient communications links between plant operators. However, radio communications are not private. In view of the Seabrook event, addressees may wish to examine communications discipline and basic operations procedures that they now have.

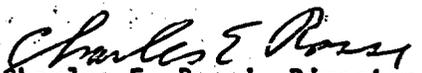
Various commercial scanners are available that can pick up site frequencies and are simple to operate. An individual can listen in on all radio traffic for communications that are not secure. Encrypted systems can help in overcoming the vulnerability of radio transmissions to exploitation. However, these systems may still be susceptible to monitoring.

The unauthorized transmission at Seabrook demonstrates other methods that might exploit radio communications vulnerabilities. Jamming and deception could be used in radio transmissions although this did not appear to be the intent at Seabrook.

Federal law prohibits any person from intentionally and willfully causing or attempting to cause physical damage to a utilization facility or cause an interruption of normal operations through the unauthorized use of or tampering with the machinery, components, or controls of any such facility, and prescribes penalties for such attempts. (Section 236 of the "Atomic Energy Act")

The sensitivity of onsite communications and the potential to aid malevolent acts varies considerably. Proper communications discipline and basic radio operating procedures, commensurate with the operations and security significance of the communications, can lessen vulnerability to monitoring, jamming, and deception.

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 NRR project manager.

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

Technical Contact: Michael S. Warren, NRR  
(301) 492-3211

Attachment: List of Recently Issued NRC Information Notices

LIST OF RECENTLY ISSUED  
NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
90-11	Maintenance Deficiency Associated with Solenoid-Operated Valves	2/28/90	All holders of OLs or CPs for nuclear power reactors.
90-10	Primary Water Stress Corrosion Cracking (PWSCC) of Inconel 600	2/23/90	All holders of OLs or CPs for PWRs.
90-09	Extended Interim Storage of Low-Level Radioactive Waste by Fuel Cycle and Materials Licensees	2/5/90	All holders of NRC materials licenses.
88-30, Supp. 1	Target Rock Two-Stage SRV Setpoint Drift Update	2/2/90	All holders of OLs or CPs for nuclear power reactors.
90-08	Kr-85 Hazards from Decayed Fuel	2/1/90	All holders of OLs or CPs for nuclear power reactors and holders of licenses for permanently shut-down facilities with fuel on site.
88-23, Supp. 2	Potential for Gas Binding of High-Pressure Safety Injection Pumps During a Loss-of-Coolant Accident	1/31/90	All holders of OLs or CPs for PWRs.
90-07	New Information Regarding Insulation Material Performance and Debris Blockage of PWR Containment Sumps	1/30/90	All holders of OLs or CPs for nuclear power reactors.
90-06	Potential for Loss of Shutdown Cooling While at Low Reactor Coolant Levels	1/29/90	All holders of OLs or CPs for nuclear power reactors.

OL = Operating License  
CP = Construction Permit

In regard to plant security, 10 CFR 73.21 prohibits the transmission of safeguards information except by protected telecommunications circuits. This includes onsite and offsite radio and telephone communications. NUREG-0794, "Protection of Unclassified Safeguards Information," suggests that if protected (encrypted) frequencies are not used, routine radio transmissions between site security personnel be limited to message formats or codes that do not disclose facility safeguards features or response procedures.

There are no specific requirements related to the security of radios and telephones for transmission of information on site in support of operations. Radios have been increasingly used as a means to provide more mobile and efficient communications links between plant operators. However, radio communications are not private. In view of the Seabrook event, addressees may wish to examine communications discipline and basic operations procedures that they now have.

Various commercial scanners are available that can pick up site frequencies and are simple to operate. An individual can listen in on all radio traffic for communications that are not secure. Encrypted systems can help in overcoming the vulnerability of radio transmissions to exploitation. However, these systems may still be susceptible to monitoring.

The unauthorized transmission at Seabrook demonstrates other methods that might exploit radio communications vulnerabilities. Jamming and deception could be used in radio transmissions although this did not appear to be the intent at Seabrook.

Federal law prohibits any person from intentionally and willfully causing or attempting to cause physical damage to a utilization facility or cause an interruption of normal operations through the unauthorized use of or tampering with the machinery, components, or controls of any such facility, and prescribes penalties for such attempts. (Section 236 of the "Atomic Energy Act")

The sensitivity of onsite communications and the potential to aid malevolent acts varies considerably. Proper communications discipline and basic radio operating procedures, commensurate with the operations and security significance of the communications, can lessen vulnerability to monitoring, jamming, and deception.

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 NRR project manager.

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

Technical Contact: Michael S. Warren, NRR  
(301) 492-3211

Attachment: List of Recently Issued NRC Information Notices

*SEE PREVIOUS CONCURRENCES	D/DOEA-NRR CERossi 02/24/90	*C/OGCB:DOEA:NRR CHBerlinger 02/23/90	*RPB:ADM TechEd 02/22/90
*OGCB:DOEA:NRR	*RSGB:DRIS:NRR	*C/RSGB:DRIS:NRR	*D/DRIS:NRR
NPKadamb1 02/22/90	MSWarren 02/22/90	PMcKee 02/22/90	BKGrimes 02/23/90
			*OGC 02/22/90

the transmission of safeguards information except by protected telecommunications circuits. This includes onsite and offsite radio and telephone communications. NUREG-0794 "Protection of Unclassified Safeguards Information" suggests that if protected (encrypted) frequencies are not used, routine radio transmissions between site security personnel must be limited to message formats or codes that do not disclose facility safeguards features or response procedures. There are no specific requirements related to the security of radio and telephones for transmission of information on site in support of operations. Radios have been increasingly used as a means to provide more mobile and efficient communications links between plant operators. Licensees should be aware that their radio communications are not private. Although operational communications are normally not sensitive, consideration should be given to whether information potentially being monitored could assist malevolent acts that could jeopardize public health and safety.

Various commercial scanners are available that can pick up site frequencies and are simple to operate. An individual can listen in on all radio traffic for communications that are not secure. Encrypted systems can help in overcoming the vulnerability of radio transmissions to exploitation. However, these systems may still be susceptible to monitoring.

The unauthorized transmission at Seabrook demonstrates other methods that might exploit radio communications vulnerabilities. Jamming and deception could be used in radio transmissions although this did not appear to be the intent at Seabrook.

Federal law prohibits any person from intentionally and willfully causing or attempting to cause physical damage to a utilization facility or cause an interruption of normal operations through the unauthorized use of or tampering with its machinery, components, or controls of any such facility, and prescribes penalties for such attempts. (Section 236 of the "Atomic Energy Act")

Proper communications discipline and basic radio operating procedures can lessen communications vulnerability to monitoring, jamming, and deception. The sensitivity of onsite communications and the potential to aid malevolent acts varies considerably. Some programs related to this subject may deserve more attention than others.

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 NRR project manager.

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

Technical Contact: Michael S. Warren, NRR  
(301) 492-3211

Attachment: List of Recently Issued NRC Information Notices

\*SEE PREVIOUS CONCURRENCES

D/DOEA:NRR

C/OGCB:DOEA:NRR

CERossi

CHBerlinger *APR*

02/ /90

*for* 02/23/90

\*C/RSGB:DRIS:NRR

\*D/DRIS:NRR

PMKee

BKGrimes

02/22/90

02/23/90

\*OGCB:DOEA:NRR\*RSGB:DRIS:NRR

MSWarren

NPKadamb1

02/22/90

*RAY SANDERS.*

RPB:ADM

TechEd

02/22/90

\*OGC

02/22/90

The sensitivity of onsite communications and the potential to aid malevolent acts varies considerably. Some programs related to this subject may deserve more attention than others.

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 NRR project manager.

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

Technical Contact: Michael S. Warren, NRR  
(301) 492-3211

Attachment: List of Recently Issued NRC Information Notices

*NPK* Document Name: IN ON RADIOS

OGCB:DOEA:NRR  
NPKadamb1  
02/22/90

RSGB:DRIS:NRR  
MSWarren *MAN*  
02/22/90

RPB:ADM  
TechEd  
02/ /90

C/OGCB:DOEA:NRR  
CHBerlinger  
02/ /90

D/DOEA:NRR  
CERossi  
02/ /90

*OGC  
see attached  
concurrent  
sheet*

*RSGB:DRIS  
MSWarren  
2/22/90*

*[Signature]  
2/23/90*