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SUBJECT: USE OF SUPERVISED COMMUNICATION LINE TO MEET
REQUIREMENT OF TITLE 10 OF THE *CODE OF FEDERAL
REGULATIONS*, PART 37.49(c)(2), FOR AN ALTERNATIVE
DATA TRANSMISSION CAPABILITY

This memorandum provides information on the use of a supervised communication line¹ to meet the requirement of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 37.49(c)(2) for an alternative data transmission capability among site security systems. The regulation and existing guidance did not explicitly consider the possible use of the supervised communication line for this purpose. In a number of cases, inspectors have found that a single supervised communication line does not meet 10 CFR 37.49(c)(2). Subsequently, licensees have been required to provide an alternative means of data transmission other than a supervised communication line to meet the requirement.

Initially, the Part 37 Implementation Working Group concluded that the single supervised line was not an alternative capability and did not meet the Part 37 requirements. However, the Steering Committee, after careful consideration, determined that a supervised line may meet the requirement in certain circumstances as discussed below.

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¹ "Supervised communication line" is considered to be a monitored communication link which will detect and provide alerts concerning potential problems with data transmission or integrity.

A single supervised communication line may meet the requirement for an alternative capability if the licensee can demonstrate that the communication line provides a continuous capability as effective as the primary capability and that the line and the supervision feature are not subject to the same failure modes. Licensees can demonstrate that the system complies with the requirements through: (1) documentation of the system, such as manuals or other information provided by system providers; (2) records of testing and maintenance, such as that performed under 10 CFR 37.51; (3) demonstration of the system's capabilities; (4) discussions with system providers on system capabilities; or (5) other means. The licensee could demonstrate continuous capability by showing that the line is supervised at a frequency that, should the line connection fail (or be disabled), would provide an alarm sufficient to facilitate a timely response. This would depend to some extent on each licensee's security program, procedures, and capabilities for response, including the demonstrated response of the service provider to a failure in the line connection (e.g., promptness in identifying failure and notifying the licensee).

The guidance discussed in this memo will be incorporated into NUREG-2155, "Implementation Guidance for 10 CFR Part 37, Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material" and into Inspection Procedure 87137, "10 CFR Part 37 Materials Security Programs."

Background

Line supervision and supervised line are generic terms for the process of monitoring security communication links to assure that they are operating correctly, and that data has not been altered during transmission. There are numerous ways to accomplish this and there is no standard design or definition for line supervision.

Section 37.49(c) of 10 CFR states:

§ 37.49(c), "Personnel Communications and Data Transmission"

For personnel and automated or electronic systems supporting the licensee's monitoring, detection, and assessment systems, licensees shall:

§ 37.49(c)(1)

Maintain continuous capability for personnel communication and electronic data transmission and processing among site security systems; and

§ 37.49(c)(2)

Provide an alternative communication capability for personnel, and an alternative data transmission and processing capability, in the event of a loss of the primary means of communication or data transmission and processing. Alternative communications and data transmission systems may not be subject to the same failure modes as the primary systems.

From NUREG-2155, pp. 178-179

Q1: What do I have to do to "maintain continuous capability" under 10 CFR 37.49(c)(1)??

A1: The licensee must have a dependable means to transmit information to all the various components involved in the detection and assessment of an intrusion, including the appropriate responder, 24 hours a day, 7 days a week. The licensee may use land-line telephones, automatic dialers, cellular phones, pagers, radios, and other similar modes of communication to fulfill this requirement. When using more than one person for detection and assessment, the

licensee must also provide a means for the various monitoring personnel to communicate with each other.

Q2: What personnel communications and data transmission systems are subject to the requirement for an alternative capability?

A2: The licensee must have an alternative capability for any primary system of communication or data transmission and processing that it relies upon to meet requirements. The alternative means must be able to provide continuous communication or data transmission capability. The licensee could use land-line phones, automatic dialers, cellular phones, pagers, radios, and other similar modes of communication to fulfill this requirement as long as they are not subject to the same failure mode as the primary systems that they must replace. For example, a radio or cellular phone could be considered as a backup to a land-line phone. However, an alternative cell phone system may not rely on the same cell tower and transmission system as the primary cell phone system.

Q3: To comply with the requirement that the alternative communication system not be subject to the same failure mode, may a licensee use a different cell phone service as a backup to a primary cell phone service?

A3: Yes. However, the licensee will need to show that the alternative cell phone service does not use the same satellite communications system, signal processing, or receiving tower as the primary service.

Should you have any questions concerning the information discussed in this memorandum, please contact me or Paul Goldberg at (301) 415-7842 or via e-mail at Paul.Goldberg@nrc.gov.

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