



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

September 23, 1991

TO: ALL HOLDERS OF OPERATING LICENSES OR CONSTRUCTION
PERMITS FOR NUCLEAR POWER PLANTS

SUBJECT: EMERGENCY TELECOMMUNICATIONS (GENERIC LETTER 91-14)

The purpose of this Generic Letter is to alert reactor power plant licensees to the forthcoming NRC effort to implement an upgrade to its emergency telecommunications system. Some level of licensee effort and cooperation will be required for successful implementation of this program.

In the event of a serious emergency at a nuclear power reactor site, the NRC considers it essential that certain communication pathways are established and maintained in order for the agency to fulfill its emergency response mission. NRC has identified seven communications functions (Enclosure 1) which are essential, particularly in the early phases of an accident, until an augmented response effort by NRC personnel and other Federal agencies is established at the scene of the emergency.

Currently, the only communication function not conducted over the public switched network (PSN) is the Emergency Notification System (ENS), which is handled over direct dedicated lines between each power reactor site and the NRC Operations Center. Experience has shown that the current emergency communications network does not provide assured paths for the remaining essential lines of communications. Given its emergency response mission, the NRC cannot afford to depend solely on the PSN for the remaining six essential communications paths described in Enclosure 1. Although the overall design of the public network is intended to provide high reliability and alternate routing, in the case of an emergency the overall traffic load in an area can readily exceed local switching capabilities and result in blockage at the local central office. This is what occurred during the incidents at Three Mile Island and at the Sequoyah Fuels Facility.

In addition to the above, numerous other problems have led the NRC to upgrade its emergency telecommunications system. The most notable one is the aging and obsolescence of the equipment used for the ENS function.

Consequently, an in-depth analysis was undertaken in 1988 to determine viable alternatives to the current system. Various options involving terrestrial and satellite networks were examined. During 1990, a new communication alternative became available when the General Services Administration (GSA) provided the Federal Telecommunications System (FTS) 2000 network for government use, including locations at licensee facilities. The FTS 2000 network offers not only a lower cost and more reliable system than ENS, but it also provides a separate government network for all of the essential communication functions and it avoids the potential PSN blockage anticipated during a major emergency. NRC has concluded that conversion to the FTS 2000 network is a necessary step at this time to maintain assured and reliable communications during an emergency as well as for licensee reporting of events during normal operations. As a parallel effort, NRC is also assessing the risks associated with the sole use of the FTS 2000 network to determine if a redundant and/or diverse communications pathway is needed.

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The installation of FTS 2000 lines at licensee's facilities will begin in September 1991 and continue through March 1992. The degree of licensee support may vary depending on various site specific factors. Enclosure 2 describes the licensee efforts that may be required, and the various factors which affect the required work. Following installation of the FTS 2000 system, the equipment presently used for the ENS communication function will be removed after successful performance of the new system is demonstrated over a sufficient period of time, currently anticipated to be approximately one month. Enclosure 3 is the current schedule for the installation of FTS 2000 at each site. Licensees will be contacted in advance of the scheduled time to arrange for a mutually acceptable date. After installation of the FTS 2000 lines to the site and in some cases to the offsite EOF, it is expected that licensees will complete the remaining installation effort as identified in Enclosure 2 within ninety days, however, in extenuating circumstances, such as those cases in which a plant outage would be required to complete the installation, up to six months will be permitted.

Licensees are being requested to make modifications to their facilities and procedures and thus this request is considered a backfit in accordance with NRC procedures. The requested modifications are needed to ensure that facilities are in compliance with NRC regulations in 10 CFR 50.47(b) (6) and 10 CFR 50, Appendix E, IV.E.9d. As discussed in 10 CFR 50.109 (a)(4)(i) for compliance exceptions, a full backfit analysis was not performed. A documented evaluation of the type described in 10 CFR 50.109 (a) (6) was performed (Enclosure 4), including a statement of the objectives of and the reasons for the modification and the basis for invoking the compliance exception.

Since this letter initiates no information gathering and requires no reply, no OMB clearance number is required.

If you have any questions about this letter, please contact the technical contact listed below or the appropriate NRR Project Manager.


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Enclosures:

1. Essential Emergency Communication Functions
2. Licensee Support for Upgrade to the Emergency Telecommunications Systems
3. Schedule for FTS 2000 Installations
4. Documented Evaluation

ESSENTIAL EMERGENCY COMMUNICATION FUNCTIONS

1. Emergency Notification System (ENS): Initial notification by the licensee, as well as ongoing information on plant systems, status, and parameters.
2. Health Physics Network (HPN): Communication with the licensee on radiological conditions (in-plant and off-site) and meteorological conditions, as well as their assessment of trends and need for protective measures on-site and off-site.
3. Reactor Safety Counterpart Link (RSCL): Established initially with the base team, and then with the NRC site team representatives once they arrive at the site, to conduct internal NRC discussions on plant and equipment conditions separate from the licensee, and without interfering with the exchange of information between the licensee and NRC. This is the channel by which the NRC Operations Center supports NRC reactor safety personnel at the site. In addition, this link may also be used for discussion between the Reactor Safety Team Director and licensee plant management at the site.
4. Protective Measures Counterpart Link (PMCL): Established initially with the base team, and then with the NRC site team representatives once they arrive at the site, to conduct internal NRC discussions on radiological releases and meteorological conditions, and the need for protective actions separate from the licensee and without interfering with the exchange of information between the licensee and NRC. This is the channel by which the NRC Operations Center supports NRC protective measures personnel at the site. In addition, this link may also be used for discussion between the Protective Measures Team Director and licensee plant management at the site.
5. Emergency Response Data System (ERDS) Channel: This is the channel over which the raw reactor parametric data is transmitted from the site.
6. Management Counterpart Link (MCL): Established for any internal discussions between the Executive Team Director or Executive Team members and the NRC Director of Site Operations or top level licensee management at the site.
7. Local Area Network (LAN) Access: Established with the base team and the NRC site team for access to any of the products or services provided on the NRC Operations Center's local area network. This includes technical projections, press releases, status reports, E-Mail, and various computerized analytical tools.

LICENSEE SUPPORT FOR UPGRADE TO
THE EMERGENCY TELECOMMUNICATIONS SYSTEM

1. Provide a point of contact and participate in the arrangements for the installation of the FTS 2000 lines.
2. Provide adequate capacity at the demarcation distribution frame for 7 to 9 lines depending on the number of reactor units. For sites with an offsite Emergency Operations Facility (EOF), provide capacity for an additional 6 lines at the demarcation distribution frame serving the EOF.
3. Provide adequate internal wiring (not routed through any onsite switching system) for all FTS 2000 extensions in the control room, technical support center (TSC), and the EOF.
4. Provide cross-connect from the main distribution frame to any and all intermediate distribution frames and to the physical location associated with the FTS 2000 service being provided.
5. Provide RJ-11 jacks for the FTS 2000 communications functions identified in Enclosure 1 at the appropriate locations in the control room, TSC, and EOF. Attached is a list of typical locations for FTS 2000 communications functions.
6. Install the NRC provided telephone instruments at the appropriate locations as described herein.
7. Relocate, as appropriate, the FTS 2000 phone used for the Emergency Notification System (ENS) upon removal of the old ENS equipment.
8. Participate in the test program upon completion of system installation.
9. Revise procedures as appropriate for the operation and use of the FTS 2000 system.
10. For those sites including offsite EOF's where sufficient spare facilities into the site are not available, the following support is required:
 - a. Provide space as necessary for line multiplexing equipment to be installed by AT&T and NRC contractor.
 - b. Provide guaranteed power to the equipment in accordance with the criteria in IE Bulletin 80-15.

TYPICAL LOCATIONS FOR FTS 2000
COMMUNICATION FUNCTIONS

CONTROL ROOM

ENS (One extension per unit)

TSC/EOF*

NRC SPACE

ENS
HPN
RSCL
PMCL
MCL
LAN-ACCESS

LICENSEE SPACE

ENS
HPN

ERDS

One phone line per reactor unit should be run to the room(s) housing the computer(s) which will provide data to the Emergency Response Data System.

- * For those EOFs which cannot be served as extensions of the on-site FTS 2000 service, a separate set of FTS 2000 lines will be provided. These EOFs will be bridged on to the various essential emergency communication functions by calling into the NRC Operations Center.

SCHEDULE FOR FTS 2000 INSTALLATION

<u>Sept. 1991</u>	<u>Nov. 1991</u>	<u>Jan. 1992</u>	<u>Feb. 1992</u>	<u>Mar. 1992</u>
Byron	Big Rock Point	Beaver Valley	Arkansas	Davis-Besse
Cook	Braidwood	Browns Ferry	Callaway	Fermi
Vogtle	Brunswick	Clinton	Calvert Cliffs	Ft. Calhoun
	Comanche Peak	Diablo Canyon	Catawba	Millstone
	GINNA	Dresden	Cooper	Monticello
	Harris	Fitzpatrick	Crystal River	North Anna
	Maine Yankee	Grand Gulf	Duane Arnold	Oconee
	South Texas	Hatch	Farley	Oyster Creek
	Turkey Point	Hope Creek	Haddam Neck	Palo Verde
		Indian Point (Con-Ed)	Limerick	Peach Bottom
		Indian Point (PASNY)	Nine Mile Point	Pilgrim
		Kewaunee	Palisades	Point Beach
		LaSalle	Prairie Island	Quad Cities
		McGuire	River Bend	Robinson
		Perry	St. Lucie	Salem
		Seabrook	Summer	Susquehanna
		Sequoyah	WNP-2	Three Mile Island
		Surry	Waterford	Vermont Yankee
		Trojan	Wolf Creek	Yankee Rowe
			Zion	

San Onofre - FTS 2000 service previously installed. Items 3-9 of Enclosure 2 remain to be completed.

Documented Evaluation

EMERGENCY TELECOMMUNICATIONS GENERIC LETTER

Objectives:

To ensure that power reactor facilities remain in compliance with the requirements of 10 CFR 50.47 (b)(6) and 10 CFR Part 50, Appendix E, IV.E.9d regarding emergency telecommunications capabilities.

Reasons for Modifications:

An upgrade to the NRC emergency telecommunications system is necessary to provide a reliable and assured means to conduct the essential communications required during an emergency. The current system utilizes a single dedicated line (ENS) and the Public Switched Network (PSN) for communication with the licensee's emergency response facilities. The equipment associated with the ENS is rapidly deteriorating, and reliance cannot be placed on the PSN to provide communications paths due to the high probability of blockage in the telephone company central office serving the site during a serious emergency. Similar blockage was experienced during the accidents at Three Mile Island in 1979 and the Sequoyah Fuel Facility in 1986.

Basis for Invoking the Compliance Exception:

Licensees are required by 10 CFR 50.47 (b) (6) and 10 CFR Part 50, Appendix E, IV.E. 9d to have provisions for (a) prompt communications among principal response organizations, and (b) communications with NRC Headquarters from the nuclear power reactor control room, the technical support center, and the emergency operations facility. In addition, the use of the ENS is clearly called for in numerous parts of the regulations (e.g., 10 CFR 50.72). Since the current ENS is on a dedicated line, it is not subject to blockage due to crowded public switching networks during an emergency. However, the ENS was initially designed by AT&T using equipment manufactured by WesCom, Inc. After divestiture, WesCom sold the rights to this equipment and design to Tellabs, Inc. Tellabs no longer manufactures WesCom equipment and the existing WesCom equipment supporting the ENS is becoming increasingly unreliable. In addition to these equipment reliability concerns, NRC recently experienced communication problems during the agency's response to a 1990 event at the Vogtle facility which raised further questions as to operational readiness of ENS. After May 1992 NRC's contract with AT&T expires. GSA has mandated Federal agencies convert to FTS-2000 and, consequently, the contract will not be renewed. As a result, the ENS required explicitly by regulation can no longer be practically maintained; therefore, licensees will be unable to demonstrate compliance with the requirement for that communication link with NRC in the absence of an acceptable alternative. The NRC has determined that FTS-2000 is sufficiently reliable to be an acceptable alternative for ENS purposes; and it is less costly than the other available alternatives (e.g., satellite link, microwave link, foreign exchange line, etc.)

Installation of the Emergency Response Data System (ERDS) is required by an August 13, 1991, amendment to 10 CFR 50.72. Installation is already complete at ten facilities who had implemented ERDS on a voluntary basis prior to issuance of the regulation. Upgrading of ERDS, now required by regulation, is already underway; the proposed action is consistent with the upgrade effort.

It has been previously determined that provision of five other essential communications links (i.e., Reactor Safety Counterpart Link (RSCL), Health Physics Network (HPN), Protective Measures Counterpart Link (PMCL), Management Counterpart Link (MCL), and Operations Center Local Area Network Access Link (LAN)), in addition to the ENS and ERDS, is an acceptable means for licensees to comply with the general requirement to establish reliable emergency communications with NRC. The essential communication needs have been repeatedly addressed in previous Commission papers (SECY-87-290, SECY-89-340, SECY-91-149) and NUREG-0696, Functional Criteria for Emergency Response Facilities. The staff has determined in connection with this proposed action that, in order to ensure the reliability of overall emergency communications capability and complete compatibility among the component parts of the overall system, the RSCL, HPN, PMCL, MCL, and LAN should also be upgraded by use of FTS-2000.

Accordingly, the NRC has concluded that conversion to the FTS 2000 network is a necessary step at this time to maintain assured and reliable communications during an emergency as well as for licensee reporting of events during normal operations. Therefore, in order to maintain continued compliance with 10 CFR 50.47 (b)(6) and 10 CFR Part 50, Appendix E, IV.E. 9d, licensees are requested to provide the modifications necessary to support installation and operation of the emergency telecommunications system upgrade.

LIST OF RECENTLY ISSUED GENERIC LETTERS

Generic Letter No.	Subject	Date of Issuance	Issued To
91-13	REQUEST FOR INFO RELATED TO RESOLUTION OF GI-130, "ESSENTIAL SERVICE WATER SYS. FAILURES AT MUTLI-UNIT SITES," PURSUANT TO 10CFR50.54(f)	09/19/91	LICENSEES AND APPLICANTS of Braidwood, Byron Catawba, Comanche Peak Cook, Diablo, McGuire
91-12	OPERATOR LICENSING NAT. EXAMINATION SCHEDULE	08/27/91	ALL PWR REACTOR AND APPLICANTS FOR AN OPERATING LICENSE
91-11	RESOLUTION OF GENERIC ISSUES 48, "LCOs FOR CLASS 1E VITAL INSTRUMENT BUSES," and 49, "INTERLOCKS AND LCOs FOR CLASS 1E TIE BREAKERS" PURSUANT TO 10CFR50.54(f)	07/18/91	ALL HOLDERS OF OPERATING LICENSES
91-10	EXPLOSIVES SEARCHES AT PROTECTED AREA PORTALS	07/08/91	TO ALL FUEL CYCLE FACILITY LICENSEES WHO POSSESS, USE, IMPORT OR EXPORT FORMULA QUANTITIES OF STRATEGIC SPECIAL NUCLEAR MATERIAL
88-20 SUPP. 4	INDIVIDUAL PLANT EXAMINATION OF EXTERNAL EVENTS (IPEEE) FOR SEVERE ACCIDENT VULNERABILITIES - 10 CFR 50.54 (f)	06/28/91	ALL HOLDERS OF OLs AND CPs FOR NUCLEAR POWER REACTORS
91-09	MODIFICATION OF SURVEILLANCE INTERVAL FOR THE ELECTRICAL PROTECTIVE ASSEMBLIES IN POWER SUPPLIES FOR THE REACTOR PROTECTION SYSTEM	06/27/91	ALL HOLDERS OF OLs FOR BWRs
91-08	REMOVAL OF COMPONENT LISTS FROM TECHNICAL SPECIFICATIONS	05/06/91	ALL HOLDERS OF OLs OR CPs FOR NUCLEAR POWER REACTORS
91-07	GI-23 "REACTOR COOLANT PUMP SEAL FAILURES" AND ITS POTENTIAL IMPACT ON STATION BLACKOUT	05/02/91	ALL POWER REACTOR LICENSEES AND HOLDERS OF CPs
91-06	RESOLUTION OF GENERIC ISSUE A-30, "ADEQUACY OF SAFETY-RELATED DC POWER SUPPLIED," PURSUANT TO 10 CFR 50.54(f)	04/29/91	ALL HOLDERS OF OLs

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