



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

June 19, 1981

Gentlemen:

Immediately following the accident at Three Mile Island, the Nuclear Regulatory Commission installed a nationwide Emergency Notification System (ENS or System) to facilitate notification to the NRC of events and conditions at licensed nuclear power plants. The ENS is a dedicated telephone system connecting selected nuclear facilities to the NRC Operations Center. The ENS currently in use experiences a number of operational problems including false rings, lack of circuit assurance indication, and reduced voice quality when multiple extensions are in use. A system modification has been developed by the NRC and AT&T to overcome these difficulties and, additionally, to provide ringing in the Resident Inspector's office when the ENS circuit is activated by licensee personnel. This modification will be installed and provided by the NRC.

In order to facilitate scheduling of the system upgrade, the NRC needs information on logistic support which will be available at licensed activity sites prior to actual implementation of the upgrade. In addition, NRC staff members wish to coordinate the planned actions to upgrade the system with appropriate licensee telecommunication planning personnel. Accordingly, licensees are requested to notify in writing the Telecommunications Branch, Office of Administration, Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Stuart Cohen, by close of business on July 6, 1981 of the availability of the following logistic support:

- . timely access for telephone company representatives to make a site survey and subsequently for installing station packages for the upgrade;
- . power for the station packages;
- . adequate cable facilities (cable pairs);
- . telecommunications planning personnel to serve as contacts during the modification;
- . a listing of each existing and proposed ENS station location based on generic name (e.g., Control Room, TSC, EOF, etc.), building name and address, room number (NOTE: Stations not identified by the NRC as required may be removed or not installed);
- . indication of any planned station moves or installations to be completed at the time of the ENS modification;

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- indication of any temporary ENS station locations and the expected date and building/room number for relocation to permanent locations;
- indication of anticipated problems in meeting a system upgrade start date of approximately August 1, 1981.

NRC will schedule actions to upgrade the ENS on a priority basis for those facilities where support is available and will coordinate closely with licensee contact personnel in resolving problems where the support is not planned to be available at the beginning of the upgrade implementation.

Enclosure 1 outlines in greater detail the nature of the upgrade and also the support facilities, which the NRC Staff presently considers necessary to implement the proposed changes in the ENS. A graphical representation of the configuration of the ENS upgrade is in Enclosure 2.

In view of the upgrade, modification of the ENS changes to the current ENS configuration should be held to an absolute minimum until the proposed upgrade is actually implemented. Requests for modifications to the current system configuration should be accompanied by a detailed justification and forwarded to the NRC Regional Office. Such modifications may be approved at the discretion of the NRC.

For your information, the NRC staff is developing a recommendation to revise NRC regulations to require use of the ENS as the primary means of reporting events and conditions specified in 10 CFR 50.72. This is already current practice.

This information collection is authorized by law under Section 161 of the Atomic Energy Act of 1954, as amended. While you are not required to respond, your cooperation is needed to facilitate the upgrade of the ENS to make it a more reliable system.

NOTE: The reporting requirements contained in this letter have been approved by the Office of Management and Budget; OMB Approval No. 3150-0068 (expires December 31, 1981).

Sincerely,

James G. Keppler
Director

Enclosures:

1. ENS Specifications
2. ENS Upgrade Configuration

OFFICE	RIII <i>for</i>	RIII <i>for</i>	RIII <i>for</i>	RIII <i>for</i>	RIII <i>for</i>	RIII <i>for ABD</i>	RIII <i>for</i>
SURNAME	Axelson/np	Paperiello	Hind	Heisler	Notelius	<i>for</i>	Keppler
DATE	6/19/81	6/19/81	6/19/81	6/19/81	6/19/81		6/19/81

SPECIFICATIONS FOR PROPOSED UPGRADING OF THE
EMERGENCY NOTIFICATION SYSTEM

A. Station Locations: ENS stations are to be located as follows:

Power Plants

Control Room
Shift Supervisor's Office (Optional)
Technical Support Center (TSC)
Emergency Operations Facility (EOF)
Resident Inspector's Office

Specific locations may vary due to site-specific conditions. The primary location at each power plant is the Control Room. The station package for the Control Room ENS will normally serve the TSC and may serve other extensions. This station package also serves the auxiliary packages for the site. It is designated the Main Control Package and is described in further detail in a subsequent paragraph.

B. Facility, Cable and Wiring:

1. Facilities: A four-wire facility (two cable pairs) will interconnect the serving Central Office to the main control package on site. An additional two cable pairs will interconnect the main control package to each onsite and offsite auxiliary package.
2. Station Wiring: Six cable pairs will interconnect with package (main or auxiliary) with each station. One additional wire will support each station equipped with an alarm or monitoring system (spokesman). This cable is to be terminated on a 25 pin amphenol connector.

C. Capacities:

1. Main Control Package:
 - To insure maximum system integrity, the main control package should be installed in the same building, and as close as possible, to the Control Room's ENS instrument.
 - A maximum of four stations can be fed off this package. Extension stations are limited to a cable distance of 100 ohms or approximately 1,000 feet from the main control package.
 - Typical stations---Control Room(s), TSC, Shift Supervisor's Office.

2. Auxiliary Packages (except ALT, E.O.F):

- A maximum of four stations can be fed by each auxiliary package.
- Normally, stations should be within 1,000 ohms or 10,000 feet of main control package.

3. Emergency Operations Facility (EOF or ALT. E.O.F.):

- A maximum of three stations can be fed off this package.
- No resistance or distance limits.

D. Physical/Hardware Considerations:

1. Main Control Packages:

- Equipment will be encased in an apparatus cabinet (16C case).
- Dimensions: 18 inches high
9 1/2 inches deep
26 1/2 inches wide
- Weight: approximately 80-90 lbs.

2. Auxiliary Packages--EOF, Resident Inspector's Office ALT. EOF:

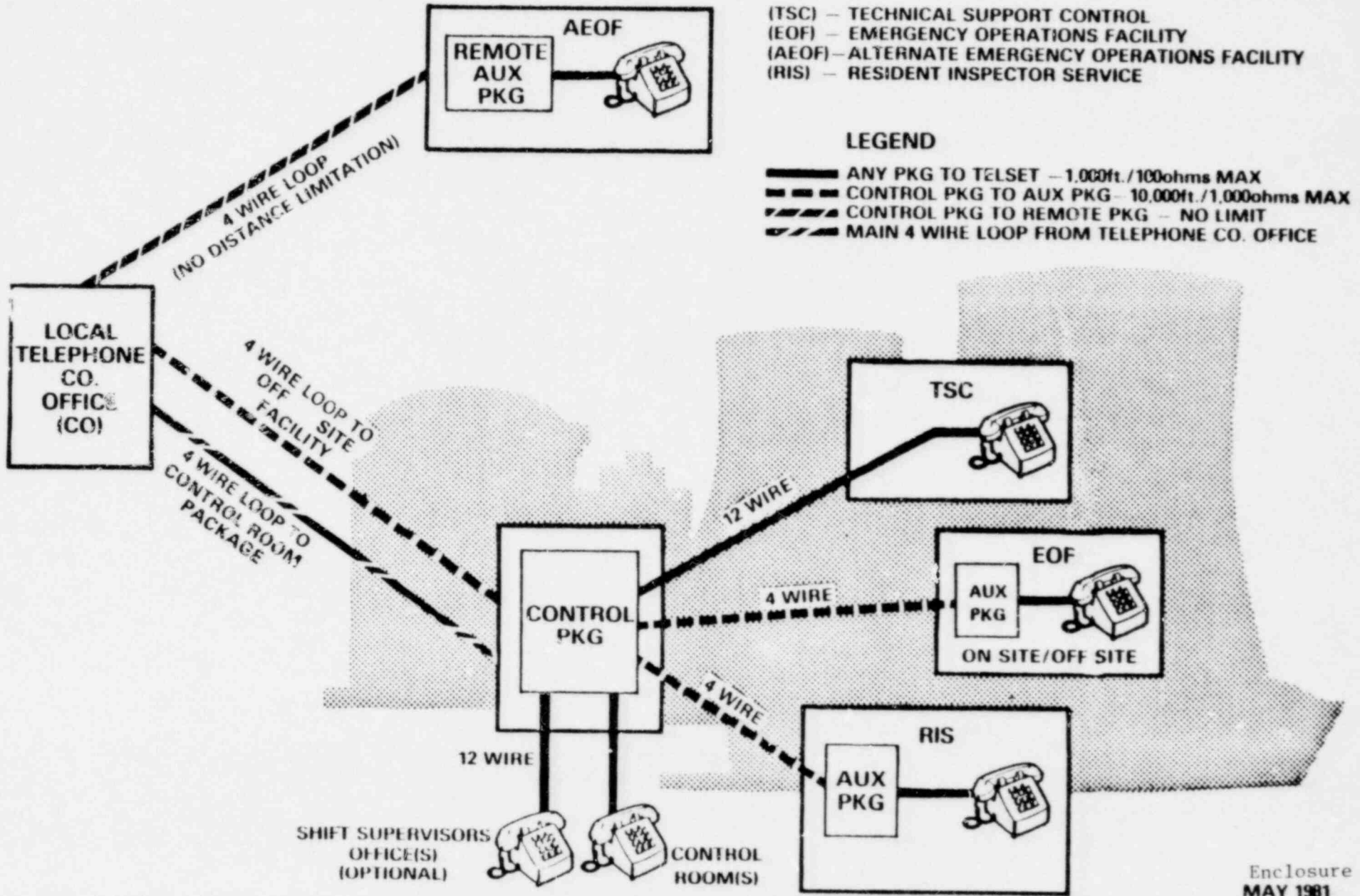
- Equipment will be encased in an apparatus cabinet (16C case).
- Dimensions: 18 inches high
9 1/2 inches deep
26 1/2 inches wide
- Weight: approximately 50 lbs.

E. Power:

1. The upgrade equipment cannot be powered at any licensed facility by the telephone company central office and requires access to local power.
2. Main control package: Two 110 volt, 60 cycle, 4 amp, A/C power outlets.
3. Auxiliary packages: One 110 volt, 60 cycle, 1 amp, A/C power outlet.
4. Protective Power: The Main Control Package will be located as near as feasible to the Control Room and will be served with

critical power of the same reliability as the Control Room itself. All other packages will be provided reliable power to the same degree as the facility which they support. No ENS station can operate unless the Main Control Package and (where applicable) the Auxiliary Package serving that station has power. Therefore, the power reliability, including back-up systems, should be the same for each ENS station package as for the continued operation of the facility itself.

EMERGENCY NOTIFICATION SYSTEM UPGRADE SAMPLE CONFIGURATION



(TSC) – TECHNICAL SUPPORT CONTROL
 (EOF) – EMERGENCY OPERATIONS FACILITY
 (AEOF) – ALTERNATE EMERGENCY OPERATIONS FACILITY
 (RIS) – RESIDENT INSPECTOR SERVICE

LEGEND

- ANY PKG TO TELSET – 1,000ft./100ohms MAX
- - - -** CONTROL PKG TO AUX PKG – 10,000ft./1,000ohms MAX
- CONTROL PKG TO REMOTE PKG – NO LIMIT
- MAIN 4 WIRE LOOP FROM TELEPHONE CO. OFFICE

Commonwealth Edison Company

Dresden 1, 2, and 3 (Docket Nos. 50-10, 50-237 and 50-249)
Quad-Cities 1 and 2 (Docket Nos. 50-254 and 50-265)
Zion 1 and 2 (Docket Nos. 50-295 and 50-304)
LaSalle 1 and 2 (Docket Nos. 50-373 and 50-374)

Detroit Edison Company

Fermi 2 (Docket No. 50-341)

Iowa Electric Light and Power

Duane Arnold (Docket No. 50-331)

Dairyland Power Cooperative

LACBWR (Docket No. 50-409)

Consumers Power Company

Big Rock Point (Docket No. 50-155)
Palisades (Docket No. 50-255)

Toledo Edison Company

Davis-Besse 1 (Docket No. 50-346)

Wisconsin Electric Power Company

Point Beach (Docket Nos. 50-266 and 50-301)

Wisconsin Public Service

Kewaunee (Docket No. 50-305)

Northern States Power Company

Monticello (Docket No. 50-263)
Prairie Island (Docket Nos. 50-282 and 50-306)

Cincinnati Gas and Electric

Zimmer (Docket No. 50-358)

American Electric Power Service

D.C. Cook (Docket Nos. 50-315 and 50-316)