



THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

P.O. BOX 5000 - CLEVELAND, OHIO 44101 - TELEPHONE (216) 622-9800 - ILLUMINATING BLDG. - 55 PUBLIC SQUARE

Serving The Best Location in the Nation

MURRAY R. EDELMAN

VICE PRESIDENT
NUCLEAR

September 26, 1985

PY-CEI/NRR-0356 L

Mr. B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Perry Nuclear Power Plant
Docket Nos. 50-440; 50-441
Control Room Control Cabinets
Fire Detection Provisions

Dear Mr. Youngblood:

Based upon a request from your staff, the following information related to control room panel/cabinet fire detection is provided to support the SER preparation.

Our letter, PY-CEI/NRR-0342 L, stated "Ionization detectors in the PGCC control room have been installed inside the terminating cabinets in accordance with NEDO-10466 Rev. 2, dated February 1979. Detectors have been provided in cabinets which contain redundant safety divisions." In the second instance, the use of the word cabinets actually refers to PGCC operations/control panels other than termination cabinets.

As noted by your staff, NEDO-10466 addresses locating detectors in the PGCC subfloor and within termination cabinets, but does not address detectors within the PGCC/operations control panel modules. Branch Technical Position BTP 9.5-1 states, "Smoke detectors should be provided in the control room, cabinets, and consoles." The staff interpretation of this statement is all cabinets, and it was not clear where Perry had detection.

Your staff indicated that if Perry has operations/control panels without detection, either detection must be installed or adequate justification presented for deviating from the Branch Technical Position. The following information has been prepared to clearly define our cabinet/panel fire detection arrangement and to distinguish between cabinet, panel bay, and console terminology. It will be shown that all control room panel/module assemblies and consoles are provided with smoke detection with the exception of three cabinets which are not safety related.

8510010276 850926
PDR ADDCK 05000440
F PDR

Booz
1/1

Discussion

The fire detection provided in the control room equipment cabinets has been designed for the detection of fire within a panel module assembly or termination cabinet.

The termination cabinets, located along the north and south perimeter walls of the control room, see Figure 1, are subdivided into bays by barriers. A heat and a smoke detector is provided in each termination cabinet within the upper plenum to sense a fire within any bay as required by BTP 9.5-1.

The interior PGCC panel modules are assemblies of signal conditioning and operator control and computer equipment panels mounted on the floor section assembly. The floor section assemblies are generally 27x8 feet with a 20x3 foot panel module assembly mounted in the center as discussed in NEDO-10466.

Within the panel module assembly there are steel barriers, to provide divisional separation within the panel module, creating one or more cabinets. Where detection is provided in the panel module assembly, a smoke detector and two heat detectors are installed within the 20x3 feet assembly, in a similar arrangement and spacing as the detection in the floor panel longitudinal ducts below. These detectors are located in a ventilation plenum at the top of the panel module assembly which will collect the heat and smoke generated in any individual subdivision of the assembly, via ports accessing the common plenum.

In the console area, there are smaller panel and floor section assemblies. Detection is provided for each assembly. The main console (panel, P680) is a single open assembly. Both heat and smoke detectors are located within this console as shown on Figure 1.

A new panel (P5001), under construction is being added for communications and will be a walk-in terminal board arrangement for telephone services connections. No safety related equipment is located within the panel and it is adjacent to a non-safety related panel P902. The adjacent panel contains detection. A fire originating in the communications panel would be detected by subfloor and ceiling detectors and could be extinguished without inflicting damage to safety related equipment.

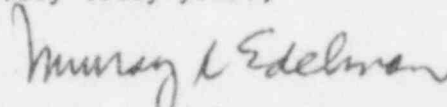
The panel module assembly on floor module U745 consists of cabinets P822 and P821. These cabinets contain non-safety equipment circuits associated with the main turbine generator control system. There are no safety-related circuits run beneath this module assembly. A fire within the cabinets of this module assembly would be detected by the smoke detectors located at ceiling level which is about five feet above the cabinets and/or by detectors below the floor panels. This will allow for detection of a fire before it exposes cabinets with safety-related equipment. Additional detection within the cabinets would not significantly add to the protection of safety-related equipment.

Summary

The detection capabilities provided by the heat and smoke detectors installed in the control room cabinets and consoles will provide a prompt indication of a fire within any individual bay of those cabinets. Both heat and smoke detection has been provided for all termination cabinets and all panel/module operations assemblies with the exception of three (3) non-safety related panels previously described. These three exceptions do not present a hazard to safety related equipment and do not require additional fire detection measures.

Should you have any additional questions, please call us.

Very truly yours,

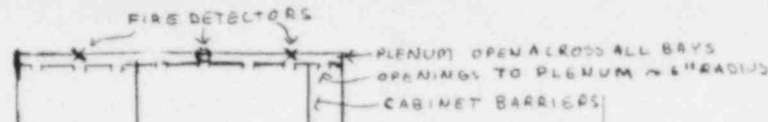


Murray R. Edelman
Vice President
Nuclear Group

MRE:njc

Attachment

cc: Jay Silberg, Esq.
John Stefano (2)
J. Grobe



DIVISION 1 (YELLOW) D1
 DIVISION 2 (BLUE) D2
 DIVISION 3 (GREEN) D3
 DIVISION 4 (ORANGE) D4
 NON-DIVISIONAL (GREY) N

No detection
 P 312
 P 321

SECONDARY
 ALARM
 STATION

Fig 1