REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:7912310365 DOC.DATE: 79/12/27 NOTARIZED: NO DOCKET
FACIL:50-263 Monticello Nuclear Generating Plant, Northern States 050002
AUTH.NAME AUTHOR AFFILIATION 05000263
MAYER,L.O. Northern States Power Co.
RECIP.NAME RECIPIENT AFFILIATION
DENTON,H.R. Office of Nuclear Reactor Regulation

SUBJECT: Forwards design info re installation of fire detectors, Ionization-type detectors will be installed to detect fires in closed cabinets in control room.Drawing showing detector placement encl.

DISTRIBUTION CODE: A006S COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 4
TITLE: Fire Protection Information (After Issuance of OP. Lic.)

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
ACTION:	05 BC ORB #3	4	4			
INTERNAL:	01 REG FILE	1	1	02 NRC PDR	1	1
	09 I&E	2	2	11 TA/EDO	1	1
	12 AUXIL SYS BR	2	2	14 PLANT SYS BR	5	5
	19 WAMBACH	1	1	20 MURANAKA,R	1	1
	OELD	1	0			
EXTERNAL:	03 LPDR	1	1	04 NSIC	1	1
	22 ACRS	16	16			

JAN 3 1980

TOTAL NUMBER OF COPIES REQUIRED: LTTR 37 ENCL 36

KB
MA4

NSP

NORTHERN STATES POWER COMPANY

MINNEAPOLIS, MINNESOTA 55401

December 27, 1979

Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Fire Detection System Installation
Details Required by Fire Protection Safety Evaluation

Section 3.1.1 of the Monticello Fire Protection Safety Evaluation Report issued by the NRC Staff on August 29, 1979, contains our commitment to install fire detectors in various areas of the plant. The purpose of this letter is to supply the Staff with design information relating to this modification.

To satisfy the requirements of Section 3.1.1.A.(1), it is proposed to install ionization type fire detectors in areas of the control room not readily visible from the area in front of the console. The detectors are battery powered and U.L. listed. They will be located within closed cabinets and in the area above open cabinets to detect fires originating within a cabinet or console. Refer to the attached figure. The audible alarm at each detector location will be sufficient to alert the operators and identify the fire location.

Installation of detectors required by Sections 3.1.1.A(2) through (20) is nearing completion. The requirements for these detectors were established prior to the release of the NRC Fire Protection Safety Evaluation Report. A description of the new detection systems is attached.

Please contact us if you require additional information related to these modifications. To permit us to complete the control room installation on schedule, we request that NRC Staff comments related to the proposed design be conveyed to us by March 1, 1980. In-situ testing of the detector systems will be conducted. A summary of the test results will be provided for NRC Staff review about June 1, 1980.

L. O. Mayer

L. O. Mayer, PE
Manager of Nuclear Support Services

A006
S
1/1

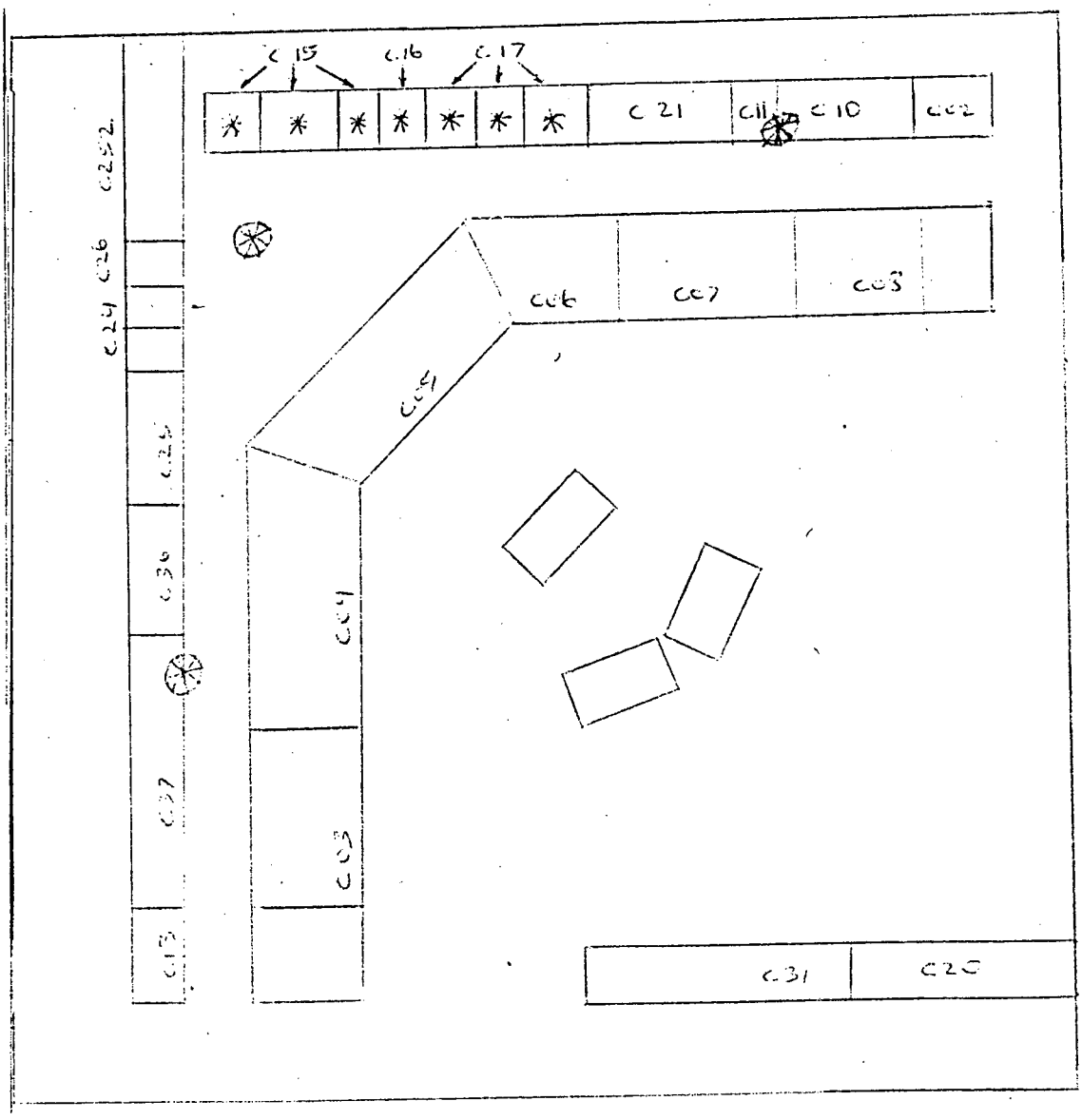
cc: J. G. Keppler
G. Charnoff

Attachments

F 7912310 365

Attachment (1)
Director NRR
December 27, 1979

Monticello Control Room - Proposed Fire Detector Installation



✱ Cabinet mounted detector locations

✱ Ceiling mounted detectors

Attachment (2)
Director NRR
December 27, 1979

Monticello Nuclear Generating Plant - New Fire Detector Systems in Various Plant Areas

Fire detection systems have been installed in the following areas:

RHR & Core Spray Pump Rooms	Zones 1A & 1B
RCIC Room	Zone 1C
HPCI Room	Zone 1E
TIP Drive and RCIC Room Entry	Zone 2A
CRD HCU Areas	Zones 2B & 2C
MCC and SLC Areas	Zones 3B & 3C
Cooling Pump & Chiller Area	Zone 3D
Equip. Hatch Area	Zone 4A
Cooling Water Heat Exchanger Area	Zone 4B
Refueling Floor	Zone 6
Battery Rooms	Zones 7A, 7B, 7C
ESF MCC Areas	Zones 13C & 19B
Diesel Generator Rooms	Zones 15A & 15B
Day Tank Rooms	Zones 15C & 15D
Reactor Building 1001' elev. South	Zone 5A
Reactor Building 1001' elev. North	Zone 5B
Turbine Building Cable Chase 931' elev.	Zone 16
Turbine Building Cable Chase 941' elev.	Zone 17
Makeup Demineralizer Area	Zone 19A
Turbine Building Cable Penetration Area	Zone 19C
Heating Boiler Room	Zone 20

The equipment installed is manufactured by Pyrotronics, Inc. and consists of the following items:

CTZ-1 and CTZ-2 Control Panels
DIS-5B Ionization Detectors
DFS-10 Flame Detector
DTC-200P Thermal Detector
BAC-10S and BAC-6S Alarm Bells
RAL-2 Remote Alarm Lamps
Zonalert I Annunciator System

The CTZ-1 and CTZ-2 control panels are mounted near the protected areas. The detectors and local alarm bells are controlled from these panels. The alarm and trouble outputs of the CTZ panels are connected to the Zonalert annunciator panel located in the control room. The Zonalert panel provides separate alarm and trouble annunciation, and has its own audio system.

Each zone is annunciated on the Zonalert panel by a dual-indicator lamp/switch assembly (alarm and alarm silent lamps and alarm silent switch). The Zonalert I system utilizes separate annunciator, logic, audible alarm and power supply panels. Each zone is connected to sensing devices (CTZ panels) by a two conductor, supervised cable.

When a sensing device, connected to an input zone sensing circuit is actuated, the associated alarm indicator will flash and the audible alarm will be actuated. When the associated alarm silent switch is depressed, the audible alarm will be silenced, the alarm indicator will be in a steady-on state and the silent indicator will be on. The alarm-initiating device can be of the momentary type as the Zonalert alarm circuit will lock-in and hold the signal. If another zone alarm is actuated, it will

override the audible alarm silent condition. All alarm annunciation will be locked in until the reset switch is depressed.

A trouble condition, caused by a fault in the sensing circuit or initiated by the trouble output of the CTZ panel, will give a trouble indication. The silent indicator will flash and the audible alarm will be acutated. When the associated alarm silent switch is depressed, the audible alarm will be silenced and the silent indicator will be in a steady-on state. All trouble annunciation will be locked-in until the reset switch is depressed.

Power to the Zonalert and CTZ panels is supplied from instrument AC which includes a backup source from the diesel generator. As a part of this modification, the existing detection system alarms for the cable spreading, SBGT, switchgear and intake structure areas have been connected to the new Zonalert annunciator.

The new system complies with the NFPA 72D standard on proprietary protective signaling systems.

Ionization detectors (Model DIS-5B) are used in all areas except the diesel generator and day tank rooms and the heating boiler room. In the diesel generator and day tank areas, flame detectors (Model DFS-10) are used since they provide more rapid detection of the rapidly developing fires that would be expected in these areas. In the heating boiler room Pyrotronics DTC-200P rate compensated/fixed temperature thermal detectors are used. The fixed temperature setpoint is 200°F.

In general, each zone to be protected has a separate alarm indicator on the control room Zonalert panel. Exceptions are the battery rooms and the diesel generator/day tank areas. A fire in any battery room will initiate a common alarm; the location of the fire may be determined by the RAL-2 remote alarm lamps located at each battery room door. The light will be illuminated when the detector for the associated room has operated. For the diesel generator area, each engine room and its associated day tank room have an alarm, and, therefore, an inspection would be required to determine if the fire was in the engine room or day tank room.

Detectors are located in each area as specified by the detector supplier. The locations will be verified by in-situ testing.

The system will be expanded to include detectors in the torus compartment, east and west access areas, and fuel pool cooling pump area of the reactor building (Item 3.1.1.A.(6) of the Fire Protection SER).