Nebraska Public Power District

GENERAL OFFICE
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June 28, 1979

Director, Nuclear Reactor Regulation
Attention: Mr. Thomas A. Ippolito, Chief
Operating Reactors Branch No. 3
Division of Operating Reactors
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Fire Protection Modifications
Cooper Nuclear Station
NRC Docket No. 50-298, DPR-46

Dear Mr. Ippolito:

The Fire Protection Safety Evaluation Report (SER) for Cooper Nuclear Station, issued May 23, 1979, requested that Nebraska Public Power District provide design information regarding specific fire protection modifications 90 days prior to actual implementation. In response to this request enclosed please find summaries of the following:

Enclosure	Minor Design Change No.	Subject
1	77-15-V	Sprinkler Protection for Cable Chase in Turbine Generator Building (corresponds to SER section 3.0, item 3.6)
2	79-10	Fire Pump Discharge Header Isolation Valve (corresponds to SER section 3.0, item 3.27)
3	79-13	Fixed Foam Fire Protection and Wet Pipe Sprinkler Systems for Diesel-Driven Fire Pump (corresponds to SER section 3.0, item 3.3.1)

Since the complete design change packages may contain information of special interest to the actual reviewers, two copies of the complete design change packages are being forwarded to Mr. Robert T. Dodds, Nuclear Regulatory Commission, Region V. The complete design change packages are also available at Cooper Nuclear Station for review.

Design changes 77-15-V and 79-10 are either complete or partially completed at this time; therefore, they cannot be submitted for review prior to implementation.

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The Staff's prompt notification of any comments, or lack of comments, regarding the enclosed modifications will be most helpful in meeting the implementation schedule established in the SER. If no response is received from the Staff within the specified 90 day period, the District will proceed with implementation of the modifications. No Technical Specification changes are required in conjunction with the three enclosed design changes.

If you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

Jay M. Pilant
Director of Licensing
and Quality Assurance

JDW/cmk

Enclosures

cc: Mr. Robert T. Dodds
Nuclear Regulatory Commission, Region V
Office of Inspection and Enforcement
1990 California Boulevard, Suite 202
Walnut Creek, CA 94596

Summary of
MDC 77-15-V
Sprinkler Protection for Cable Chase in
Turbine Generator Building

I. DESCRIPTION

This MDC is written to provide automatic wet pipe sprinkler protection for the electrical cable chase in the turbine generator building. This chase is bounded by column lines G&H, lies just north of column line 15 and exists for two stories above the 903' elevation. Besides covering the horizontal and vertical cable trays in the cable chase one sprinkler is being placed over the suspended ceiling at the top of the Document Storage Room stairs. Three additional heads are also being placed over the trays at the east end of the chase.

This MDC requires more annunciation windows than are currently available in the existing panels in the control room. A new annunciator panel will therefore be added under this design change.

The new annunciator panel to be added in the control room fire panel will be RIS Type AN-100, 36-point solid state Visual Annunciator System with all points active. This will match the existing equipment presently installed in the control room. The entire integral annunciator will be mounted in a custom steel enclosure 16" high which mounts on top of the existing panel. Access to the logic and input terminals shall be via a plate on the rear of the enclosure which may be unbolted when access is needed.

The installation of the new panel will require installing 16 jumpers between the existing panel and the new panel, running 125VDC power through new fuse blocks to the panel, and installing an auxiliary electrical device.

II. JUSTIFICATION

This cable chase contains many cables which are important for safe and efficient operation of the station and therefore should be protected by an approved fire protection system. The NELPIA Property Damage Inspection report dated January 2, 1976, recommends in their item No. 76-1 that this protection be provided. Their original recommendation was that an automatic zoned open head, water spray sprinkler system actuated by approved products-of-combustion type detector be provided, but after consultation with the District's fire protection engineer and further work with the NELPIA representatives, (now American Nuclear Insurers) it was determined that a closed head wet pipe automatic sprinkler system would be preferable and it has therefore been designed that way. The wet pipe system will cost less, require less maintenance because of its simplicity and be more reliable than the original NELPIA System and it should give more positive actuation since it will not be as subject to the unusual air currents which may occur in this area.

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The single sprinkler placed over the document storage room was recently requested by ANI. By installing this head ANI will drop the requirement that the new block wall between the Document Storage Room and the cable chase be extended to the ceiling. The additional sprinklers over the east end will provide coverage to the few remaining unprotected cables in this area which continue on into the cable spreading room.

The cable trays being protected contain cables associated with the systems listed below.

Cable Designations

Annunciators
Instrument Transmitters
Computer
DC Power - Divisions I & II (Essential)
Feedwater Control System
Control Drive & Reactor Manual Control System
Main and Auxiliary Transformers
Turbine
Switchyard Unit 1
Diesel Generator Divisions I & II (Essential)
480 V Substation 1A - Division I
480 V Substation 1B - Division II
4160 V Switchgear 1A - Division I
4160 V Switchgear 1B - Division II
4160 V Switchgear 1C - Division I
4160 V Switchgear 1D - Division II
4160 V Switchgear 1E - Divison I & II
460 V Motor Control Center A - Division I
460 V Motor Control Center C - Division I
460 V Motor Control Center F - Division II
4160 V Critical Switchgear 1G - Divisions I & II (Essential)

The only calculations required are the load analysis for the piping hangers, an electrical circuit load analysis and a seismic analysis of the fire protection cabinet in the Control Room. Copies are attached at the end of the MDC.

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Summary of
MDC 79-010
Fire Pump Discharge Header Isolation Valve

I. DESCRIPTION

This MDC describes the method for installing an isolation valve in the fire pump discharge header. This will allow for an alternate flow path in the unlikely event of a single break in this header.

II. JUSTIFICATION

In the event a single break occurs on the fire pump discharge header, there is no means provided at present to split the header and still provide a flow path from the fire pumps to pressurize the fire protection system. This fire protection system addition will provide the required isolation valve to prevent the complete loss of the fire protection system.

Summary of
MDC 79-13
FIXED FOAM FIRE PROTECTION & WET PIPE SPRINKLER SYSTEMS
FOR DIESEL-DRIVEN FIRE PUMP
INTAKE STRUCTURE

I. DESCRIPTION

This MDC is initiated to provide automatic fixed foam fire protection and a wet pipe sprinkler system for the diesel-driven fire pump in the intake structure. The wet pipe sprinkler system will serve as a redundant system. Each system will have an independent feed of water supplied from downstream of the existing fire protection system duplex water strainers (S-182 & S-183). Currently, no fire protection equipment is installed in this area.

II. JUSTIFICATION

The diesel-driven fire pump is located in the same room as the two electric motor-operated fire pumps and the four service water pumps (safe shutdown system). A diesel fuel oil spill and subsequent fire could incapacitate all of the above pumps. Therefore, the diesel-driven fire pump area should be protected by an automatic fixed foam fire protection system and automatic wet pipe sprinkler system as a backup. This condition was reported to the Nuclear Regulatory Commission (NRC) on Page D-1 of the "Fire Protection Review to Appendix A to Branch Technical Position APCSB 9.5-1" which was transmitted on December 17, 1976. On October 10 through 13, 1978, a NRC staff fire protection review team visited the Cooper Nuclear Station (CNS) and recommended the installation of an automatic fixed foam suppression system with an automatic wet pipe sprinkler system as a backup. On December 11, 1978, Nebraska Public Power District committed to the NRC request.

Calculation sheets for the hanger design are included with this MDC. No other calculations are required.