NSP

NORTHERN STATES POWER COMPANY

MINNEAPOLIS, MINNESOTA 55401

December 5, 1975

Mr. J G Keppler
Direction, Region III
Office of Inspection & Enforcement
United States Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

MONTICELLO NUCLEAR GENERATING PLANT
DOCKET NO. 50-263; LICENSE NO DPR-22

In response to IE Bulletin 75-04B, reports of fire protection inspections conducted by non NRC groups since March 22, 1975 are submitted along with our position with respect to the recommendations resulting from these inspections. Also included in this response is a description of the numerous fire protection inspections and equipment checks conducted on a scheduled basis by Northern States Power Company personnel. This description is included to give a complete picture of the fire protection practices in effect at our Monticello Plant.

We believe that your request for such inspection reports is most inappropriate in that it solicites judgements from an organization not competent to evaluate nuclear hazards, and whose principal interest is loss claim limitation and profitability of the insurance carrier without regard to costs to the insured. This places the NRC in the position of intruding into and requiring disclosure of commercial material relating to insurance premium rate economics. The requested information is nevertheless provided here with our reliance on NRC prudence in the use and disclosure there of.

I. Inspections By Non NSP Groups

A. Nuclear Energy Liability Property Insurance Association inspection report dated August 6, 1975 (Attachment #1).

Response To Recommendations 69-22

The recommendation for automatic wet sprinklers in the areas listed was rejected on the basis that the fire protection in these areas is adequate as presently installed and the additional protection provided by automatic sprinkler systems did not justify their cost.

The auxiliary boiler is not a safeguard system and is housed in a room separated from the main power block by a wall and door. The emergency diesel generators are safeguards equipment, but are redundant and designed to meet single failure criteria to include adequate separation for fire protection. The units are housed in separate rooms with a properly designed fire door in the adjoining wall. The fuel "day" tank for each engine is placed in a room designed for fire protection which connects to the diesel engine room through a properly designed fire door.

Automatic fire detection devices which alarm in the plant control room are provided in all these areas so that any fire will be rapidly attacked.

Response To Recommendation 69-23

When Monticello was constructed it was the policy of Northern States Power Company to fight turbine fires using hose stations equipped with fog nozzles and portable equipment. This position was taken because of the potential for accidentally activating any fixed spray system and the destruction that would result from spraying cold water on a hot turbine. This recommendation to provide automatic spray systems on the turbine generator was rejected in the belief that accidental discharge of an automatic spray system on a steam turbine is a much greater probability than is a fire and that such a discharge would be as costly as a fire in terms of equipment damage and resulting loss of generation. The turbine-generator is not safeguards equipment and design of the safety related portions of the plant took into account all possible turbine accidents including a fire.

Response To Recommendations 69-25 & 69-

Cable trays are abundant in every area of the station and the potential for fire in these trays was addressed and dealt with in a number of ways during plant design and construction.

1. Fire retardant covering was specified on most cables with special attention to those serving safeguards equipment.
2. Cable tray fill was monitored to assure that electrical losses from the cables do not cause overheating in the trays.
3. Power cables and control cables were routed in separate trays.
4. Cable tray separation providing adequate ventilation was a criteria throughout the plant while separation of the trays for redundant safeguards trains were designed to adequately satisfy single failure criteria. Section 8 of the Monticello FSAR describes the Monticello design in this area.
5. The design objectives were satisfied by providing detectors for fire alarm in this room and by providing portable CO_2 fire fighting equipment outside each entrance door.
6. Horizontal trays are covered in areas where sparks from above could potentially become an ignition source and vertical trays are sealed using fire retandant material at each floor elevation.

7. Fire alarm systems are installed in potential fire areas throughout the plant for warning of fire, hose stations and portable extinguishers are spotted throughout the plant for fighting any fires that may start.

With the precautions already taken as listed above, the recommendations 69-25 and 69-31 were rejected as being too costly for the added incremental protection they would provide.

B. Nuclear Energy Liability Property Insurance Association inspection report dated September 26, 1975 (Attachment #2).
Response to recommendations:

Fire protection

1. The use of water spray in the cable spreading room was evaluated and rejected during the design of the plant. The design objectives were satisfied by providing detectors for fire alarm in this room and by providing portable CO_2 fire extinguishers outside each entrance door. Having installed the above equipment in addition to the use of fire retardant cable, limited tray fill and all the other precautions already enumerated, the fire protection in the cable spreading room is considered adequate.

2. Since recommendation 1 was not implemented, the first part of this recommendation is unnecessary. The last portion is already in effect through the station work request authorization process.

3. Not applicable.

4. This recommendation is in effect by means of surveillance test #1116 semi-annually.

5. Responded to above for previous inspection responses to recommendations 69-25 and 69-31.

Training

1. Such a plan is in effect in the Monticello emergency plan.

2. This training is presented periodically by personnel from the General office as part of the plant retraining program.

3. The annual reviews of the Monticello emergency plan provides this recommended familiarization for key people of the fire department. Additional familiarization is not considered necessary in that any fire fighting crew entering the plant would be escorted in keeping with our radiation safety procedures.

4. Inspections addressing this concern are conducted by the plant operating staff and will be described later in this report. We judge this coverage to be adequate and intend no special inspection to respond to this recommendation.

5. We conclude that the implication of this recommendation would provide no more assurance that the plant is in a "fire safe" configuration than is now provided by existing administrative procedures, tests, inspections, and reports. It would serve no purpose, but to consume more administrative time and generate more paper. The recommendation is rejected.

6. Responses to recommendations 1 and 2 in this section respond to this item. The Monticello emergency plan is presently constructed to respond to the kind of situation alluded to here.

7. Noted and will be completed.

Fire Detection

1. Design is in progress to respond to this recommendation.

2. Noted

3. Noted - semi annual surveillance is now conducted.

Floor Penetrations

1. This concern was addressed and NRC was informed of action taken by our response to IE Bulletin 75-04A dated June 23, 1975. No further action is planned.
2. Noted and agree.

3. The statement is true.

Self Contained Breathing Apparatus

1. Recommendations noted and implemented.

Redundant Circuits

1. The plant was designed to achieve redundant circuit separation as described in Section 8 of the Monticello Final Safety Analysis Report. During construction, inspections assured that the design criteria were implemented. We do not believe it is necessary at this time to expand tha man hours required to reevaluate this large segment of the plant.

Watchman Service

1. Watchman are not fire inspectors, but are contracted to provide industrial security. Plant operator activities fulfill the needs of this recommendation inside the plant facilities.

II. Inspections & Surveillance Tests Performed By Plant Staff

A. Smoke detector surveillance test (semi annual).
A test to assure that all detectors in the cable spreading room function properly and alarm at recommended settings.

B. Fire Protection System Test (monthly)
A test to assure that the fire pumps start to maintain proper operating pressures on the fire protection system header.

C. Fire Protection System Diesel Operation Test (weekly)
A test to assure proper operation of the diesel driven fire pump engine.

D. Cooling Tower Sprinkler Test (semi annual).
A test to demonstrate that the sprinkler system for the cooling towers functions properly.

E. Transformer and Building Wall Deluge Test (semi Annual).
A test to demonstrate that these deluge systems function properly.

F. Inspection of Plant Hose Stations and Portable Fire Extinguishers (monthly).
A check to assure that this equipment is in operable condition.

G. Several one time inspections were conducted at the request of NRC in IE Bulletin 75-04A. Recommendations implemented as a result of those inspections are documented in our response to IE Bulletin 75-04A, dated June 23, 1975 and in monthly update reports for that bulletin dated July 1975, August 1975, September 1975, October 1975, and November 1975.

Yours very truly,

L J W by D H Neis

L J Wachter, Vice President
Power Production & System Operation

LJW/kd

cc: R S Boyd
G Charnoff

NUCLEAR ENERGY LIABILITY | PROPERTY INSURANCE ASSOCIATION

The Exchange, 270 Farmington Ave., Suite 323
Farmington Ave., Farmington, Conn. 06032

RTY DAMAGE
ECTION REPORT
conferred with
Peterson-NSP Ins.Dept.
Anderson-NSP Engr.

Property of NORTHERN STATES POWER COMPANY
MONTICELLO NUCLEAR GENERATING PLANT
MONTICELLO, MINNESOTA 55362

CONFIDENTIAL
This report should be made available only to authorized persons.

File No. N-163 (75-0)
Key File No N-163
By P.A. Schuman
Date Aug.6,1975 Hrs. 8

SPRINKLERS: Are mostly adequate.
VALVES: Are sealed.
WATERFLOW ALARMS: Local & proprietary
SUPERVISORY COVERS: Waterflow,valves, smoke detectors, pump alarms
PLANT OPERATION: Continuous
WATCHMAN SERVICE: is satisfactory
ROUNDS: Hourly-recorded outside areas only.
PORTABLE FIRE EQUIPMENT: is adequate.
RECORDED SELF-INSPECTIONS: Monthly-Good
PRIVATE FIRE BRIGADE: Skeleton-Few work at one time
PUBLIC FIRE DEPT: Fair-Vol.
WATER SUPPLIES: Good
PRE-EMERGENCY ORGANIZATION: Good
RADIOACTIVE WASTE HANDLING: Good
CRITICALITY CONTROL: Good

IMPAIRMENT NOTIFICATION: Yes RED TAGS USED? No
WELDING & CUTTING: Good TAGS USED? No
ELECTRICAL EQUIPMENT: Good
MAINTENANCE: Good
CLEANLINESS: Good
SMOKING: Is controlled.
NATURE OF RISK: Nuclear Generating Plant
PRODUCT: Electric Power
CONSTRUCTION: Poured reinf.concrete, metal walls in Turbine Building
NUCLEAR CONTAINMENT: Primary & secondary,good
SPECIAL HAZARDS: Reactor, Nuclear Fuels, Turbine Oils,Hydrogen, cooling towers, well cared for.Oiltrans.well cared for.Diesel generators,turbine bearings,cable trays-Fairly well cared for.
ARLA MONITORING RECORDS: Good
RADIOISOTOPE HANDLING: None
REACTOR TYPE: Boiling Water
THERMAL POWER RATING: 1670 MW

If there are any questions concerning the recommendations on this report or you have alternate solutions for them, please contact us.

PRIOR RECOMMENDATIONS AND COMMENTS

Recommendation 74-1 is completed; the diesel pump was found to not need overhauling, but the others have been rebuilt. The cause of the erosion of the pumps has been rectified, and additional work on the pumps is not expected to be needed for a number of years.

Consideration of lessons learned from the loss of Brown's Ferry has resulted in additional protection being provided for cable penetrations at fire walls and floors.

Pre-emergency planning is being revised at the plant and additional training is being given employees on fire fighting.

New Recommendations - None

WATER SUPPLIES					TEST RESULTS						
					G.P.M.	Flow Location	Static	Resid.	Pres. Location		Tested:
Fire Dept. Conn None											
E PUMP ACITY P.M.	HEAD RATING	DRIVE	AUTO. MAN.	SUCTION SOURCE	Shutoff Pres.	G.P.M.	Disc. Pres.	R.P.M.	SUCT. PRES SLIP	Cond.	Tested:
00	104	Diesel	Auto.	River-Unlimited Supply	135	1960	65	1770	-9	Good	8-22-74PAS
00	100	Elec.	"		128	2065	60	1760	-2½	"	" "
00	100	Elec.	"		125	1850	65	1760	-2½	"	" "
											Highest Spr. 48 ft.

Recommendations Continued from Previous Report

69-22 (Revised 11-72) Provide approved automatic sprinklers on a wet pipe system in the Emergency Diesel Generator Rooms, the Fuel Tank Rooms for the diesel generators, and the Auxiliary Boiler Room. As a minimum for the Auxiliary Boiler Room, provide sprinklers over the firing end of the boiler. (Do not plan)

69-23 (Revised 5-16-72) Hydraulically designed automatic water spray systems of proper density utilizing directional solid-cone spray nozzles controlled by an approved preaction, wet pipe, or deluge valve, should be provided for:

b - Governor, oil lines and bearings of the turbines and generator. (Do not plan to do)

69-25 Sprinkler protection should be provided for major cable tray installations. In lieu of sprinklers, approved fixed pipe carbon dioxide protection with connected reserve may be provided in confined areas such as the Cable Spreading Room. (Do not plan to do; now have smoke detectors in Cable Spreading Room)

69-31 The Electrical Penetration Rooms should be provided with closed head sprinklers, water spray or carbon dioxide protection as applicable. (AEC criteria met, do not plan further protection.)

NUCLEAR ENERGY LIABILITY | PROPERTY INSURANCE ASSOCIATION

BURT C. PROOM, CPCU
General Manager

September 26, 1975

Mr. C. L. Quinn, Assistant Vice President
Marsh & McLennan Inc.
1515 Northwestern Bank Building
Minneapolis, Minnesota 4 55402

Dear Sir:

NORTHERN STATES POWER COMPANY
MONTICELLO NUCLEAR GENERATING PLANT
MONTICELLO, MINNESOTA
NEL-PIA FILE NO. N-163

A special visit has been made to the above facility by our field staff in accordance with NEL-PIA Information Bulletin of May, 1975. The visit was conducted to discuss fire protection and prevention with specific reference to your clients cable systems in view of the T.V.A. Brown's Ferry Station' fire.

The following recommendations are submitted as a result of this visit and will appear on the NEL-PIA Report following the next regular inspection. Please review these items with your client at your earliest convenience. If further information or clarification is required, do not hesitate to contact us.

Recommendations 69-25 and 69-31 on our current Property Damage Inspection Report calling for cable protection will be revised to reflect our current position on these hazards.

Recommendations

FIRE PROTECTION

1. A standard installation of open head water spray sprinklers controlled by an automatic deluge valve and products of combustion actuated detectors should be provided in the Cable Spreading Room. The deluge valve should be located outside of the room and connected to the station's annunciator system.

   OR

   If due to the presence of cabinets in this room containing many critical relays, the installation of sprinklers is not acceptable, an approved carbon dioxide or Halon 1301 system should be installed and arranged to operate automatically upon actuation of the ionization detection system.

2. The ventilation system in the Cable Spreading Room should be arranged to shutdown whenever the extinguishing system is discharged. A written procedure and permit system should be adopted that would require employees to obtain written permission to impair fire protection equipment.

3. An acceptance test of the fire protection system including a complete discharge, should be conducted and witnessed by the installer and a NEL-PIA representative.

4. An investigation into the sensitivity adjustments of the ionization detectors should be made to ascertain that they will initiate a signal without any delay upon sensing gases given off by overheating or burning insulation encountered in areas where these detectors have been or will be installed to detect incipient fires.

5. In conjunction with the recommended water spray sprinklers for the Cable Spreading Room, similar protection should be provided over the cable trays elsewhere throughout the plant where stacked levels of cables are located.

TRAINING

1. Establish and maintain a complete "Pre-Planning for Emergency" program.

2. This should include the providing, equipping and training of a plant fire brigade to be used in the event of an emergency.

3. Familiarize the public fire department with the plant layout, operations and protection facilities on a yearly basis so the municipal fire department personnel will have adequate knowledge of the location of the hazards, and best methods of fighting a fire in this Plant.

4. Conduct thorough and recorded self-inspections of the plant and fire protection equipment to eliminate, as far as possible, all sources of ignition and minimize the spread of fire in critical areas containing combustible contents such as lubricating oil, cable insulations etc.

5. Any planned impairment to the fire protection equipment should be reported to the Minneapolis Office using PIA furnished impairment cards furnished for this purpose. In the event of an emergency shutdown of fire protection equipment a phone call should be made in addition to the mailing in of the impairment cards.

A summary of the above would include the following:

a) Impairment to fire protection such as defective equipment, shut off valves, electrical services, etc.

b) Self-inspection and deficiency correction.

c) Fire fighting procedures and plans of action.

d) Coordination of plans with the local fire department.

5. (contd).

   e) Salvage procedures related to fire and windstorm losses.

   f) Coordination with civil defense and police authorities.

   g) Welding and hot work supervision.

6. The emergency organization, of people trained in the use of fire protection equipment, should be trained for proper reaction to the worst conceivable emergency situation under the most unfavorable conditions that might exist at any given time.

7. It is understood that a check will be made of the municipal fire department equipment to determine that all threads on hoses, nozzles, etc. are compatible with those used on the plant site.

FIRE DETECTION

1. The exhaust fans situated in the roof of the turbine building which are now operated manually should be converted to full automatic operation by means of U.L. listed ionization type detection systems.

2. It is understood that a check will be made on the roof of the building to see that the intake for the fans in the cable spreading room and the control room are situated a sufficient distance from the exhaust so recirculation of smoke laden air to the building will not take place during a fire.

3. It is understood that a program will be set up to test the smoke detectors in the cable spreading room on a yearly basis using approved method as recommended by the manufacturer of the devices.

FLOOR PENETRATIONS

1. All foam plastic penetration seals should be removed and fire wall and floor openings through which electrical cables or conduits penetrate should be protected against the passage of flame and smoke by devices and constructions approved by MEL-PIA. Complete details of planned penetration fire barriers should be reviewed with MEL-PIA in advance.

2. Temporary wall and floor openings should be sufficiently sealed with a noncombustible material at the end of each working day to insure the fire integrity of the floor.

3. It is understood open flames are never used to check the installation, gas tightness and integrity of penetration seals.

10 CFR 2.790 INFORMATION

SELF-CONTAINED BREATHING APPARATUS

1. At present one Scott Air-Pak self-contained breathing unit is kept in the control room and it is recommended that an additional unit be installed in this room for use by the second man stationed in this area. It is understood that sufficient reserve air is maintained in the warehouse to maintain the six air-pak units on the premises for at least one hour of continued operation.

REDUNDANT CIRCUITS

1. It is understood a check will be made to determine the location of redundant circuits in the cable spreading room in relation to primary Class IE circuits. If it is determined that the redundant circuit would be jeopardized by burning cables in the room the redundant circuit should be separated from a primary Class IE circuits by a minimum three hour fire wall. If this is not possible to do, the redundant circuits in the room should be removed a sufficient distance within shielded trays so there will be no possibility of fire communicating from other burning cables to these critical circuits.

WATCHMAN SERVICE

1. At present the watchman tours the exterior of the building only and it is recommended that nights and weekends when total personnel is limited to five men on the site, the watchman's tours be expanded to include areas within the plant where combustibles are located thus creating a fire hazard.

Sincerely yours,

John J. Carney /s.v.

John J. Carney
Manager - Property

JJC/jam