U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report of Operations Inspection

IE Inspection Report No. 050-263/75-08

Licensee: Northern States Power Company
414 Nicollet Mall
Minneapolis, Minnesota 55401

Monticello Nuclear Generating Plant
Monticello, Minnesota

License No. DPR-22
Category: C

Type of Licensee: BWR (GE) 545 MWe

Type of Inspection: Special Announced

Dates of Inspection: April 23 and 24, 1975

Dates of Previous Inspection: April 2-4, 1975 (Radiological and Environmental Protection Branch)

Principal Inspector: F. Maura 5/8/75 (Date)

Accompanying Inspectors: None

Other Accompanying Personnel: None

Reviewed By: H. Dance 5/8/75 (Date)
Senior Reactor Inspector
Reactor Operations Branch

SUMMARY OF FINDINGS

Enforcement Action

None.

Licensee Action on Previously Identified Enforcement Matters

Not inspected.

Unusual Occurrences

None.

Other Significant Findings

A. Current Findings

None.

B. Status of Previously Reported Unresolved Items

Not inspected.

Management Interview

A management interview was conducted with Messrs. Larson, Plant Manager; Clarity, Superintendent Plant Engineering and Radiation Protection; Anderson, Superintendent Operations and Maintenance; and members of the licensee's staff at the conclusion of the inspection on April 24, 1975.

A. The inspector stated that none of the penetrations appear to have the approximate 2" thickness of Flamemastic stated by a Bechtel Corporation letter dated March 25, 1975. In fact some penetrations only have Flamemastic coating only a few mils thick. In view that the licensee no longer uses Flamemastic, but Pyrocrete, a Carboline product for which a minimum thickness of ¼" is recommended, the inspector requested that the licensee review the Bechtel's recommendation, reach a conclusion as to the required thickness, and implement a program to upgrade the present thermal barrier for all electrical penetrations.

   The licensee agreed to proceed with such a program. (Paragraph 3, Report Details)

B. The inspector noted that, using core spray pumps No. 11 and 12 as examples it appears that the separation criteria outlined in the FSAR for cables routed through the cable spreading room is being met. However, due to the lack of cable identification in the room considerably more effort would be required to confirm the condition. (Paragraph 6, Report Details)

C. The inspector stated that a review of the self contained breathing equipment at the site, in light of the problems experienced at another facility, revealed that the licensee should consider:

1. Whether an adequate supply of air to refill used containers exists and where to obtain refills after normal working hours, specially during weekends.

2. Training personnel, specially the members of the emergency or fire teams in the use of the Scott Rescue Pak.

The licensee stated the capabilities of the Monticello, Anoka, and St. Cloud Fire Departments in supplying breathing air refills to the site will be determined. Also a training program in the use of the Scott Rescue Pak will be carried out. (Paragraph 7, Report Details)

D. The inspector requested and the licensee agreed to generate guidelines to be used by the station on how to fight all types of fires and in particular when to use water on electrical fires. (Paragraph 8.b, Report Details)

REPORT DETAILS

1. Persons Contacted

C. Larson, Plant Manager
M. Clarity, Superintendent, Plant Engineering and Radiation Protection
W. Anderson, Superintendent, Operations and Maintenance
D. Antony, Plant Engineer, Operations
H. Nimmo, Maintenance Supervisor
M. Hammer, Instrument Engineer
R. Perry, Engineer

2. Construction Specifications

The specifications available at the site consisted of Bechtel Dwg M-636 Revision 0, issued for construction on February 13, 1970 and recent correspondence between the licensee and Bechtel Corporation. For all typical penetrations shown in Drawing M-636 Revision 0, the sealing material specified was polyurethane covered on both sides with Flamemastic 71A of unspecified thickness. The polyurethane used was made by Instafoam Products, Inc., and has a trade name Insta Foam Froth Pak. According to a recent letter (March 25, 1975) from Bechtel Corporation the Flamemastic thickness was approximately 2 inches. The licensee has recently switched from Flamemastic to Pyrocrete 102, a Carboline product, as thermal barrier. Carboline recommends a minimum thickness of 1/4 inch.

In addition to the construction drawings the FSAR, Section 8, describes the routing and physical barriers used to separate and protect redundant channels or systems.

3. Visual Examination

The inspector verified that:

a. All cable penetrations have been sealed as required.

b. The control room end of the penetrations have been reinspected by the licensee and where required a new coating of pyrocrete has been applied. The thickness appears to exceed 1/4 inch.

c. In the cable spreading room most penetrations are covered with Flamemastic, but a few show areas where the urethane is visible. Where applied the Flamemastic thickness appears to range from a thin coating up to approximately 1/2 inch.

d. In the reactor building most of the penetrations of cables going to the cable spreading room had very thin Flamemastic coating in the order of a few mils. Specifically penetrations P-117 thru P-120 had little or no thermal barrier covering the polyurethane sealing material.

e. The same typical deficiencies noted before existed in the turbine building penetrations.

f. In the battery room it was noted that all cables are enclosed in conduit and the penetrations are covered by conduit terminating in metal junction boxes.

g. Spare penetrations are filled with polyurethane and covered with Flamemastic.

h. Smoke detectors are installed in the cable spreading room and annunciate in the control room. The detectors are supplied with non-interruptible 120 V AC power.

i. A Cardox system does not exist at the site.

4. Maintenance and Modification Procedures

The licensee does not have procedures which specifically cover how a penetration is to be made, sealed or repaired. The licensee stated procedures for a particular job would b developed as needed and in accordance with their Administrative Con rol Directives No. 3ACD 4.2 Revision 1, Design Change Installation Procedure; and No. 3ACD 4.3 Revision 1, Design Change Preoperational/Operational Testing. The licensee did state that the Task Force will be considering the preparation of a specific procedure to cover the sealing and/or repair of cable penetrations. The inspector verified that the licensee has modified his list of critical equipment (AWI 3.6.1 Revision 2) to include cable penetrations in order to require a second level of review by plant management prior to the performance of any work on the penetrations.

5. Response to IE Bulletins 75-04 and 75-04A

The licensee had prepared a draft response to IE Bulletin 75-04 and had submitted it to his HQ. He was not aware whether the response had been mailed to IE, and if any changes had been made to the draft. Regarding Bulletin 75-04A the licensee was forming a Task Force to look into the Browns Ferry fire and the requirements of the Bulletins. The members of the Task Force had not been named as of the time of our inspection, therefore, the licensee's effort in the areas covered by IEB 75-04A were yet to commence.

6. Separation Criteria

The inspector attempted to physically determine whether the separation criteria outlined in the FSAR Section 8 had been applied. Core spray pumps No. 11 and 12 control cables were utilized as examples. Through the use of cable tray numbers, cable routing lists, etc. the path of each cable from the control room to the Rx Building was traced Physically, once the cables leave the control room, there is no marking which identifies the different cables found in each tray. Therefore, it can only be stated that if the cables follow the path noted in the reviewed drawings and schedules, then the separation criteria stated in the FSAR was met.

7. Self Contained Breathing Equipment

A review of the licensee's equipment available to enter areas of heavy smoke showed that:

a. There are six (6) Scott Air Packs and two (2) Scott Rescue Paks at the site.

b. Each air pack can supply breathing air for approximately 20 minutes and each rescue pack for approximately 4 hours.

c. There are six (6) breathing air cylinders used to refill the air bottles. Three were empty at the time of the inspection. Approximately 2 air pack bottles can be refilled out of each large cylinder, so that at the time of the inspection approximately 4 man-hours of working time were available.

d. The large cylinders are obtained at a commercial place located in St. Cloud (approximately 30 miles) or in Anoka (approximately 25 miles) and can be obtained only during normal working hours.

e. Although the licensee maybe able to refill the air cylinders at the Monticello, St. Cloud or Anoka Fire Departments no agreements exist with the Fire Departments for such service nor has the licensee determined to what degree such capability may exist.

f. For the Rescue Paks the licensee maintains ten (10) spare filters and two (2) oxygen bottles. Therefore, approximately 16 man-hours of use time were available.

g. Most plant personnel have been trained in the use of the Scott Air Packs, but very few in the use of the Rescue Pak.

8. Additional Findings

a. Although no procedures exist stating how penetration leaks are identified the licensee stated that no flame is ever used in the location of leaks, instead they use a smoke generator.

b. No procedures or guidelines presently exist covering how to fight the different classes of fire which may occur at the site.

c. A famability test of new polyurethane was conducted on April 23, 1975, by the licensee and inspector. The results were:

(1) The two fluids which comprise the Insta Form Froth Pak by themselves did not sustain combustion,

(2) the properly mixed solid polyurethane did not sustain combustion, but,

(3) an improperly mixed, solid polyurethane, which resulted when a defective valve in one of the canisters failed to operate properly, did sustain combustion.