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EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)80CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)80808080808080

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ATTACHMENT TO LICENSEE EVENT REPORT NO. 79-018/01T-0

Wisconsin Electric Power Company
Point Beach Nuclear Plant Unit 1
Docket No. 50-266

During refueling maintenance activities on October 25, 1979, it was observed by Maintenance personnel that the taping of the motor leads to the fan motors for the Unit 1 "C" containment recirculating fan was not in accordance with Westinghouse "Reactor Containment Fan Cooler" technical manual specification and Westinghouse drawing No. 206C391. The discrepancy was observed when the junction box was opened in an effort to relieve the seal-tight conduit interference with the plenum to allow work on the fan vibration isolator. There had not been a previous occasion requiring the opening of this box since plant construction.

A check of the other three containment cooling fan motors was performed on October 25, 1979. The investigation determined that none of the Unit 1 containment recirculating fan motor leads had been taped in accordance with the manual specifications.

A maintenance request was submitted to correct the discrepancy.

One of the materials specified in the Westinghouse manual, Dow Corning 899 compound, is no longer manufactured. It was determined, however, that this material was not required since its only use was as a filler between conductors when two conductors per phase were used. The Point Beach installation uses only one conductor per phase. The other required materials, Bishop #55C cement, 3M mica tape, Scotch #70 tape, and Permacel glass tape were all procured by November 8, 1979.

An inspection of the operating Unit 2 recirculating fan motor leads on November 2, 1979, revealed that these leads were not taped according to the original Westinghouse specification. An engineering evaluation of the taping was reviewed by members of the Manager's Supervisory Staff the same date to determine the continued operability of Unit 2.

The review determined that the Unit 1 containment fan cooler motor leads are spliced to the 480 V power supply conductors with bolted connections. These connections are then taped to provide electrical insulation. The tape which was used on the Unit 1 containment fan cooler motor leads is varnished cambric covered with a heavy black vinyl plastic electrical tape. While this taping method is acceptable for most purposes, it is not rated for operation at temperatures in excess of 105°C (221°F). The accident peaks at 280°F in about 18 seconds and then falls. The total time above 220°F is calculated to be just over 18 minutes.

It was noted that the subject leads are located in the discharge plenum of the fans and, because of this, the temperatures experienced would not rise concurrently with the containment temperature rise; humidity at this location would also be substantially lower than the general containment environment. Even if the tape were to deteriorate in the short time period peak temperatures might be experienced, the rigidity of the lugs and their spacing would make the possibility of flashover unlikely. Further, the low voltage, 480V, would also assist in minimizing the potential for flashover.

Additionally, it was noted that the two containment spray pumps were operable at all times. This system alone has adequate capability for 100% containment heat removal during accident conditions.

On the basis of (1) lug rigidity and spacing, (2) the low voltage application, and (3) the short term durability under overtemperature conditions of the presently installed tape, it was concluded that Unit 2 operation could be continued until such time as approved materials were available and retaping could be completed.

Unit 2 containment recirculating fan motors, 2W1B1 and 2W1D1 leads were retaped on November 8, 1979. 2W1C1 motor leads were retaped on November 9, 1979. Unit 2 "A" fan is inaccessible at this time because of high neutron fields in the area; ALARA considerations will, therefore, impact any repairs to be performed in the area. Unit 2 "A" fan leads will be retaped during Unit 2 refueling.

Unit 1 containment recirculating fan motor leads (all four motors) will be retaped prior to startup.

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