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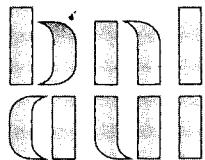
SUBJECT: Forwards fire protection review of Item 3.2.3 re fire pumps, completing facility review.

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February 29, 1980

50-263

Mr. Robert L. Ferguson
Plant Systems Branch
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

RE: Monticello, Fire Protection Review, Item 3.2.3

Dear Bob:

According to our records, the attached Item 3.2.3 (Fire Pumps) completes our review of the Monticello Nuclear Power Plant.

Respectfully yours,

Robert E. Hall
Robert E. Hall, Group Leader
Reactor Engineering Analysis

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MONTICELLO

Fire Protection Review

Item 3.2.3 - Fire Pumps

Item 3.2.3 of the Monticello SER describes the requirement for the licensee to evaluate the adequacy of the existing fire pumps capacity. A study was performed on the fire suppression systems throughout the plant to determine the maximum water demands required for extinguishment including the additional demands for manual hose stations.

By letter dated January 18, 1980 the Northern States Power Company responded to this item. Their study listed the various fire protection water demands at the plant including the two largest demands of 2321 gpm for the turbine basement sprinkler system and 2102 gpm for the cooling tower deluge system (3 cell). Their evaluation goes on further to state that with two fire pumps operating and the shortest leg of the underground loop out of service, the pumps in all cases but one, will satisfy the system demands and provide excess capacity of at least 750 gpm for hose streams.

At the present time, the Monticello fire pumping capacity consists of one 1500 gpm diesel engine driven fire pump and one 1500 gpm electric motor driven fire pump powered from the emergency power bus which is supplied from the standby diesel generator. The fire water system can also be supplied by a 1500 gpm screen wash pump which is not supplied from the emergency bus.

The licensee's response to this item describes the fire water demands and fire pump capacities in gpm but does not indicate the pressures that correlate with the various flows. Due to this lack of information, the adequacy of the supply to meet demand cannot be determined accurately.

Appendix A to BTP 9.5-1 requires that if pumps are required to meet system pressure or flow requirements, a sufficient number of pumps should be provided so that 100% capacity will be available with one pump inactive. (e.g., three 50% pumps or two 100% pumps). The highest flow demand at Monticello is 2321 gpm. Therefore, to meet the Appendix A requirement three 1500 gpm or two 2500 gpm fire pumps are needed. The plant has two 1500 gpm fire pumps and one 1500 gpm screen wash pump which can pump into the fire water system.

The 1500 gpm screen wash pump cannot be considered a suitable backup fire pump because it is not independently powered from the plant system and it does not conform to the requirements of NFPA 20, the standard for Fire Pumps. In addition to these shortcomings, there was no indication in the licensee's evaluation if the screen wash pump might be required for screen washing service at the same time it might be needed for fire water service.

Based on the points discussed above, the licensee's present fire pump capacity is considered inadequate. To correct this deficiency, we recommend that an additional fire pump of at least 1500 gpm capacity at a pressure determined adequate to meet the highest demand of the system should be provided. This pump should meet the applicable provisions of NFPA 20 and should be diesel engine driven or supplied from an emergency source of power not affected by a loss of offsite power.