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May 2, 1980

Mr. Robert L. Ferguson
Chemical Engineering
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

RE: Monticello, Fire Protection Review, Items 3.2.1(1) and 3.1.1B(2)

Dear Bob:

Attached are our inputs on items 3.2.1(1), Fire Detection Systems - Drywell Detectors, and 3.1.1B(2), Fire Detection Systems - Upgrade Existing Systems for the Monticello plant.

Respectfully yours,

Robert E. Hall, Group Leader
Reactor Engineering Analysis

REH:EAM:sd
attachment
cc.: W. Kato wo/att.
M. Levine "
E. MacDougall

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MONTICELLO

Fire Protection Review

Item 3.2.1(1) - Fire Detection Systems - Drywell Detectors

Item 3.2.1(1) of the Monticello SER indicates that the utility will evaluate the need for early warning fire detection in the drywell.

By letter dated February 29, 1980 Northern States Power Company responded to this item with the results of their evaluation. They indicated that:

> The drywell is normally inerted with nitrogen whenever the reactor is in the run mode. Technical Specifications allow primary containment to be deinerted for a 24 hour period before and after a plant shutdown. Deinerting the drywell is only done when drywell entry is desired. Normally this is only done during refueling outages.
>
> The evaluation of the need for fire detectors in the drywell was completed by the Bechtel Power Corporation. As a result of this evaluation the need for detectors in the drywell was not demonstrated as being effective. The evaluation concluded that:
>
> 1. Fire detectors won't pick up incipient fires due to the large amount of air movement in this area.
>
> 2. There is a possibility that spurious fire detector actuation may be a problem during normal plant operation. This would subject the plant to unnecessary shutdowns to investigate potential fires.
>
> 3. Large fires in the drywell would be detectable by other means, i.e., containment pressure, temperature or equipment alarms.

Based on these points, the licensee has concluded that fire detectors are not necessary in the drywell.

The original concern stated in the SER indicated that an unmitigated lube oil fire in the drywell could generate a sufficient amount of heat to damage electrical cabling which may affect the plant's shutdown capability. Because of this, the lack of fire detectors to give early warning of an incipient fire condition was considered inadequate. The licensee's conclusion that detectors are not necessary in this area was based largely on the operational characteristics of smoke detectors including the potential problems of sensitivity and false alarms associated with this type of installation.

The licensee's response on this item is considered unacceptable. If it can be shown that a fire in the drywell area will not affect safe shutdown capability the original concern will be mitigated and detectors will not be required. If it cannot be demonstrated, however, that a fire in the drywell will not affect safe shutdown capability, the original concern still remains and early warning detection in the drywell should be provided. We recommend that fire detectors be installed; the choice of fire detectors in this area should be carefully evaluated in order to determine the best type(s) of detectors which will provide reliable, trouble free, early warning detection.

Item 3.1.1B(2) - Fire Detection Systems - Upgrade Existing Systems

Item 3.1.1 was addressed in our input to you on February 13, 1980. This response is directed only on part B2.

Item 3.1.1B(2) of the Monticello SER indicates the licensee's proposal to upgrade the existing fire detection systems in the areas listed below by providing electrical supervision and remote alarm capability.

Cable Spreading Room
Standby Gas Treatment System Room
Switchgear Areas
Intake Structure
MG Set Room

By letter dated April 2, 1980 the licensee responded to this item. They indicated that the systems were upgraded by providing supervision and remote alarming in accordance with NFPA 72D. The details of the fire alarm system was previously described in their letter of December 27, 1979.

The licensee's submittal also indicated that the existing fire detectors and the new fire detectors will be in-situ tested to assure the capability of the detectors as installed to respond to a fire in the early stages of growth.

The licensee's description of the system upgrading as referred to by SER item 3.1.1B(2) to provide electrical circuit supervision and remote alarm capability is considered acceptable. The licensee has not, as yet, submitted any information on the in-situ testing they have proposed to undertake to demonstrate the adequacy of the installed detectors. Upon receipt of this material the adequacy of the detection system to provide early warning will be evaluated.