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NORTHERN STATES POWER COMPANY

MINNEAPOLIS, MINNESOTA 55401

December 16, 1977

Director of Nuclear Reactor Regulation
U S Nuclear Regulatory Commission
Washington, DC 20555



MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Interim Fire Protection Technical Specifications

A letter from Mr K R Goller, Assistant Director for Operating Reactors, dated November 25, 1977, requested Northern States Power Company to review interim fire protection technical specifications that the Commission Staff believes should be implemented by amendment to the Monticello license. We were requested to inform you within 20 days of any requirements contained in the proposed interim technical specifications which we cannot agree with. Our review indicates that there are three proposed technical specification requirements which should not be issued in their present form. Although our operating staffs have expressed strong displeasure with the continued proliferation of technical specifications, we have no technical objection to the remaining requirements and generally believe they provide additional assurance that a fire cannot threaten the safe shutdown of the Monticello reactor.

We object to the following technical specification requirements contained in your November 25, 1977 letter:

1. Proposed Specification 4.13.B.1.k

Objection

This specification should be revised to read:

- k. Each valve (manual, power operated, or automatic) in the flow path that is not electrically supervised, locked, sealed, or otherwise secured in position, shall be verified to be in its correct position every month.

Reason and Technical Basis for Objection

Approximately 140 valves are included on the fire suppression water system valve lineup checklist. Sixteen man-hours are required to complete this checklist. Nine of the valves are located in high radiation areas. Verifying valve positions monthly would significantly increase the demands placed on our

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operators as well as increase their exposure to radiation. It is our intention to install locks, seals, or securing devices on all fire suppression water system valves which are not now electrically supervised. Frequent valve position checks will not be necessary. Our proposed wording of specification 4.13.B.1.k contains the same requirements for checks of fire suppression water system valves that are contained in current Regulatory Staff guidance for valves in emergency core cooling system flow paths.

All valves, pumps, and other equipment in the fire suppression water system are aligned for normal operation at all times. Exceptions are made only for maintenance and testing when equipment is removed from service and restored under strict administrative controls. The possibility is extremely remote that a valve closed for equipment isolation will be inadvertently left closed following equipment activation. Our equipment control procedures have been reviewed on many occasions by inspectors from the regional Inspection and Enforcement Office of the NRC and by our own internal audits. These inspection and audits have confirmed the adequacy of the Monticello equipment control procedures for fire protection systems and for other plant systems having a more direct nuclear safety significance.

2. Proposed Specification 6.1.C.6

Objection

This specification should be revised to read:

6. A fire brigade of at least three members shall be maintained on site at all times. The fire brigade shall not include the four members of the shift organization required for safe shutdown of the reactor or more than one member of the site security force.

Reason and Technical Basis for Objection

We believe that the Staff's proposed requirement for a five man fire brigade lacks sufficient justification. Because this requirement would present a severe financial hardship if it were placed into effect, we have joined with approximately 15 other utilities and KMC, Incorporated, to form a working group to evaluate this requirement and explore alternatives. It is the conclusion of this group that the requirement for a five man fire brigade has no demonstrable basis for nuclear plant fire protection needs. Further, the group believes a three man fire brigade is sufficient and that at least one member of the fire brigade can be drawn from the site security force.

Requirement for Five-Man Fire Brigade

The NRC position on fire brigade size is outlined in a memorandum dated November 4, 1977, from D G Eisenhut to K Goller and in a recommendation from Brookhaven National Laboratory dated October 19, 1977. These memoranda indicate the NRC position was partially based on precedent. While it is true that some fire departments use five-man teams, others use less. For example, one department that uses a five-man response was asked for their rationale. The stated reason for

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five men to accompany an engine company is that two trucks are utilized by this five-man crew and additional men are required to operate this equipment. Another significant factor is that commercial fire companies connect to hydrants having 2½-inch diameter hose fittings, requiring more personnel to handle the hoses than if the 1½-inch hoses used in our plant were to be used.

KMC, Incorporated also placed a call to the crash crew chief at an Air Force base near Washington, DC. The crash crew is the emergency response force in the event of an aircraft crash at the base. Their responsibility is to save lives and protect property in the event of a crash at the site. As described, a crash crew consists of a three-man team who man a special vehicle at the base. The teams are trained to fight fires as well as to enter smoke-filled aircraft to save lives. It was indicated that although the concept is to use three-man teams, at present only two-man teams were used at the base. This is considered the minimum size, mainly for the safety of the team itself.

NFPA Standards were also reviewed to determine if any provided guidance on minimum staffing requirements for private fire brigades. NFPA No. 27, Private Fire Brigades, states "the equipment that must be put into service at a fire will determine the number of men required for each operating unit or company into which the brigade is organized and the total number of men needed in the brigade. Operating units or companies may be composed of two or more men to operate a specific item of equipment or a larger group to perform more complicated operations. Each company should have a leader and each brigade should have a chief."

There is no indication that a minimum brigade size of five is desired, rather it states size should depend on nature of equipment to be used. In the initial response to a fire in a nuclear power plant, the only equipment to be used is disbursed or permanently installed throughout the plant. In this instance it is difficult to imagine what five men could accomplish that could not be accomplished by a two-man brigade receiving instructions from the plant control room.

Plant Fire Fighting Features Relevant to Size of Fire Brigade

As discussed in prior submittals the philosophy for protection against fires is that of defense in depth; that is, fire prevention, prompt detection and extinguishment, and provisions for minimizing the effects of fires. All of these principles have been applied at our facility. Fire brigades deal with the extinguishment of fires that are not automatically coped with. In this regard detection systems are installed and frequent plant inspections are made so that any fire would be detected at its inception. In certain plant areas automatic systems are actuated to extinguish any fires that are detected. In other areas, initial reliance may be placed on the use of manually actuated systems. In addition, it has been recognized that a back-up manually operated water fire extinguishing system could be required. The number of persons required to operate this manual water fire extinguishing system establish the minimum size of the fire brigade. Should a fire occur, the location would be identified by an operator or by the fire detection system. Use of water hoses would require at least two persons to don breathing apparatus, if needed, and enter

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the area. Since the fire hoses are permanently installed, do not utilize solid streams, and are of a size (1½ inch) that one person could handle, the prime reason for two persons to enter the area is for personnel safety. In the case of trained persons entering an environment for which they are familiar and know beforehand the potential for danger, there is no need to have a separate "fire supervisor" at the scene to observe and direct their efforts. This is not to say that one individual should not be in charge of the fire fighting efforts, rather it is to emphasize that when two trained individuals enter an area to fight a fire their initial efforts should be set by their understanding of the potential nature of the fire and their training to respond. After the initial two-man response it may be desirable to augment the efforts at the scene by another individual who may be the supervisor or person who relays information from the scene to the supervisor. Since all equipment utilized in the initial phases of fire fighting is pre-installed and breathing apparatus requirements are to have at least two spare tanks available, we are of the opinion that additional dedicated fire fighting personnel are not required.

Use of Security Forces Personnel in Fire Emergency

There is no reason why security persons should arbitrarily be excluded from assisting in fire fighting efforts. The one objection voiced to this concept is that the fire may be set as a diversionary tactic. This concept needs critical evaluation. The security force represents the one group of additional employees who are continuously available at the site and could assist in some fire fighting tasks such as in communication, without detracting from their ability to respond to a security emergency if required. Not to use these employees during a fire emergency would appear unwarranted. This is particularly true in the case of the CAS-SAS operators. In the instance of a fire in a vital area, it may be desired to use one of these operators as a matter of routine. Since neither operator normally enters plant vital areas but remains at a control console, if the fire were a diversionary tactic neither of these individuals could have been involved and, hence, neither would need to be considered the "insider." Since all essential tasks can be handled by either operator there is no longer an advantage in manning both security posts during a fire emergency.

In our assessment there are two basic events; either the fire was set as a diversionary tactic or it was initiated from other causes (including being set by a single insider as the basic sabotage event). In either event the employment of security force personnel as described below is assumed to be supportive of fire fighting; that is, on-call assistance and communication activities rather than fire fighting. Specific cases are discussed below.

Fire Set as Diversionary Tactic In this instance an "insider" exists and has set the fire in attempts to distract attention from his helpers in gaining access to the site. If the fire is in a non-vital area, security personnel could be permitted to leave the scene of the fire if the next act occurs and the "helpers" attempt forceful entry. If the fire is set in a vital area, there is a definite security advantage in having security personnel assisting. If one security individual was immediately at the scene handling communications

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while two operators were fighting the fire this would eliminate further mischief by an insider. Again in this scenario if an attack by "helpers" occurred, the security personnel may need to abandon their fire fighting efforts to counter the assault and the fire fighting could continue to be handled by the other designated persons. In these scenarios the delayed employment of security officers would not measurably detract from security efforts and in our opinion could tend to deter further actions of an "insider".

Fire Not a Diversionary Tactic In this instance there is no security advantage in not using security personnel to assist in fire fighting.

Other Considerations

Recall System Additional personnel can be contacted in the event of a fire emergency. Many plant employees live within a few miles of the site and could be summoned within 30 minutes.

Response of Local Fire Department The plant is located within the Monticello, Minnesota city limits. Our experience indicates that the response time of the volunteer fire department is typically less than 20 minutes. In addition, experience indicates that the strength and response time of the fire department are improved after normal working hours and on weekends when the plant staffing is reduced to a minimum. That is, during normal working hours a large number of personnel are available on site for responding to a fire emergency. This is the time when nearly all fires will start. After normal working hours, when the potential for fire is reduced, the reduced plant staff is complemented by a very strong and responsive volunteer fire department.

A reasonable limit must be placed on the size of the fire brigade. While a fire brigade of five, or ten, or perhaps fifty members provides more protection than a fire brigade of three members, the cost of maintaining a group of this size must be justified by a corresponding increase in the degree of protection provided to the health and safety of the public. As a utility we are also responsible to the public to operate as efficiently as possible to keep our costs within reason.

3. Proposed Figure 6.1.2

Objection

The requirement to specify the organizational arrangement for performance and monitoring of the fire protection program is not justified. The note, "(Operator & Fire Brigade Training)" should be removed from the Training Supervisor block on Figure 6.1.2.

Reason and Technical Basis for Objection

The responsibility for fire brigade training is already assigned to a "designated member of the plant staff" in proposed specification 6.1.E. No further details of the assignment of responsibility for training or any other aspect of administration of the fire protection program is necessary. Figure 6.1.2,

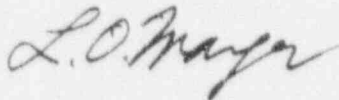
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and related Figure 6.1.1 showing the corporate organization, were not intended to show delineation of responsibilities in specific areas of plant operation. We do not believe that fire protection administration deserves special treatment in this regard.

In summary, we believe most of the proposed fire protection technical specifications have an adequate basis. Generally, these requirements are now being met or exceeded voluntarily because an adequate fire protection program simply makes good sense. Unreasonable or arbitrary requirements are detrimental to safe and efficient plant operation, however, and we believe that three such requirements are contained in the proposed fire protection technical specifications. We ask that you reconsider these requirements.

Please contact us if you require further information on this subject or have any questions related to our position on this matter.



L O Mayer, PE
Manager of Nuclear Support Services

LOM/DMM/deh

cc: J G Keppler
G Charnoff
MPCA
Attn: J W Ferman