



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

-- RELATED TO AMENDMENT NOS. 64 AND 58

TO FACILITY OPERATING LICENSE NOS. DPR-42 AND DPR-60

NORTHERN STATES POWER COMPANY

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-282 AND 50-306

Introduction

By our Generic Letter No. 82-16 issued on September 20, 1982, we requested all pressurized water reactor licensees to submit an application for a license amendment for identified NUREG-0737 "Clarification of TMI Action Plan Requirements", items for which technical specifications (TS) are required. By letter dated January 14, 1983, Northern States Power Company (the licensee) responded to our Generic Letter No. 82-16 by submitting a TS change request for the Prairie Island Nuclear Generating Plant Unit Nos. 1 and 2 for NUREG-0737 Item I.A.1.3 - limiting overtime. By Generic Letter 82-12 dated June 15, 1982 we transmitted to all licensees of operating plants a revised version of the Commission's policy statement on nuclear power plant staff working hours. In the same letter we also transmitted revised pages of NUREG-0737 (Item I.A.1.3) that requests the administrative sections of the TS be revised to reflect procedural requirements which follow the policy statement guidelines.

Discussion and Evaluation

On June 15, 1982, Generic Letter 82-12 and the revised NUREG-0737 Item I.A.1.3 set forth the latest NRC guidance regarding restrictions on use of overtime at nuclear power plants. It announced an objective of having operating personnel work a normal 8-hour day, 40-hour week, while the plant is operating. However, the guidance provided that during extended periods of shutdown for refueling, major maintenance or major plant modifications, the working hours could be extended. It allowed for work periods of up to 16 hours duration, but with restrictions of no more than 16 hours in any 24 hours period, nor more than 24 hours in any 48-hour period, nor more than 72 hours in any seven day period. We have reviewed the licensee's proposed TS change and find that, except for the 72 hours per week limitation, the licensee's proposed change adequately reflects procedural requirements which meet Commission policy and stated guidelines for controlling overtime hours.

By letter dated November 16, 1982, Northern States Power Company (NSP), the licensee for the Monticello and Prairie Island nuclear plants, requested a deviation from the NRC 72 hour workweek limitation to allow

8304120682 830406  
PDR ADOCK 05000282  
P PDR

84-hour workweeks at its nuclear plants during plant outages, with a further restriction that employees would not be required to work more than 15 days without having two consecutive days off.

After an initial review of the licensee's November 16, 1982 letter, we requested the licensee to provide justification why the proposed working hour schedule would not result in increased risk to the public. This justification was provided in a February 21, 1983, letter from the licensee. In our letter dated March 17, 1983 we concluded that the licensee has provided an adequate justification to allow 84 hour workweeks during plant outages for the Monitcello and the Prairie Island Nuclear Generating Plants.

The licensee states that its normal shift procedure during outages has been to work a "12 ON/12 OFF" schedule. The licensee considers that disruption of sleep patterns is a greater concern in causing fatigue than is the absolute number of hours worked. A "12 ON/12 OFF" schedule during outages prevents employees from having to occasionally work a 16-hour shift or double-back after only eight hours off-shift. Further, under this scheduling, employees are guaranteed two consecutive days off after not more than 15 days on shift duty. The licensee applies the outage scheduling to all employees rather than just to the operators and other selected personnel.

The licensee also states that a 72-hour week will not necessarily assure that work is not being performed by fatigued personnel. Rather, the licensee feels that supervisory personnel should be trained to watch for aberrant behavior among employees that might indicate a fatigued condition. The licensee further states that its supervisors will be given this type of training and that they are authorized to prevent an employee from working if the employee demonstrates questionable behavior.

The licensee informed the staff that the "12 ON/12 OFF" scheduling has been well received by employees in the past. No problems involving worker fatigue have been observed.

We note that over a time period of a month, there is little real difference in the total hours worked whether in accordance with the NRC guidance of not more than 72 hours per week or the licensee's proposed schedule of 84 hours per week with two consecutive days off every 15 days. The NRC guidance assures one day off every week while the licensee's schedule provides two days off every two weeks, essentially. The major difference is in the timing of the off-day periods.

In view of the licensee's successful use of the 84-hour week in the past, including employee acceptance of this scheduling and the licensee's commitment to train its supervisors to be observant of employee behavior that might indicate excessive fatigue and to bar employees from working if they appear to be excessively fatigued, we conclude that the licensee's scheduling

during outages will not result in increased risk to the health and safety of the public. Accordingly, we conclude that the requested deviation for scheduling overtime during outage from the 72 hour workweek to 84 hours is acceptable. On this basis, we find the proposed TS change to limit overtime as per NUREG-0737 Item 1.A.1.3 acceptable.

The licensee also proposes a wording change to TS 6.1.E as part of this TS change request. The existing TS 6.1.E states that the fire brigade training shall be scheduled as set forth in the plant training program. The licensee proposes to delete the word "plant" since the fire brigade training is not the direct responsibility of the plant. This training is conducted by the Production Training Department. We consider this word change as a correction to reflect the proper designated department responsible for implementing the fire brigade training. This proposed change does not change any of the training requirements nor the intent of the statement that is affected by this proposed change. Since this change serves only as a correction described above, it does not involve significant new safety information of a type not considered by a Commission safety review of the facility. We therefore find the proposed wording change acceptable.

#### Environmental Consideration

We have determined that the amendments do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendments involve an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

#### Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendments do not involve a significant increase in the probability or consequences of an accident previously evaluated, do not create the possibility of an accident of a type different from any evaluated previously, and do not involve a significant reduction in a margin of safety, the amendments do not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: April 6, 1983

Principal Contributors:  
D. C. DiIanni  
L. Crocker