

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-263
License No: DPR-22

Report No: 50-263/97004(DRS)

Licensee: Northern States Power Company

Facility: Monticello Nuclear Generating Station

Location: 414 Nicollet Mall
Minneapolis, MN 55401

Dates: March 10 - 14, 1997

Inspectors: M. Bielby, RIII Inspector
D. McNeil, RIII Inspector

Approved by: M. Bielby, Acting Chief
Operator Licensing Branch

EXECUTIVE SUMMARY

Monticello Nuclear Generating Station, Unit 1 NRC Inspection Report 50-263/97004

This inspection report contains the findings and conclusions regarding the licensed operator requalification training program inspection. The inspection included a review of training administrative procedures, and operating examination material, observation and evaluation of operator performance and licensee evaluators during a requalification operating examination, an assessment of simulator fidelity, an evaluation of program controls to assure a systems approach to training, and a review of requalification training records. Additionally, observation of control room activities, including a shift turnover and briefing, was conducted.

The inspectors used the guidance in inspection procedures (IP) 71001 and 71707.

Operations

Licensed operator requalification programs were implemented in accordance with 10 CFR Part 55 requirements.

Examination material was determined to be a program strength. All portions of the annual requalification examination were judged to be effective tools for determining operator weaknesses.

Licensee controls to revise the licensed operator requalification training program were satisfactory.

Facility control room operators demonstrated good attentiveness to the operating panels and maintained a business decorum.

Operating crew performance during dynamic scenario examinations was identified as a significant weakness. Weak communications, poor command and control, and some lack of knowledge by individual crew members contributed to unsatisfactory evaluations of the crew and individuals in two scenarios.

Report Details

I. Operations

01 Conduct of Operations

a. Inspection Scope (71707)

The inspectors observed routine control room activities during full power plant operation, attended a mid-shift to day-shift licensed operator turnover and crew briefing, performed panel walk-downs, reviewed the control room log and questioned operators about plant and equipment status.

b. Observations and Findings

The conduct of licensed control room operators was professional. The inspectors noticed good attentiveness to control room panels and indications. During shift turnover, each operator performed front and back panel walk-downs with their relief. Face to face and phone communications were consistently good. The control room noise level was minimized and no annunciators were left in a prolonged alarm state. The operators were knowledgeable of tags on control room panels, plant conditions, and equipment status when questioned by the inspectors.

05 Operator Training and Qualification

05.1 Operating History

a. Inspection Scope (71001)

The inspectors reviewed the following documents to assess the licensed operator requalification training program's effectiveness regarding operator performance:

- SALP Report No. 50-263/96001.
- Initial license operator examination report (50-263/OL-96-01) and licensed operator requalification training report (50-263/95004).
- Resident inspector observations and reports covering the time frame of January 1996 to February 1997.
- Licensee event reports covering the time frame of January 1996 to February 1997.

b. Observations and Findings

The inspectors determined that no patterns existed that were attributable to ineffective training. The training program provided operators with the skills necessary to safely operate the Monticello reactor facility.

O5.2 Regualification Examinations

a. Inspection Scope (71001)

The inspectors reviewed the following using IP 71001, Appendix A checklists, to assess the licensee's examination material quality and content:

- Sample plan prepared for the current annual requalification operating examinations.
- Current annual requalification operating examinations.
- Biennial comprehensive written examinations from the previous annual requalification examination.

b. Observations and Findings

The inspectors reviewed the sample plan, and the first five weeks of operating examination material administered during the current annual requalification examination, and the entire six weeks of written examination material administered during the previous annual requalification examination.

The examination material contained the necessary quantitative and qualitative attributes to provide an effective evaluation of operator skills. The written examination questions were of good quality and were written to the appropriate difficulty level. A majority of the open reference questions were higher cognitive knowledge level questions. The static examination questions made good use of the simulator as a reference. Less than ten percent of the questions were repeated from week to week, and one hundred percent of the questions were new or significantly modified from the previous examination cycle. The dynamic scenarios were challenging and provided ample opportunity to evaluate the crew and individuals based on critical tasks and competencies. The inspectors noted that shift supervisory personnel initially started the scenario outside the simulator until called in for assistance during a plant transient, which resembles actual operating conditions in the plant. The job performance measures (JPMs) were considered good. Both the JPMs and dynamic scenarios had appropriate steps identified as critical. Furthermore, they clearly identified and incorporated PRA elements in the selection process. The operating examinations administered each week during this requalification cycle were prepared such that each examination item was used once.

O5.3 Regualification Examination Administration Practices

a. Inspection Scope (71001)

The inspectors performed the following to assess the licensee's policies and practices regarding requalification examination administration, simulator fidelity and examination security:

- Observed the performance of, and evaluated, one shift operating crew during week five of the current annual requalification operating examination.
- Observed simulator performance and reviewed the fidelity log.
- Inspected the examination preparation and storage room, and reviewed the administrative procedure for examination security.

b. Observations and Findings

The inspectors observed the licensee evaluate operating crew performance during two dynamic simulator scenarios. The licensee identified unsatisfactory performance of both the crew and three individuals. The licensee also identified unsatisfactory performance of an RO on JPMs during week five, and an SRO on a dynamic scenario in a previous examination week.

The first scenario was a station blackout followed by a recirculation line break in the drywell. The shift manager/shift technical assistant (SM/STA) did not remain in a position of command and control because he provided oversight and assistance to an RO who was attempting to start the only available emergency diesel generator. A combination of poor diagnosis, inappropriately directing the securing of a source of injection, and coordination of emergency operating procedure (EOP) actions by the shift supervisor (SS) allowed reactor water level (RWL) to needlessly go below top of active fuel. As a result, the crew, SM/STA and SS performances were evaluated as unsatisfactory by the licensee.

The second scenario was a loss of rod position indication with anticipated transient without scram. The SS demonstrated poor command and control, and poor communication of EOP actions to the crew. Although the SS correctly directed a step from the EOPs for terminating and preventing all injection to the reactor, one of the panel RO's initiated feedwater to control RWL. This resulted in the crew, SS and RO being evaluated as unsatisfactory by the licensee. The other panel RO was evaluated as a pass with remediation for poor prioritization of rod insertion methods.

The inspectors reviewed the final licensee written evaluations, and concurred with the licensee's grading. Critical tasks and competencies used by the licensee evaluators to grade the crew and individuals met the criteria contained in the licensee's administrative training procedures.

No new simulator performance or fidelity issues were identified during the inspectors' observation of the operating examination. See enclosed Attachment 1, Simulation Facility Report. The licensee's simulator Deficiency Reports and Condition Reports were properly prioritized and addressed in a timely manner. A continuous review and upgrade program was utilized to address immediate and long range improvement initiatives.

Good examination security was observed throughout the examination administration.

O5.4 Regualification Training Program Feedback System

a. Inspection Scope (71001)

The inspectors performed the following to assess the licensee's training program feedback system effectiveness:

- Reviewed operator feedback.
- Interviewed licensee personnel (operators, instructors, training management).
- Reviewed licensee conducted requalification training program audits (AG 1996-O-3 for 7/1/96-9/30/96, and AG 1996-O-4 for 10/1/96-12/31/96).

b. Observations and Findings

The inspectors determined that the feedback process was effectively implemented. The licensee assessed the identified individual operator and crew weaknesses, operator training requests, plant and industry events. Based on those assessments training material was selected for the upcoming training cycle during the periodic meetings of the Operations Training Assessment Committee (OTAC). The licensee had a satisfactory tracking program to incorporate changes to the examination bank material when procedure changes or modifications were implemented by the plant. The program was current, up to date and flexible enough to incorporate emerging training issues.

O5.5 Remedial Training Program

a. Inspection Scope (71001)

The inspectors performed the following to assess the licensee's remedial training program effectiveness:

- Reviewed individual operator and crew performance evaluations for the five completed examination weeks.
- Reviewed the remediation training plans for unsatisfactory operator performance for the five completed examination weeks.
- Interviewed licensee personnel (licensed operators, instructors/evaluators, and supervisors).

b. Observations and Findings

The inspectors concluded that the remediation plans addressed individual and crew performance weaknesses. The development of remediation plans included a comprehensive root cause analysis for past individual performance weaknesses and possible programmatic breakdown. The licensee's root cause analysis was not reflected in the current administrative training procedure, but a new training procedure MTCP-03.32, "Requalification Examination Control" in the final approval process did contain the requirement for the remediation program.

05.6 Conformance With Operator License Conditions

a. Inspection Scope (71001)

The inspectors reviewed the following documents to assess the facility and operator licensees' compliance with 10 CFR 55.53 license condition requirements:

- Licensed operator requalification training records.
- Ten licensed operator medical records.

b. Observations and Findings

The inspectors concluded that the licensee satisfied the requalification attendance requirements from January 1996 through March 1997, and were in compliance with 10 CFR 55.53 for maintaining active licenses. The ten licensed operator medical records were in compliance with 10 CFR 55.21 for physical examinations.

05.7 Conclusions on Operator Training and Qualification

The inspectors concluded the following:

- The licensee's overall implementation of the licensed operator requalification training program was in accordance with 10 CFR 55 requirements.
- The licensee had good quality annual requalification examination material.
- A continuous simulator review and upgrade program was in place to address immediate and long range simulator improvement initiatives.
- The licensee has adequate controls in place to revise the licensed operator requalification training program based on licensee audits, industry and plant events, system and procedure modifications, and operator feedback.
- The licensee's administration of the remedial training program and subsequent reexamination of operators was considered sufficient to address observed performance deficiencies.

V. Management Meetings

X1 Exit Meeting Summary

The inspectors presented the preliminary inspection results to members of licensee management at the conclusion of the inspection on March 14, 1997. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

Attachment: Simulation Facility Report

PARTIAL LIST OF PERSONS CONTACTED

Licensee

B. Day, Training Manager
D. Fousek, Senior Technical Instructor Operations
W. Hill, Plant Manager
P. Kissinger, Engineer Operations Training
M. Lechner, Acting General Superintendent Operations
K. Markling, Technical Instructor/Simulator Coordinator
M. Mitchell, Senior Engineer Operations Training
B. Sawatzke, Superintendent Training

NRC

A. Stone, Monticello Senior Resident Inspector

INSPECTION PROCEDURES USED

IP 71001: Licensed Operator Requalification Program Evaluation
IP 71707: Plant Operations

SIMULATION FACILITY REPORT

Facility Licensee: Monticello Nuclear Generating StationFacility Docket No.: 50-263Operating Tests Administered on: March 11-13, 1997

This form is to be used only to report observations. These observations do not constitute audit or inspection findings and are not, without further verification and review, indicative of noncompliance with 10 CFR 55.45(b). These observations do not affect NRC certification or approval of the simulation facility other than to provide information that may be used in future evaluations. No licensee action is required in response to these observations.

While conducting the simulator portion of the operating tests, the following items were observed (if none, so state):

<u>ITEM</u>	<u>DESCRIPTION</u>
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None	None
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