

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-282/OL-90-02(DRS)

Docket Nos. 50-282; 50-306

Licenses No. DPR-42; DPR-60

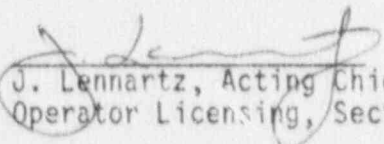
Licensee: Northern States Power Company  
414 Nicollet Mall  
Minneapolis, MN 55401

Facility Name: Prairie Island Nuclear Plant

Examination Administered At: Prairie Island Nuclear Plant

Examination Conducted: Week of October 29, 1990

Approved By:

  
J. Lennartz, Acting Chief  
Operator Licensing, Section 2

11/30/90  
Date

Examination Summary

Requalification examinations administered on the week October 29, 1990, (Report No. 50-282/OL-90-02(DRS)) to six Reactor Operators and ten Senior Reactor Operators. Crew performance as well as individual operator performance were evaluated on the dynamic portion of the operating examination. In addition, an evaluation of the licensees requalification program was conducted.

Results: One Reactor Operator failed the Job Performance Measure (JPM) plant walkdown portion of the operating examination, and one Senior Reactor Operator failed the dynamic simulator portion of the operating examination. Five Reactor Operators and nine Senior Reactor Operators passed the operating examinations, and all sixteen operators passed the written examinations. In addition, all five crews received satisfactory evaluations for their performance on the dynamic simulator examinations.

During the course of these examinations, the following requalification program strengths were noted:

- ° The licensees ability to effectively schedule and administer the examinations, to maintain examination security, and preclude unnecessary delay time.

- ° Sample plan was well written and easy to use.
- ° The licensee evaluators' ability to recognize and document operator performance deficiencies during the dynamic simulator examinations.

The following requalification program weakness was noted during the course of these examinations:

- ° JPM questions were generally poor in that many of the questions were at the memorization level of knowledge which are not appropriate for open reference examinations.

## REPORT DETAILS

### 1. Examiners

\*J. Lennartz, NRC  
T. Bardell, PNL  
A. Lopez, PNL  
R. Warner, PNL

\*Chief Examiner

### 2. Examination Development

The NRC examiners and the licensee representatives that were part of the examination team validated the proposed examinations during the examination prep week which was conducted on the week of October 8, 1990. The examination validation was accomplished by comparing the proposed examinations with the applicable requirements as stated in the 600 series, governing requalification examinations, of NUREG 1021, "Operator Licensing Examiner Standards."

#### a. Reference Material

The reference material which was sent to the NRC for use during examination development was properly labeled, bound, and indexed. In addition, the licensee's sample plan contained the information required in ES-601 and was written in an easy to use format which provided the NRC with an effective means to cross reference the subjects covered during the requalification training cycle with the applicable testing items.

#### b. Written Examination

The licensee's proposed written examination generally met the guidance as stated in ES-602. However, some deficiencies were identified by the NRC examiners including:

- ° One question which was re-written by the examination team to remove a double jeopardy situation.
- ° One question was deleted from the examination due to being too closely related to another question on the same examination. A new question was developed by the examination team to replace the deleted question.
- ° Partial credit had to be indicated on the answer keys for essay/short answer type questions.

c. Job Performance Measures (JPM)

The following observations were made by the examination team when the proposed JPMs were compared with the guidance as stated in ES-603:

- ° The JPM tasks matched the associated procedures very well.
- ° The JPM identified critical steps were generally appropriate. However, a few steps, incorrectly designated as critical, were deleted by the examination team.
- ° JPM validated task completion times were generally inaccurate. Many JPM tasks were completed well before the validated times, and some were even completed in half the validated time. The licensee is encouraged to review the validation times prior to the next scheduled requalification exam.
- ° System response cues were not provided for each performance standard such that the examiner could properly cue the operator if asked. The examination team added cues where appropriate. The licensee is encouraged to make corrections to their JPM examination bank, as appropriate, like those made to the JPMs proposed for this examination.

d. Dynamic Simulator Scenarios

In general, the proposed simulator scenarios met the guidance as stated in ES-604. However, scenario No. 21 could not be used during the examinations due to inadvertent reactor trips occurring on two out of three times this scenario was run on the simulator.

3. Examination Administration

The licensee was responsible for examination administration while the NRC observed the process which allowed the NRC to evaluate the licensees' requalification program as well as the individual operators. The following observations were made by the NRC concerning examination administration:

- ° The licensee did an excellent job at developing a firm yet reasonable schedule that minimized delay time during all phases of the examination. In addition, the scheduling precluded a compromise of examination security.
- ° Rotation of the licensee evaluators worked extremely well to keep the examination moving which eliminated unnecessary delay time and stress to the operators.

- ° Administration of the JPMs that were performed on the simulator was excellent in that the JPMs were already "snapped" into the simulator which reduced setup time and eliminated unnecessary delay time.
- ° The use of three ring binder notebooks for JPM examination administration was excellent in that it provided the evaluators with a concise and easily managed evaluation package.

#### 4. Evaluation of Facility Evaluators

During examination administration, the NRC assessed the licensee evaluator's ability to conduct consistent and objective examinations as well as their ability to provide unbiased evaluations of the operators. The following observations were made by the NRC examiners regarding the facility evaluators:

- ° During the dynamic simulator examinations, the facility evaluator's ability to identify operator performance deficiencies was excellent.
- ° The facility evaluators need to develop the ability to ask follow-up questions when only partial answers are given to JPM questions. The facility evaluators should be careful not to take credit for what they "think" the operators know by virtue of their training.

#### 5. Examination Evaluations

Coevaluation by the NRC examiners and the licensee evaluators of the operators performance on the examination was performed. Coevaluations provided the NRC with the necessary information to assess the individual operator's performance as well as the licensee's requalification program performance.

The overall evaluations on all phases of the examination were consistent between the NRC examiners and the facility evaluators. Additionally, the facility evaluations and comments on operator performance were more stringent than those by the NRC on a few instances.

#### 6. Program Evaluation

The licensee's requalification program was considered to be satisfactory based on the criteria as described in NUREG 1021, "Operator Licensing Examiner Standards", ES-601 Section C.2.b, "Requalification Program Evaluation". Additionally, the administration portion of the licensee's requalification program, which included examination scheduling, format and administration, was considered to be excellent.

## 7. Additional Examiner Observations

During the course of examination validation and examination administration, the following specific observations were made by the NRC examiners:

- The Auxiliary Building's radiological cleanliness was considered to be very good.
- Procedure 1FR-H.1, "Response to Loss of Secondary Heat Sink", Step 1 Note states, "C28.2 provides guidance on restoring FW to the SGs". However, procedure C28.2 does not exist. When this was identified to the licensee representatives, they stated that they would make the appropriate procedure revision.
- The emergency boration to charging pump suction valve (MV-32086) was considered to be inaccessible in that it could not be operated locally unless the operator climbed on pipes and pipe supports to get to the valve. This valve is normally operated from the control room. However, procedure 1C1.3 "Shutdown from Outside The Control Room", requires local manual operation of the valve and therefore it should be easily accessible. Licensee representatives stated that an analysis for the installation of a remote operator for the valve (MV-32086) would be done.
- The recent revision (Revision 9) to E-0, "Reactor Trip or Safety Injection", Step 5 requires the operators to state any exceptions when they verify SI (Safety Injection) active lights and containment isolation lights lit. This was an excellent revision to the procedure in that the probability of an operator not identifying an incorrect alignment is reduced.

## 8. Exit Meeting

An exit meeting was held on November 2, 1990 between the NRC and licensee representatives to discuss the requalification program and the examiner observations as contained in this report.

NRC representatives in attendance were:

J. Lennartz, Examiner  
P. Hartmann, Senior Resident Inspector

Licensee representatives in attendance were:

T. Amundsen, General Superintendent, Prairie Island Training Center  
M. Wadley, General Superintendent, Operations  
D. Reynolds, Operations Training Supervisor

M. Hall, Lead Operations Instructor  
R. Holthe, Shift Manager  
R. Held, Shift Supervisor  
J. Gosman, Instructor

The licensee representatives acknowledged the examiner observations discussed in sections 2-7 of this report.

REQUALIFICATION PROGRAM EVALUATION REPORT

Facility: Prairie Island

Examiners: J. Lennartz, T. Bardell, A. Lopez, R. Warner

Date of Evaluation: Week of October 29, 1990

Areas Evaluated: Written X Oral X Simulator X

Examination Results:

|  | <u>RO</u><br><u>Pass/Fail</u> | <u>SRO</u><br><u>Pass/Fail</u> | <u>Total</u><br><u>Pass/Fail</u> | <u>Evaluation</u><br><u>(S or U)</u> |
|--|-------------------------------|--------------------------------|----------------------------------|--------------------------------------|
| Written Examination                                | 6/0                           | 10/0                           | 16/0                             | S                                    |
| Operating Examination                              |                               |                                |                                  |                                      |
| Oral   | 5/1                           | 10/0                           | 15/1                             | S                                    |
| Simulator  | 6/0                           | 9/1                            | 15/1                             | S                                    |
| Evaluation of facility written examination grading |                               |                                |                                  | S                                    |

Crew Examination Results:

|                       | <u>Crew 1</u><br><u>Pass/Fail</u> | <u>Crew 2</u><br><u>Pass/Fail</u> | <u>Crew 3</u><br><u>Pass/Fail</u> |
|-----------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Operating Examination | Pass                              | Pass                              | Pass                              |

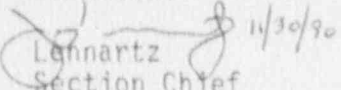
  

|                       | <u>Crew 4a</u><br><u>Pass/Fail</u> | <u>Crew 4b</u><br><u>Pass/Fail</u> | <u>Evaluation</u><br><u>(S or U)</u> |
|-----------------------|------------------------------------|------------------------------------|--------------------------------------|
| Operating Examination | Pass                               | Pass                               | S                                    |

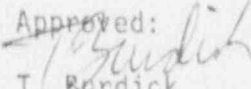
Overall Program Evaluation

Satisfactory X

Submitted:

 11/30/90  
Lennartz  
Section Chief

Approved:

  
T. Bardick  
Branch Chief



## SIMULATION FACILITY REPORT

Facility Licensee: Prairie Island

Facility Licensee Docket No. 50-282; 50-306

Operating Tests Administered On: Week of October 27, 1990

During the conduct of the simulator portion of the operating tests, the following items were observed:

| <u>ITEM</u> | <u>DESCRIPTION</u>  |
|-------------|---|
| 1.          | Pressurizer PORV 430 would not stay open when control switch was placed in the open position.   |
| 2.          | Simulator evaluation scenario No. 21, "Loss of Instrument Bus/Steam Line Break", resulted in inadvertent reactor trips on two of three times the scenario was run.  |
| 3.          | Pressurizer pressure recorder operated erratically (spiked to zero then to normal operating pressure rapidly twice) which caused some confusion on the part of the operators during scenario evaluation No. 13.   |
| 4.          | Pressurizer (PZR) reflood modeling is inaccurate in that a high pressure condition in the PZR occurs with a relatively low water level after PZR level is lost and subsequently regained following an event. This was observed during scenario evaluation No. 6 and No. 2. This modeling problem was previously identified by the licensee. |