UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

February 11, 2004

EA-04-026

Randall K. Edington, Vice
President-Nuclear and CNO
Nebraska Public Power District
P.O. Box 98
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION - NRC INSPECTION REPORT 05000298/2004-009 BIENNIAL LICENSED OPERATOR REQUALIFICATION INSPECTION - PRELIMINARY WHITE FINDING

Dear Mr. Edington:

On November 20, 2003, the U. S. Nuclear Regulatory Commission (NRC) completed a biennial licensed operator requalification inspection at your Cooper Nuclear Station. The enclosed report documents the inspection findings, which were discussed on February 5, 2004, with Jerry C. Roberts and other members of your staff.

This report discusses a finding that appears to have low to moderate safety significance (White). As described in Section 1R11 of this report, testing results failed to demonstrate satisfactory licensed operator requalification program performance as described in NUREG-1021, “Operator Licensing Examination Standards for Power Reactors,” Revision 8, Supplement 1, Examination Standard 601, Section E.3.a(1). Examiner Standard 601 E.3.a(1) specifies, in part, that for a requalification program to maintain satisfactory performance, 75 percent or greater of the participants must pass all portions of the biennial examinations. Failures during the biennial cycle included a 36 percent failure rate on the biennial written examination. The finding was assessed using NRC Manual Chapter 0609, Appendix I, “Operator Requalification Human Performance Significance Determination Process (SDP),” and was preliminarily determined to be a White finding. The basis for arriving at this preliminary determination is described in the enclosed inspection report.

We acknowledge that the personnel affected by the failures, who have returned to shift watch standing positions, were subjected to remedial training and retested prior to returning to those duties.

Before we make a final decision on this matter, we are providing you an opportunity to (1) present to the NRC your perspectives on the facts and assumptions used by the NRC to arrive at the finding and its significance, at a Regulatory Conference or, (2) submit your position on the finding to the NRC in writing. If you request a Regulatory Conference, it should be held within 30 days of the date of this letter and we encourage you to submit supporting documentation at least one week prior to the conference in an effort to make the conference more efficient and effective. If a Regulatory Conference is held, it will be open for public observation. If you decide to submit only a written response, such submittal should be sent to the NRC within 30 days of the receipt of this letter.

Please contact Anthony T. Gody, Chief, Operations Branch, at (817) 860-8159 within 10 business days of the date of this letter to notify the NRC of your intentions. If we have not heard from you within 10 days, we will continue with our significance determination and you will be advised by separate correspondence of the results of our deliberations on this matter.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Sincerely,

/RA/

Dwight D. Chamberlain, Director
Division of Reactor Safety

Docket: 50-298
License: DPR-46

Enclosures:
NRC Inspection Report
05000298/2004-009

cc w/enclosure:
Clay C. Warren, Vice President-Nuclear
Nebraska Public Power District
P.O. Box 98
Brownville, NE 68321

John R. McPhail, General Counsel
Nebraska Public Power District
P.O. Box 499
Columbus, NE 68602-0499

P. V. Fleming, Licensing and
Regulatory Affairs Manager
Nebraska Public Power District
P.O. Box 98
Brownville, NE 68321

Michael J. Linder, Director
Nebraska Department of
Environmental Quality
P.O. Box 98922
Lincoln, NE 68509-8922

Chairman
Nemaha County Board of Commissioners
Nemaha County Courthouse
1824 N Street
Auburn, NE 68305

Sue Semerena, Section Administrator
Nebraska Health and Human Services System
Division of Public Health Assurance
Consumer Services Section
301 Centennial Mall, South
P.O. Box 95007
Lincoln, NE 68509-5007

Ronald A. Kucera, Deputy Director
for Public Policy
Department of Natural Resources
205 Jefferson Street
Jefferson City, MO 65101

Jerry Uhlmann, Director
State Emergency Management Agency
P.O. Box 116
Jefferson City, MO 65102-0116

Chief, Radiation and Asbestos
Control Section
Kansas Department of Health
and Environment
Bureau of Air and Radiation
1000 SW Jackson, Suite 310
Topeka, KS 66612-1366

Daniel K. McGhee
Bureau of Radiological Health
Iowa Department of Public Health
401 SW 7th Street, Suite D
Des Moines, IA 50309

William J. Fehrman, President
and Chief Executive Officer
Nebraska Public Power District
1414 15th Street
Columbus, NE 68601

Electronic distribution by RIV:
Regional Administrator **(BSM1)**
DRP Director **(ATH)**
DRS Director **(DDC)**
Senior Resident Inspector **(SCS)**
Branch Chief, DRP/C **(KMK)**
Senior Project Engineer, DRP/C **(WCW)**
Staff Chief, DRP/TSS **(PHH)**
RITS Coordinator **(NBH)**
Dan Merzke, Pilot Plant Program **(DXM2)**
RidsNrrDipmLipb
Debby Jackson, OEDO RIV Coordinator **(DAJ1)**
CNS Site Secretary **(SLN)**
OEMAIL
Jennifer Dixon-Herrity, OE
Rani Franovich, NRR
Victor Dricks
Bill Maier
Gary Sanborn

ADAMS: ⊠ Yes ☐ No Initials: _GWJ_____
⊠ Publicly Available ☐ Non-Publicly Available ☐ Sensitive ☐ Non-Sensitive

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket:	50-298
License:	DPR 46
Report No.:	50-298/04-09
Licensee:	Nebraska Public Power District
Facility:	Cooper Nuclear Station
Location:	P.O. Box 98 Brownville, Nebraska
Dates:	November 17, 2003, through February 5, 2004
Inspectors:	G. Johnston, Senior Operations Engineer M. Haire, Operations Engineer
Approved By:	A. Gody, Chief, Operations Branch Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000298/2004-009; on 10/15-12/03/2001; Cooper Nuclear Station, Licensed Operator Requalification Report.

The inspection was conducted by two regional operations engineers. The inspection identified one finding whose significance was preliminarily evaluated as White. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, “Significance Determination Process.” The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, “Reactor Oversight Process,” Revision 3, dated July 2000.

NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

- TBD. The licensee failed to demonstrate satisfactory licensed operator requalification program performance as described in NUREG-1021, “Operator Licensing Examination Standards for Power Reactors,” Revision 8, Supplement 1, Examination Standard 601, Section E.3.a(1). Examination Standard 601 E.3.a(1) specifies, in part, that for a requalification program to maintain satisfactory performance, 75 percent or greater of the participants must pass all portions of the biennial examinations. Failures during the biennial cycle included a 36 percent failure rate on the biennial written examination. Immediate corrective actions implemented by the licensee included remedial training and retesting prior to returning operators to shift.

  The finding was more than minor because it was associated with the reactor safety cornerstone attributes concerning the licensee requalification program. High operator failure rates in the biennial requalification program may be indicative of programmatic issues with the operator license requalification program. The finding was preliminarily determined to be of low to moderate significance (White) because the licensee failed to meet the criteria for maintaining satisfactory performance. (Section 1R11)

Report Details

1. REACTOR SAFETY

1R11 Licensed Operator Requalification (71111.11B)

.1 Biennial Inspection

a. Inspection Scope

The inspectors (1) evaluated examination security measures and procedures for compliance with 10 CFR 55.49, “Integrity of Examinations and Tests”; (2) evaluated the licensee’s sample plan for the written examinations for compliance with 10 CFR 55.59, “Requalification,” and NUREG-1021, “Operator Licensing Examination Standards for Power Reactors,” Revision 8, Supplement 1, as referenced in the facility requalification program procedures; and (3) evaluated maintenance of license conditions for compliance with 10 CFR 55.53, “Conditions of Licenses,” by review of facility records (medical and administrative), procedures, and tracking systems for licensed operator training, qualification, and watch standing. In addition, the inspectors reviewed remedial training for examination failures for compliance with facility procedures and responsiveness to address areas failed.

Furthermore, the inspectors (1) interviewed eight personnel (four operators, two instructors/evaluators, and two training supervisors) regarding the policies and practices for administering examinations, and (2) observed the administration of two dynamic simulator scenarios to one requalification crew by facility evaluators. Job performance measures were observed for conformance to facility administration practices.

The inspectors also reviewed the remediation process for individuals, who had written examination failures. The results of the examinations were assessed to determine the licensee’s appraisal of operator performance and the feedback of performance analysis to the requalification training program.

The inspectors interviewed members of the training department, training department managers, and four members of an operating crew to assess the responsiveness of the licensed operator requalification program. Inspectors also observed the examination security maintenance for the operating tests during the examination week.

Additionally, the inspectors assessed the Cooper Nuclear Station plant-referenced simulator for compliance with 10 CFR 55.46, “Simulation Facilities,” using Baseline Inspection Procedure IP-71111.11 (Section 03.11). The inspectors assessed the adequacy of the facility licensee’s simulation facility (simulator) for use in operator licensing examinations. The inspectors did not assess the ability of the simulation facility to implement experience requirements as prescribed in 10 CFR 55.46 because the licensee does not use the simulator for reactivity manipulations.

The inspectors reviewed a sample of simulator performance test records (i.e., transient tests, surveillance tests, malfunction tests, and scenario-based-tests), simulator work request records, and processes for ensuring simulator fidelity commensurate with 10 CFR 55.46. The inspectors also interviewed personnel involved in the licensee's simulator configuration control program as part of this review.

b. Findings

Introduction. 10 CFR 55.59 (a)(1) requires each licensee to successfully complete a requalification program developed by the facility licensee that has been approved by the Commission. Further, 10 CFR 55.59 (c) states, in part, that the " . . . facility licensee shall have a requalification program reviewed and approved by the Commission. . . ." NUREG-1021, Examination Standard 601, Section E.3.a(1), specifies, in part, that for a requalification program to maintain satisfactory performance, 75 percent or greater of the participants must pass all portions of the biennial examinations.

One potential example of a self-revealing finding of low to moderate significance (White) associated with the licensee's licensed operator requalification program.

Description. The licensee failed to demonstrate satisfactory licensed operator requalification program performance as described in NUREG-1021, Revision 8, Supplement 1, Examination Standard 601, Section E.3.a(1). Examination Standard 601 E.3.a(1) specifies, in part, that for a requalification program to maintain satisfactory performance, 75 percent or greater of the participants must pass all portions of the biennial examinations. Failures during the biennial cycle included a 36 percent failure rate on the biennial written examination.

Analysis. The issue was screened using NRC Manual Chapter 0612, Appendix B, and was found to be a performance deficiency because the licensee failed to demonstrate satisfactory licensed operator requalification program performance as described in NUREG-1021, Revision 8, Supplement 1. The finding was more than minor because it was associated with the reactor safety cornerstone attributes concerning the licensee requalification program. High operator failure rates in the biennial requalification program may be indicative of programmatic issues with the operator license requalification program.

NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process (SDP)," (Appendix I) was used to assess the significance of the finding. Since operator performance during implementation of the biennial requalification cycle included a 36 percent failure rate on the biennial written examination, the flow chart was utilized along with a description of a satisfactory requalification program as described in NUREG-1021, Revision 8, Supplement 1, to determine the preliminary color of the finding. Appendix I requires that each aspect of a performance deficiency be evaluated and integrated into an overall assessment of biennial requalification program performance. This concept is described in the "Introduction," "Simulator Operational Matrix," and "The SDP Flow Chart," sections of Appendix I. Of note is the paragraph contained in "The SDP Flow Chart" section of Appendix I, which states, *"Finally, the SDP looks at the overall requalification program by asking if less than 75% of the operators passed all portions of the exam*

(NUREG-1021, Rev. 8, ES 601), and if more than 20% of the operator licensing records have operationally risk important deficiencies." Accordingly, to conclude that the abovementioned performance deficiency statement was appropriate, two aspects of operator requalification program performance were evaluated using Appendix I: (Aspect 1) high failure rates on the biennial written examination and (Aspect 2) overall requalification program performance.

Aspect 1 was limited to the high failure rate on the written examination. Block 2 of Appendix I asks if the issue was related to incorrect or inappropriate grading of the written examination or operating test by the licensee. The inspectors found that the examinations were graded properly. Block 4 of Appendix I asks if the issue was related to written examination quality, security, or operator performance in taking the examination. The inspectors found that examination quality was acceptable and that examination security was maintained. However, 36 percent of the operators failed the written examination. Therefore, for Aspect 1, Block 4 was answered, "yes." Block 13 of Appendix I asks if the issue was related to the quality (accuracy, clarity, appropriateness, discrimination, etc.) of the written examination. The inspectors' review of the prepared examinations indicated that the material was prepared in an acceptable manner and thoroughly covered the biennial requalification cycle curricula. A substantial portion of the written examinations broadly covered expected operator knowledge. Further, many of the questions in the examinations were new and covered more topical areas. Therefore, Block 13 was answered "no." Block 14 of Appendix I asks if the integrity of the written examination had been compromised. As discussed, examination security was maintained. Furthermore, the inspectors determined that licensee corrective actions from a previous examination integrity issue were effective. Therefore, Block 14 was answered "no." Block 15 of Appendix I asks if more than 20 percent of the operators who took the written examination in this training cycle failed. During a review of operator performance on the biennial written examination, the inspectors determined that 36 percent of the operators failed the written examination. If Aspect 1 were evaluated as a stand alone finding, Block 15 would be answered "yes." Recognizing that Block 15 of Appendix I defines the lower boundary for acceptable performance, the preliminary conclusion of significance was not made until all aspects of the licensee's operator license requalification program performance were evaluated.

As required by Appendix I, Aspect 2 was focused on the overall acceptability of the licensee's requalification program performance. A high failure rate may indicate a programmatic weakness not narrowly isolated to issues associated with examination grading, the written examination, the individual operating test, simulator fidelity, scenario quality, scenario integrity, or crew performance. Therefore, Blocks 2, 4, 5, 6, 20, 21, and 22 of Appendix I were answered "no." In accordance with Block 23 of Appendix I, since greater than 25 percent of operators failed at least one part of the biennial requalification examinations, the inspectors concluded that the answer to this question was "yes." Therefore, the performance deficiency was preliminarily determined to be of low to moderate significance (White). The licensee entered this issue into their corrective action program as Notification 10284648. The issue was subsequently classified by the licensee as a significant condition report (SCR 2003-1966).

Enforcement. No violation of NRC requirements associated with this finding have been identified at this time.

4OA6 Meetings, including Exit

The inspectors conducted a final telephonic exit meeting to discuss the preliminary findings and other minor observations with Mr. Jerry C. Roberts and other members of the licensee's staff, on February 5, 2004.

Licensee management did not identify as proprietary any materials examined during the inspection.

4OA7 Licensee Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and are violations of NRC requirements, which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as a noncited violation.

- 10 CFR Part 55.49 requires that licensees not engage in any activities that compromises the integrity of any examination. Further, Procedure OTP 810, "Operations Department Examination Security," Revision 8, required that any examination material under development be controlled under the custody of personnel covered by a security agreement. Contrary to this requirement, the licensee failed to maintain custody of examination scenario batch files on a diskette, which was inadvertently left in a simulator instructor console for a period of 6 hours. Subsequent review of the material, and the fact that the material was found in the position last in custody of licensee examination development personnel, indicated that actual effects on the integrity of the examination was very unlikely. This finding was discovered on October 16, 2003, and was documented in the licensee's corrective action program as Notification 10276342. This finding was only of very low safety significance,

ATTACHMENT

KEY POINTS OF CONTACT

Licensee

M. Schaible, Operations Training Programs Supervisor
D. Van Der Kamp, Regulatory Affairs
H. McDaniel, Nuclear Instructor 1
P. Fleming, Risk and Regulatory Affairs Manager
L. Edwards, Training Manager

NRC

S. Schwind, Senior Resident Inspector

DOCUMENTS REVIEWED

The following documents were selected and reviewed by the inspectors to accomplish the objectives and scope of the inspection and to support any findings:

Procedures

OTP 805, Licensed Operator Annual/Biennial Exam Development, Revision 6
OTP 809, Operator Requalification Examination Administration, Revision 8
OTP 810, Operations Department Examination Security, Revision 8

Examination Materials

2003 Operating Examination Summary
2003 Written Examination Master Sample Plan
2003 Week 1 through 5 Written Outlines
2003 Exam Scenario History
2003 Exam JPM History
2003 Training Scenario Matrix
2003 PRA Data Input
2003 Operating Experience Input
2003 Week 1 LOR Written Exam
2003 Week 2 LOR Written Exam
2003 Week 1 LOR Written Exam Analysis, Licensed Operators Only
2003 LOR Week 1 Written Exam Test Item Analysis
2003 Week 2 LOR Scenario SKL052-52-07 Revision 7
2003 Week 2 LOR Scenario SKL052-52-26 Revision 4
JPM SKL034-30-35
JPM SKL034-10-91
JPM SKL034-10-17
JPM SKL034-11-04
JPM SKL034-21-57
JPM SKL034-21-54

Self Assessment Corrective Action

Quality Assurance Audit Report 02-01, "Training Programs," February 28, 2002
SA02039 Training Self Assessment Report, September 30 - October 7, 2002
Notification 10232221
Notification 10276342

Training Feedback

Attachment 4, Course Feedback Form for Course/Cycle 02-16
Attachment 4, Course Feedback Form for Course/Cycle 02-12
Attachment 4, Course Feedback Form for Course GEN003-04-01
Attachment 4, Course Feedback Form for Course OTH015-03-02

Simulator Materials

Cooper Simulator Self-Assessment: October 14 -15, 2003

NAIT Feedback Form: RCR 2003-1826 Action 1 regarding lapsed simulator testing

Simulator Discrepancies List by Due Date

SWP 03-0061 regarding discrepancy from Malfunction test ED11C

SWP 03-0062 regarding discrepancy from Malfunction test ED11D

SWP 03-0063 regarding discrepancy from Malfunction test ED11F

CNS SIMULATOR TEST Transient 4 performed 3/23/03

CNS SIMULATOR TEST Stability/Accuracy Test performed 3/21/03

2003 Annual Simulator Performance Report

Management Overview - 2003 Annual Simulator Performance Test Report

Real-Time Trend Plots from RRMG Trip: Tape 86-002

NPPD Simulator Desk Guide 4.1: Simulator Performance Testing

Lesson Plan SKL012-06-01 BET 1851: OPS Simulator Introduction

NAIT Feedback Form: DD 10249452 regarding CNS Simulator Response to 5/26/03 Turbine Transient

Post Event Review: Main Turbine High Vibration Shutdown 5/26/03 (Event 03-07)

Post Event Review: Plant Shutdown for Refueling Outage 20 11/3/00 (Event 01-09)

Post Event Review: Plant Shutdown due to FW Heater LCV Failure 2/20/03 (Event 03-02)

Post Event Review: Plant Shutdown to Repair Moisture Separator C Reheat Valve 4/20/03 (Event 03-04)

Post Event Review: Manual Scram after Fire on 345KV Wooden Cross-Arm 10/28/03 (Event 03-10)

Appendix E: Simulator System Design Assumptions and Simplifications