



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BLVD
ARLINGTON, TEXAS 76011-4511

April 10, 2013

Mr. Oscar A. Limpias, Vice President-Nuclear
and Chief Nuclear Officer
Nebraska Public Power District
Cooper Nuclear Station
72676 648A Avenue
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION - NRC EXAMINATION REPORT 5000298/2012301

Dear Mr. Limpias:

On November 5, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed an initial operator license examination at Cooper Nuclear Station. The enclosed report documents the examination results and licensing decisions. The preliminary examination results were discussed on November 1, 2012, with Mr. K. Higginbotham, General Manager of Plant Operations, and other members of your staff. A telephonic exit meeting was conducted on November 14, 2012, with M. Barton, Operations Training Instructor, who was provided the NRC licensing decisions. For an issue discovered during the examination validation process, an additional telephonic exit meet took place on March 21, 2013, with Mr. C Sunderman, Acting Training Manager, and other members of your staff.

The examination included the evaluation of one applicant for reactor operator license, one applicant for instant senior reactor operator license, and four applicants for upgrade senior reactor operator licenses. The license examiners determined that all of the applicants satisfied the requirements of 10 CFR Part 55 and the appropriate licenses have been issued. There was one post examination comment submitted by your staff. The enclosure contains details of this report and summarizes post examination comment resolution.

Additionally, the NRC has identified one issue that was evaluated under the risk significance determination process as having very low safety significance. The NRC has determined that a Severity Level IV violation is associated with this issue. However, because of the very low safety significance and the fact that it was entered into your corrective action program, the NRC is treating this finding as non-cited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy. If you contest the non-cited violation, you should provide a response within 30 days of the date of this examination report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the facility. In addition, if you disagree with the cross-cutting aspect assigned to the finding in this report, you should provide a response within 30 days of the date of this examination report, with the basis for your disagreement, to the Regional Administrator, Region IV; and the NRC Resident Inspector at the facility.

O. Limpias

- 2 -

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Vincent G. Gaddy, Chief
Operations Branch
Division of Reactor Safety

Docket: 50-298
License: DPR-46

Enclosure: NRC Examination Report 05000298/2012301
w/Attachments

1. Supplemental Information
2. Form ES-501 Simulator Fidelity Report

cc w/enclosure: Electronic Distribution for Cooper Nuclear Station

ADAMS ACCESSION NUMBER: ML13101A213

ADAMS: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		<input checked="" type="checkbox"/> SUNSI Review Complete	Reviewer Initials: SDH	
		<input checked="" type="checkbox"/> Publicly Available	<input checked="" type="checkbox"/> Non-Sensitive	
		<input type="checkbox"/> Non-publicly Available	<input type="checkbox"/> Sensitive	
OE:OB	OE:OB	OE:OB	C:PBC	C: OB
SHedger	MBloodgood	NHernandez	DProulx	VGaddy
/RA/	/RA/	/RA/	/RA/	/RA/
3/26/13	4/3/13	3/26/13	4/4/13	4/10/13

OFFICIAL RECORD COPY

T=Telephone

E=E-mail

F=Fax

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 50-298
License: DPR-46
Report: 05000298/2012301
Licensee: Nebraska Public Power District
Facility: Cooper Nuclear Station
Location: Brownville, Nebraska
Dates: October 30, 2012, to March 21, 2013
Inspectors: S. Hedger, Chief Examiner
M. Bloodgood, Operations Engineer
N. Hernandez, Operations Engineer
Approved By: Vince Gaddy, Chief
Operations Branch
Division of Reactor Safety

SUMMARY OF FINDINGS

ER 05000298/2012301; October 30, 2012 to March 21, 2013; Cooper Nuclear Station; Initial Operator Licensing Examination Report.

NRC examiners evaluated the competency of one applicant for reactor operator license, one applicant for instant senior reactor operator license, and four applicants for upgrade senior reactor operator licenses at Cooper Nuclear Station.

The licensee developed the examinations using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1. The written examination was administered by the licensee on November 5, 2012. NRC examiners administered the operating tests on the week of October 29, 2012.

The examiners determined that all of the applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses have been issued.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

Severity Level IV. The examiners identified a non-cited violation of 10 CFR Part 55.49, "Integrity of Examinations and Tests," for the failure of the licensee to ensure the integrity of initial licensing exams and licensed operator annual operating tests from 1997 to 2012. During validation activities being conducted supporting the 2012 initial licensing examination, the NRC identified a failure to implement the site's simulator Security Procedure OTP 810, "Operations Department Examination Security (Revision 11)." Additional follow up revealed that there was a portion of the licensee's computer network tied to their simulator that had not been isolated from the simulator during exam activities (initial and requalification examinations) for a period of approximately 15 years. Both provided plant staff the ability to view exam material in an uncontrolled manner. Providing this ability to view exam material in this manner is considered an exam integrity compromise. However, an evaluation involving site access logs, personal interviews with staff, and review of trends in exam results showed that the compromise did not have an actual effect on the equitable and consistent administration of the affected exams. The licensee entered the finding into the corrective action program as Condition Reports CR-CNS-2012-06335 and -06336.

The failure of the licensee's training staff to maintain the integrity of examinations administered to initial license applicants and licensed operations personnel was a performance deficiency. The finding was more than minor because it adversely affected the Human Performance attribute of the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that allowing licensed operators to return to the control room without valid demonstration of appropriate knowledge on their annual operating tests, or allowing operators to obtain licenses

based on a compromised examination, could be a precursor to a more significant event. Using NRC Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, Tables 1 and 2 worksheets; and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to have very low safety significance (Green). Although the 2012 finding resulted in a compromise of the integrity of initial licensing examinations and annual operating tests for approximately 15 years, with no compensatory actions immediately taken when the compromise should have been discovered, the equitable and consistent administration of the examinations in question were not actually affected by this compromise. In addition, the failure to meet 10 CFR 55.49 was evaluated through the traditional enforcement process, which resulted in its association with a Severity Level IV violation consistent with Sections 2.2.4 and 6.4.d of the NRC Enforcement Policy. This finding has a cross-cutting aspect in the human performance area associated with the resources component because the licensee failed to ensure that procedures were adequate to assure nuclear safety. Development and maintenance of Procedure OTP 810 had not involved review by the simulator support staff since the procedure's inception. The simulator support staff is responsible for the configuration of computer networks that are connected to the simulator facility [H.2(c)](Section 4OA5).

B. Licensee-Identified Violations

None.

REPORT DETAILS

4. OTHER ACTIVITIES (OA)

4OA5 Other Activities (Initial Operator License Examination)

.1 License Applications

a. Scope

NRC examiners reviewed all license applications submitted to ensure each applicant satisfied relevant license eligibility requirements. The examiners also audited two of the license applications in detail to confirm that they accurately reflected the subject applicant's qualifications. This audit focused on the applicant's experience and on-the-job training, including control manipulations that provided significant reactivity changes.

b. Findings

No findings were identified.

.2 Examination Development

a. Scope

NRC examiners reviewed integrated examination outlines and draft examinations submitted by the licensee against the requirements of NUREG-1021. The NRC examination team conducted an onsite validation of the operating tests.

b. Findings

No findings were identified.

The operating test and reactor operator written examination submitted by the licensee were within the range of acceptability expected for a proposed examination. However, the senior reactor operator written examination submitted by the licensee was outside the acceptable quality range expected by the NRC. Of the 25 questions submitted, nine of them were categorized as unsatisfactory per NUREG-1021 requirements, with the two most common issues being knowledge/ability mismatch or questions not being written to senior reactor operator-only level of knowledge. Additionally, there were six questions that needed editorial changes and ten questions that were satisfactory as originally submitted. This was the third successive examination submittal which contained portion(s) that were unsatisfactory. Consistent with the corporate notification letter sent to licensees at the start of the examination development for each examination, future unsatisfactory examination submittals may cause the examinations to be rescheduled or cancelled. Corrective actions to address this are captured in CR-CNS-2012-07969.

NRC examiners provided outline, draft examination and post-validation comments to the licensee. The licensee satisfactorily completed comment resolution prior to examination administration.

During examination validation, the NRC examination team identified several procedure enhancement opportunities that were captured by procedure change request numbers 60220 through 60224 and 60328 through 60329.

.3 Operator Knowledge and Performance

a. Scope

On November 5, 2012, the licensee proctored the administration of the written examinations to all six applicants. The licensee staff graded the written examinations, analyzed the results, and presented their analysis and post examination comments to the NRC on November 9, 2012.

The NRC examination team administered the various portions of the operating tests to all six applicants on the week of October 29, 2012.

b. Findings

No findings were identified.

All of the applicants passed the written examination and all parts of the operating test. The final written examinations, the operating test, and post-examination analysis and comments may be accessed in the ADAMS system under the accession numbers noted in Attachment 1. In a letter, dated August 27, 2012, reference number NLS2012094, the licensee requested and received approval by the NRC to withhold the written examinations from the public document room for two years after the administration date.

The examination team noted a generic weakness during a manual main feedwater pump startup during the operating test. As part of the startup, applicants raised the speed of the pump in accordance with procedures. When the pump experienced increased vibration due to reaching one of its critical speeds, the applicants did not recognize what control room indications could be used to confirm whether this was a direct result of operating at a critical speed. This need to improve training on this topic has been entered into the licensee corrective action program as LO-WTCNS-2012-00009.

.4 Simulation Facility Performance

a. Scope

The NRC examiners observed simulator performance with regard to plant fidelity during examination validation and administration.

b. Findings

No findings were identified.

There was one simulator fidelity issue that was observed during examination validation efforts. It is documented in Attachment 2 of this report per NUREG-1021 requirements. The licensee entered this item into their corrective action program as CR-CNS-2012-08764.

.5 Examination Security

a. Scope

The NRC examiners reviewed examination security during both the onsite preparation week and examination administration week for compliance with 10 CFR 55.49 and NUREG-1021. Plans for simulator security and applicant control were reviewed and discussed with licensee personnel.

b. Findings

Failure to Maintain Both Initial Licensing Examination and Licensed Operator Examination Integrity

Introduction. The NRC examiners identified a Severity Level IV non-cited violation (NCV) of 10 CFR Part 55.49, "Integrity of Examinations and Tests," and an associated Green finding, for the failure of the licensee to ensure the integrity of initial licensing exams and licensed operator annual operating tests from 1997 to 2012. During validation activities being conducted supporting the 2012 initial licensing exam, the NRC identified a failure to implement the site's simulator Security Procedure OTP 810, "Operations Department Examination Security (Revision 11)." Additional follow up revealed that there was a portion of the licensee's computer network tied to their simulator that had not been isolated from the simulator during exam activities (initial and requalification examinations) for a period of approximately 15 years. Both provided plant staff the ability to view examination material in an uncontrolled manner. Providing this ability to view the examination material is considered an examination integrity compromise. However, an evaluation involving site access logs, personal interviews with staff, and review of trends in previous year's exam results showed that the compromise did not have an actual effect on the equitable and consistent administration of the affected exams.

Description. During initial licensing exam preparations, NUREG-1021 directs NRC examiners to review examination security measures taken by a licensee, and to verify the ability of the licensee to implement these measures. This is accomplished through review of examination security procedures prior to examination validation week, as well as observing the licensee's implementation of these procedures during the validation week. On September 20, 2012, NRC examiners were observing licensee staff removing examination security measures in the simulator per Procedure OTP 810, Attachment 3,

“Simulator Security Checklist.” One of the steps in the checklist directs licensee staff to place or verify the “Plant PMIS Link” A/B switch in the “B” position. The NRC examiner noticed that the licensee staff member did not open the cabinet to check the position of this switch, so the examiner inquired about this. The licensee staff member then opened the cabinet, and found this switch in the “A” position. This switch is positioned or checked in the “B” position both before and after examination activities in the simulator. With the switch in the “A” position, there was a possible path to view the simulator computer via the plant computer network. Based on questioning, it was determined that when setting simulator examination security September 17 through 20, 2012 (initial licensing examination validation week), licensee staff had left this switch in the wrong position, contrary to Attachment 3 of Procedure OTP 810.

Based on this, simulator examination security had not been set correctly per procedure the entire validation week. To determine whether any plant staff did gain access to the simulator computer via the network, NRC examiners accompanied licensee staff on a tour of one of their computer network equipment rooms. This room was visited to determine if one of two computer network switches connected in series with the switches controlled in the simulator examination security procedure had been repositioned during the course of the validation week. One of these switches would have to be aligned in a specified position to allow other computers on the network to see the simulator computer. Based on physical viewing of these switches and review of switch activity logs at the site, it was determined that neither of these switches was aligned to allow viewing of the simulator computer via the computer network during validation week.

While visiting the computer network room, NRC examiners noticed additional computer switches that, based on labeling, connected the computers in the Emergency Operations Facility (EOF) and the Technical Support Center (TSC) to plant data from either the control room or the plant simulator. When NRC examiners asked if these switches were accounted for in the simulator examination security procedure, licensee staff determined these switches were part of their computer network and they were not accounted for in the examination security procedure. Based on information provided by the licensee staff, these computer switches had been unaccounted for in their simulator security procedure for about 15 years.

The operations training staff conducted a review supporting both the initial licensing examination and multiple year’s licensed operator annual operating tests to determine if there was an effect on these activities. For the initial licensing examination and the 2012 annual operating tests, the staff reviewed badge access records for the computer network equipment room, conducted a time study to determine how much time was needed to align the switches in question to the simulator computer, and conducted interviews with staff members that could have had an interest in re-aligning these switches that showed up on badge access records. Based on these efforts, it was determined that there was no actual effect on knowledge of the 2012 initial licensing examination and annual operating tests content.

For the previous affected years, the licensee conducted a review of the requalification simulator scenario and job performance measure (JPM) examination results for the

years 2010 and 2011. This review period was selected because this is the time period that is most indicative of licensee current performance. Exam results were reviewed to see if any licensed operator or crew exhibited a clear trend of higher scores compared to the average exam element scores for the entire licensed operator population. Based on this review, there was no indication that any licensed operators scored significantly higher than the others in the licensed operator population. The licensee entered this issue in their corrective action program in Condition Reports CR-CNS-2012-06335 and -06336.

Analysis. The failure of the licensee's training staff to maintain the integrity of examinations administered to both initial license applicants and licensed operations personnel in accordance with 10 CFR 55.49 was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it adversely affected the Human Performance attribute of the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become a more significant safety concern. Allowing licensed operators to return to the control room without valid demonstration of appropriate knowledge and abilities on the annual operating tests could be a precursor to a more significant plant event. Basing license decisions on improperly controlled exam content can lead to issuance of licenses to individuals who have not demonstrated the requisite knowledge and abilities on a valid NRC examination. Using NRC Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 4, Tables 1 and 2 worksheets (issue date June 19, 2012); and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process (SDP)," Flowchart Block #10 (issue date December 6, 2011), the finding was determined to have very low safety significance (Green). Although the 2012 finding resulted in a compromise of the integrity of both initial licensing examinations and multiple licensed operator annual operating tests during the affected period, with no compensatory actions immediately taken when the compromise should have been discovered, there was no evidence that the equitable and consistent administration of these examinations was actually affected by this compromise.

The NRC's significance determination process (SDP) considers the safety significance of findings by evaluating their potential safety consequences. The traditional enforcement process separately considers the significance of willful violations, violations that impact the regulatory process, and violations that result in actual safety consequences. Traditional enforcement applied to this finding because it involved a violation that impacted the regulatory process. Assessing the violation in accordance with the Enforcement Policy, the examiners determined it to be of Severity Level IV because it was a non-willful compromise of an examination required by 10 CFR 55 that did not contribute to the NRC making an incorrect regulatory decision. This is consistent with Section 2.2.4 and Section 6.4.d of the NRC Enforcement Policy (issued January 28, 2013).

This finding has a cross-cutting aspect in the human performance area associated with the resources component because the licensee failed to ensure that procedures were

adequate to assure nuclear safety. As part of the licensee's corrective action for this issue, they prepared an Apparent Cause Evaluation Report, dated October 17, 2012. One of the results of the evaluation was that there was no record to show that Procedure OTP 810 had been developed or revised with the simulator support staff included as part of the process. The simulator support staff is responsible for the configuration of computer networks that are connected to the simulator facility. Without their involvement, changes in the computer network were not accounted for in the simulator exam security process. Based on review of Procedure OTP 810, Revision 11, the procedure has been reviewed and revised at least twice in the last three years (Revisions 10 and 11 were made in 2010). Therefore, this cross-cutting aspect is reflective of present performance [H.2(c)].

Enforcement. Title 10 CFR 55.49, "Integrity of Examinations," requires, in part, that facility licensees shall not engage in any activity that compromises the integrity of any application, test, or examination. The integrity of a test or examination is considered compromised if any activity, regardless of intent, affected or, but for detection, would have affected the equitable and consistent administration of the test or examination. This includes activities related to the preparation, administration, and grading of tests and examinations. Contrary to the above, during simulator examination activities starting in 1997 through September 21, 2012, the licensee engaged in an activity that compromised the integrity of a test required by 10 CFR Part 55. Specifically, training personnel prepared and administered examinations without adequate simulator security controls in place to ensure that the equitable and consistent administration of the examinations was maintained. Preparing and administering the examinations required in 10 CFR 55 in this manner is considered a compromise of the integrity of the test in that it is a practice that, but for detection, would affect the equitable and consistent administration of the examinations.

The inspectors determined that this compromise did not result in an actual effect on the equitable and consistent administration of examinations. Because this finding is of very low safety significance (Green), the associated violation resulted in no or relatively inappreciable potential safety consequences (SL-IV), and has been entered into the licensee's corrective action program to address recurrence as Condition Report CR-CNS-2012-06336, this violation is being treated as a non-cited violation consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000298/2012301-01; "Failure to Maintain Both Initial Licensing Examination and Licensed Operator Examination Integrity."

40A6 Meetings, Including Exit

The chief examiner presented the preliminary examination results to B. O'Grady and other members of the staff on November 1, 2012. A telephonic exit meeting was conducted on November 14, 2012, between S. Hedger, Chief Examiner, and M. Barton, Operations Training Instructor, communicating the results of the examination. Subsequently, an additional telephonic exit meeting was conducted on March 21, 2013, with C. Sunderman, Acting Training Manager, and other staff members to discuss the results of the documented non-cited violation.

The licensee did not identify any information or materials used during the examination as proprietary.

ATTACHMENT 1: SUPPLEMENTAL INFORMATION

ATTACHMENT 2: FORM ES-501 SIMULATOR FIDELITY REPORT

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

D. Van Der Kamp, Licensing Manager
C. Sunderman, Acting Training Manager
S. DeRosier, Operations Training Superintendent
M. Barton, Operations Training Exam Lead

NRC Personnel

C. Henderson, Resident Inspector
J. Josey, Senior Resident Inspector

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened and Closed

05000298/2012301-01 NCV Failure to Maintain Initial Licensing Examination and
Licensed Operator Examination Integrity (Section 40A5)

ADAMS DOCUMENTS REFERENCED

Accession No. ML12353A329 - FINAL WRITTEN EXAMS [Delayed Release November 5, 2014]
Accession No. ML12353A485 – FINAL OPERATING TEST
Accession No. ML12348A569 - POST EXAM ANALYSIS [AND COMMENTS]

Facility Licensee: Cooper Nuclear StationFacility Docket No.: 050-298Operating Test Administered on: 10/30/2012

This form is to be used only to report observations. These observations do not constitute audit or inspection findings and, without further verification and review in accordance with IP 71111.11, are not indicative of noncompliance with 10 CFR 55.46. No licensee action is required in response to these observations.

While conducting the simulator portion of the operating tests, examiners observed the following items:

Item	Description
Synchroscope Indication for Emergency Diesel Generators (EDGs)	While validating JPMs in the simulator, it was noted that the synchroscope failed to respond correctly for both EDGs if one bus was de-energized and the other had load. The synchroscope would remain stationary for a short period of time then slowly start drifting at least 90 degrees.