UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 E LAMAR BLVD
ARLINGTON, TX 76011-4511

August 28, 2014

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 5000298/2014301

Dear Mr. Limpias:

On August 4, 2014, 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 July 31, 2014, with you and other members of your staff. A telephonic exit meeting was conducted on August 20, 2014, with Mr. M. Maness, Initial Training Supervisor, who was provided the NRC licensing decisions.

The examination included the evaluation of five applicants for reactor operator licenses, one applicant for instant senior reactor operator license, and three applicants for upgrade senior reactor operator licenses. The license examiners determined that two of the applicants satisfied the requirements of 10 CFR Part 55 and the appropriate licenses have been issued. There were four post examination comments submitted by your staff. Enclosure 1 contains details of this report and Enclosure 2 summarizes post examination comment resolution.

No findings were identified during this examination.

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

Enclosures:
1. NRC Examination Report 05000298/2014301, w/Attachment
2. NRC Review of CNS Written Post-Examination Comments
3. Form ES-501 Simulator Fidelity Report

Electronic Distribution for Cooper Nuclear Station

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Electronic Distribution for Cooper Nuclear Station

Distribution:
See next page

ADAMS ACCESSION NUMBER: **ML14240A053**

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Letter to Oscar A. Limpias from Vincent G. Gaddy, dated August 28, 2014

SUBJECT: COOPER NUCLEAR STATION - NRC EXAMINATION REPORT 5000298/2014301

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	50-298
License:	DPR-46
Report:	05000298/2014301
Licensee:	Nebraska Public Power District
Facility:	Cooper Nuclear Station
Location:	Brownville, Nebraska
Dates:	July 28 to August 20, 2014
Inspectors:	K. Clayton, Chief Examiner S. Garchow, Senior Operations Engineer J. Drake, Senior Reactor Inspector M. Bloodgood, Operations Engineer M. Kennard, Operations Engineer (U/I)
Approved By:	Vincent G. Gaddy, Chief Operations Branch Division of Reactor Safety

SUMMARY

ER 05000298/2014301; 07/28/2014 to 08/20/2014; Cooper Nuclear Station; Initial Operator Licensing Examination Report.

NRC examiners evaluated the competency of five applicants for reactor operator licenses, one applicant for instant senior reactor operator license, and three 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 August 4, 2014. NRC examiners administered the operating tests the week of July 28, 2014.

The examiners determined that two 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

None.

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 three 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 written examination submitted by the licensee were within the range of acceptability expected for a proposed examination. However, the operating test required substantial work by the examination team during validation to fix such items as critical tasks on scenarios, Job Performance Measure (JPM) critical steps, and appropriate events for the scenarios. One of the scenarios had too many events for one board station (the Balance-of-Plant Operator position) and there were several events that were not safety-significant and, therefore, were removed from the operating test. Furthermore, the critical task list the station uses for both initial examinations and requalification examinations does not meet the NRC standards in NUREG-1021 for proper bounding conditions. For example, one critical task in the proposed draft operating test submittal was "Spray the drywell when torus pressure reaches ten psig." This critical task example and most in this document do not have a parameter bounding the action. This allows the task to be accomplished at any time once ten psig is reached in the drywell and it should be done before any design bases are exceeded or equipment is damaged, as defined in NUREG-1021. A critical task for this action that

meets the standard would be to “spray the drywell when torus pressure reaches 10 psig and before the pressure suppression pressure is exceeded on the PSP-L graph of the emergency operating procedures.” The licensee already has areas for improvement that include improved critical task development and scenario performance weaknesses on critical tasks, with Condition Report CR-CNS-2014-04683 written to address these issues.

During the draft examination and post-examination comment resolution reviews, the NRC examiners had to request additional resources to review examination materials that were not provided as part of the reference material submittal as required by Attachment 3 of ES-201 of NUREG-1021. This attachment provides specific guidance on the references required for this submittal and should be a standard submittal each time the licensee submits initial exam materials for review. The licensee wrote Condition Report CR-CNS-2014-04965 to address this issue.

The licensee satisfactorily completed comment resolution of all draft materials prior to examination administration.

During exam validation week, the licensed operator and examiners had challenges while trying to validate a JPM submitted by the licensee to align the Standby Liquid Control (SLC) tanks to the Reactor Core Isolation Cooling (RCIC) pump via a fire hose during emergency conditions using Emergency Procedure 5.8.8, “Alternate Boron Injection and Preparation,” Revision 14. This JPM could be required to be done in the dark (because of loss of power conditions in the plant and SLC pumps not available) by a single operator (usually a non-licensed operator) and requires routing a fire hose down several levels between electrical conduits. The electrical conduit appeared to interfere with the path that would be used to lower the hose down to the RCIC suction piping. Additionally, the connection at the RCIC pump required an elbow removal from the RCIC suction line connection so that the connection could be made with the fire hose. A smaller drain line was in direct interference with the elbow on the larger RCIC line and would not allow rotation of the elbow to screw it off the pipe without bending the two pipes apart. The procedure did not provide adequate guidance on how to get the elbow off (bending the larger pipe away from the smaller pipe) with this interference issue. The licensed operator and the examiners concluded that the JPM could not be performed with the procedure and equipment configuration in its current state so the JPM was removed from the exam. Subsequent to this action, the licensee responded by sending a senior licensed operator (SRO) with considerable experience to demonstrate that this task could be completed with the current procedure and equipment configuration. Although the NRC requested to watch the JPM, he proceeded on his own (with another individual who appeared to help with the fire hose routing). This SRO later reported to the chief examiner that the task was accomplished with no issues. The examiners went back into the plant to review the pipe interference issue and it was clear that the pipe had been slightly bent to allow removal of the elbow. The chief examiner turned this issue over to the resident inspector staff for follow-up and the licensee wrote Condition Report CR-CNS-2014-03921 to address the issue and then closed the condition report.

.3 Operator Knowledge and Performance

a. Scope

On August 4, 2014, the licensee proctored the administration of the written examinations to all nine applicants. The licensee staff graded the written examinations, analyzed the results, and presented their analysis and post examination comments to the NRC on August 11, 2014.

The NRC examination team administered the various portions of the operating tests to all nine applicants on the week of July 28, 2014.

b. Findings

No findings were identified.

Two of the applicants passed the written examination and all nine applicants passed 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 Enclosure 2. The licensee requested and received approval by the NRC during the initial facility contact discussions to withhold the written examinations from the public document room for two years after the administration date.

The examination team noted the following generic weaknesses during the operating tests:

1) Two of three crews demonstrated a weakness in the ability to diagnose a plugged instrument air dryer, which led to a reactor trip and completely uncovered the fuel during scenario 2.

2) Three out of four senior reactor operator applicants failed to identify entry into Procedure 2.4CHEM, which was required for high conductivity. The required actions in this procedure were more limiting than the TRM requirements, which was the only resource that these three applicants used.

3) There were many examples during JPM and scenario administration where applicants failed to follow procedures. If the applicants had not been able to back out their mistakes and complete the tasks successfully, there would have been several failures on the operating tests due to JPM failures.

4) There were several examples of command and control issues during the scenarios by the senior reactor operator applicants. One example includes handing off abnormal procedures to the board operators without any direction or feedback for actions completed until they were done.

5) Several operators used the wrong section of EOP 5.8.2 to try to get Reactor Water Clean Up in Reactor Pressure Vessel depressurization mode during simulator JPM “e.”

6) During scenarios, the applicant crews need to be timelier when making plant announcements for plant staff in the field during high radiation and/or high temperature conditions during emergencies to protect the staff in the plant.

7) During scenarios and some JPMs, the crews did not always use Alarm Response Procedures.

The licensee is performing a root cause analysis for the written examination failures and generic operating test weaknesses to address all weaknesses and it will be documented in Condition Report CR-CNS-2014-04931.

Additionally, the licensee submitted four post-examination comments (Q66, Q74, Q83, and Q87) that required review and disposition by the chief examiner. The regional branch chief for operator licensing assigned a panel of examiners that were not part of the examination team effort at Cooper Nuclear Station to review the four question challenges and provide a response back to him and the chief examiner. They reviewed the four questions and accepted one of the four proposed changes to the written examination (Q87-accept two correct answers as requested). The panel denied two of the proposed changes in which the licensee requested deletion of Q74 and Q83 and recommended the deletion of question 66 because of no correct answer. The two question key modifications did not change the outcome of the pass/fail grades on the written examination and consequently seven out of nine applicants failed the written examination. More details are included in Enclosure 2 of this report and the entire licensee's post examination comments and analysis can be found in ADAMS using Accession Number ML14234A352.

.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.

The simulator was not set up for data capture for the scenarios as required by NUREG-1021 and as specified in the corporate notification letter. After the first scenario run on Tuesday, July 29, the simulator was placed in freeze for follow-up questions and the chief examiner asked the licensee if all the data was saved on the simulator for the first run of Scenario 2. They informed him that this was not done. The simulator engineering staff was able to capture this data prior to reset and then set up the simulator to capture 27 parameters (some of which were redundant) for the exam activities. The chief examiner communicated that all safety-related parameters are required to be captured in order for the examiners to be able to determine how the simulator responded to applicant actions and the timing of those actions for grading purposes. Although it did not impact the grading for this exam, it could have challenged

the NRC to complete the grading process and, therefore, was discussed with the station. They agreed to correct the issue and entered it into their corrective action program as Condition Report CR-CNS-2014-04695.

There were two simulator fidelity issues observed during the examination administration week. These are documented in Enclosure 3 of this report per NUREG-1021 requirements. The licensee entered these items into their corrective action program as Conditions Reports CR-CNS-2014-04750 and CR-CNS-2014-04753.

.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

No findings were identified.

The licensee continues to struggle with examination security issues. The licensee received a Green Non-Cited Violation (NCV) for exam security issues on the previous initial examination. On this examination there were multiple near-miss cases involving things like sequestration, use of passwords with electronic exam materials between contractor and licensee, resetting exam security between JPMs (erasing procedures and removing keys from switches), and restriction of personnel activities once they are on the security agreement. These issues are captured in Condition Reports CR-CNS-2014-02998, CR-CNS-2014-03036, and CR-CNS-2014-04966. On June 4, 2014, the licensee reported a hacking event on a contractor's home computer who wrote parts of this examination. The licensee reported it to the NRC chief examiner on the same day. The NRC program office was consulted and a subsequent list of questions was provided to the licensee and the contractor by the NRC staff to assess the potential examination security issues. Additionally, the contractor hired a computer forensics company to inspect the computer that was hacked. The computer forensics company determined that 1) the exam files were not compromised, 2) the hacker was only on the computer for a few minutes, and 3) the hacker retrieved financial information for bank fraud then got off of the computer. The computer forensics company also verified during this review that all examination files on the contractor's computer were password protected and the password did not reside anywhere on the computer. Because of this detailed forensics review and acceptable answers to the questions from the NRC staff, the NRC determined that the examination could continue without any changes to its content. The licensee entered this item into their corrective action program as Condition Report CR-CNS-2014-03036.

4OA6 Meetings, Including Exit

The chief examiner presented the preliminary examination results to Mr. O. Limpias, Vice President-Nuclear and Chief Nuclear Officer, and other members of the staff on July 31, 2014. A telephonic exit meeting was conducted on August 20, 2014, between Mr. K. Clayton, Chief Examiner, and Mr. M. Maness, Initial Training Supervisor, communicating the results of the examination.

The licensee submitted proprietary information during the post-examination reviews and these materials have been destroyed or returned to the staff at Cooper Nuclear Station.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

O. Limpias, Vice President-Nuclear and Chief Nuclear Officer
D. Van Der Kamp, Licensing Manager
J. Austin, Training Manager
J. Flaherty, Senior Staff Licensing Engineer, Licensing
J. Olberding, Licensing Specialist
J. Florence, Simulator Supervisor
M. Maness, Initial Training Supervisor
E. Jackson, Exam Developer

NRC Personnel

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

ADAMS DOCUMENTS REFERENCED

Accession No. ML14234A344 - FINAL WRITTEN EXAMS (Delayed Release August 20, 2016)
Accession No. ML14234A349 - FINAL OPERATING TEST
Accession No. ML14234A352 - POST EXAM ANALYSIS (AND COMMENTS)

Enclosure 2: NRC Review of CNS Written Post-Examination Comments

Note: A complete text of the licensee's post examination analysis and comments can be found in ADAMS under Accession Number ML14234A352.

Question 66

The plant is operating at rated power when an ice dam upstream of Cooper causes river level to lower. The following occurs as a result:

- River level lowers to 873' MSL.
- Procedure 5.2SW is entered.
- At a river level of 870' MSL EPIP 5.7.1, Emergency Classification, is entered and an Unusual Event is declared.
- Service Water (SW) is declared inoperable.

What Control Room Narrative Log recording(s) shall be made by the BOP Operator?

a. Entry into 5.2SW only.
b. River Level at 873 and River Level at 870.
c. Entry into 5.2SW and declaration of SW inoperability.
d. Declaration of Unusual Event and Service Water inoperability.

Answer:
a. Entry into 5.2SW only.

Licensee Comments for Question 66:

Two applicants at the station commented that "Answer (b) is only correct based upon Operations Instruction 20 requiring narrative log entry for both Emergency Procedure & EPIP entry which occurs at river levels of 873' (Emergency) and 870' (EPIP) which were provided in the stem.

The station supports accepting changing the answer to (b) as ONLY correct due to an unintended typographical error which provided Emergency Procedure (5.2SW) and EPIP (NOUE) entry conditions on river level vs. specifying river level trending between these levels. Both river levels would be recorded in the narrative log as required in accordance with Operations Instruction 20, Section 2.c.i.(2). Question will be revised to reflect river level trending from 873' to 870' vs. stating both values.

NRC Resolution of Question 66

In accordance with Operations Instruction 20, Narrative Logs, Revision 15, there are only two sets of information that are required (shall be made) to be logged by a CRO. One is entry into an AOP, EOP, or EPIP. The question stem states that Emergency Procedure 5.2SW and EPIP 5.7.1 are entered. Based on this, answer A is incorrect since it states that ONLY an entry for Emergency Procedure 5.2SW is made.

Answer B is incorrect because it identifies EOP/EPIP entry conditions as log entries, not entry into the EOP/EPIP. (Note: the question stem incorrectly identifies a river level of 870 ft. as an entry condition into EPIP 5.7.1, Emergency Classification. The actual entry condition is river level **<** 870 ft.) Answers C and D are both incorrect because each includes the declaration of SW inoperability. In accordance with OI 20, this condition would be a "should be made" type log entry.

Since there are no correct answers, NUREG-1021, ES-403, D.1.c, states this question shall be deleted from the written exam.

Question 74

During an ATWS EOP-7A is entered; SLC is injected; and reactor water level is intentionally lowered.

When hot shutdown boron weight is injected into the reactor, water level is raised to +3 to +54 inches per step FS/L-24.

What is the reason for raising reactor water level?

a. To establish natural circulation.
b. To exit from EOP Flowchart 7A.
c. To restore adequate core cooling.
d. To allow resetting the reactor scram.

Answer:
a. To establish natural circulation.

Licensee Comments for Question 74:

Two applicants commented that "Question has no right answer. The reason for raising reactor water level is to increase (improve) boron mixing/distribution which occurs due to increased/improved natural circulation. Answer (a) provides establishing natural circulation meaning natural circulation was lost which is incorrect."

The station supports deleting this question due to the answer being confusing - (a) to "establish" natural circulation vs. "improve/increase" making it technically incorrect. Although the Student Text (INT008-06-10) was utilized as the technical reference during the development of this stating raising level reestablishes natural circulation, the PSTG is the official guidance for this step basis. Student Text will be revised to correct this statement. Answer (a) will be corrected to the reason for raising reactor water level under these conditions - improve boron mixing/distribution.

NRC Resolution of Question 74

There is some ambiguity in the question stem in that it is not clear what the water level in the reactor pressure vessel (RPV) was lowered to when it was lowered intentionally (prior to completion of Hot Shutdown Boron Weight (HSBW) injection). The issue is

whether or not natural circulation was maintained during the lowering of RPV level. For answer A to be correct, RV level would have had to be lowered enough to stop natural circulation. Thus, raising RPV level would then “establish” (or more technically correct – reestablish) natural circulation.

Using Cooper Nuclear Station EOP flowcharts to map an ATWS event, the RPV level would be maintained anywhere between -183” and +60” (EOP-7A, FS/L-9 through -12):

- If RPV level is being maintained below -158”, there is no data that show natural circulation flow is present (Minimum Steam Cooling RPV Water Level range). Page B13-43 of AMP-TBD00 says that “little if any natural circulation flow exists” in that band. Figure B-13-1 does not provide any natural circulation flow indication below the Top of Active Fuel (-158”). Therefore, raising RPV level would “establish” (or “reestablish”) natural circulation.

- If RPV level is being maintained between -158” and +60”, there is data that shows that natural circulation occurs. Therefore, raising RPV level would increase natural circulation.

- The discussion for Step C5-6 (page B-13-42 of AMP-TBD00) says that as level is raised after HSBW injection, a small power transient may occur “as natural circulation core flow is *re-established*.”

- The purpose, regardless of the RPV level being maintained, is to ensure that natural circulation flow is established. It may either be non-existent, or minimal, but this step, in the lowest level regime that can be assumed, makes sure it is there so that it can be increased.

- Establish – to introduce and cause to grow and multiply (Webster's’ Ninth New Collegiate Dictionary).

- The other answers are plausible, but incorrect.

While the question stem does not emphatically state to what level the RPV level was intentionally lowered, it is operationally valid and procedurally acceptable to lower RPV level to the Minimum Steam Cooling RPV Water Level range. Additionally, during the operations test portion of this initial exam, the station submitted simulator data for Scenario 2 that also supports the GE design data curves mentioned above that clearly demonstrate that natural circulation is lost as water level is lowered. Although the simulator is not an engineering model and can’t be used to establish design performance, it is clearly a data point that training is done on it, that it does model the loss of natural circulation, and applicants have been exposed to these phenomena during training. For Scenario 2, the water level was lowering due to an emergency depressurization evolution and as water level approaches -25" (fuel zone instruments) core flow goes to essentially zero, rebounds for a few minutes then goes to zero as water level passes the -100" value (fuel zone instruments) and continues to decrease.

Therefore, answer A is both reasonable and technically correct. No change to the answer key is required.

Question 83

According the Technical Specification bases, the safety mode of the Nuclear Pressure Relief system SRVs are designed to protect against which event?

a. The loss of main condenser vacuum.
b. Main Generator load reject/generator trip.
c. MSIV closure with high flux actuating an RPS scram.
d. Main Turbine stop valve closure with the failure of bypass valves.

Answer:
c. MSIV closure with high flux actuating an RPS scram.

Licensee Comments for Question 83:

Two applicants commented that "Question has no correct answer. Answer (c) provides for a **SINGLE** MSIV closure vs. ALL MSIVs. A single MSIV closure does not provide the most severe pressure transient for which SRVs are designed to protect."

The station supports deleting this question due to a typographical error providing for a single MSIV closure which is incorrect leaving no correct answer. Technical Specifications describe closure of ALL main steam isolation valves (MSIVs). Answer (c) will be corrected to include closure of ALL MSIVs.

NRC Resolution of Question 83

The issue is whether the statement "MSIV closure with high flux actuating an RPS scram" is sufficient to include all MSIVs and not just a single valve. A review of references reveals the following:

- In the "Applicable Safety Analyses" section of the TS 3.4.3 bases, the excerpt provided by the facility as evidence is accurate. The design basis event in question is the "closure of all main steam isolation valves (MSIVs) followed by a reactor scram on high neutron flux" (page B 3.4-14).

- In the same section, on page B 3.4-15, text says, "From an overpressure standpoint, the design basis events are bounded by the *MSIV closure with flux scram event* described above."

- Based on the Technical Specification bases reference text, stating that the design basis event associated with this question "MSIV closure with flux scram event" is synonymous with "closure of all main steam isolation valves (MSIVs) followed by a reactor scram on high neutron flux."

- In the supporting updated safety analysis report (USAR), pages IV-4-12 and IV-4-19, the singular and plural terms for the pertinent design evaluated event are used interchangeably as well.

- The other answers are plausible, but incorrect. In fact, USAR, Section IV-4, says that the main turbine stop valve closure with failure of bypass is a close second in terms of event severity. However, the MSIV closure event is still the most severe.

Because the Technical Specification bases refers to the same design basis event in two different ways, it is reasonable to expect the applicant to recognize that answer C is intended to mean all MSIVs. Referring to the **correct** design basis event for the safety relief valves is not made invalid based on whether MSIV is followed by an "s" or not, indicating plurality. This is further supported by Technical Specification bases that refer to main turbine stop valve closure. Clearly, the statement is meant to be inclusive of all turbine stop valves, and not just a single stop valve. Therefore, answer C is correct. No change to the answer key is required.

Question 87

A clearance order error has resulted in the SLC tank level lowering from 80% to 58% on SLC-LI-66 (Panel 9-5). An ATWS subsequently occurs requiring SLC injection with the tank level at 58%.

How is the SLC system affected?
What procedure provides guidance for the SLC system recovery?

a. Hot Shutdown Boron weight conditions cannot be met if required. Procedure 2.2.74, STANDBY LIQUID CONTROL SYSTEM provides tank restoration guidance.
b. Cold Shutdown Boron weight conditions cannot be met if required. Procedure 2.2.74, STANDBY LIQUID CONTROL SYSTEM provides tank restoration guidance.
c. Hot Shutdown Boron weight conditions cannot be met if required. Procedure 5.8.8, ALTERNATE BORON INJECTION AND PREPARATION provides tank restoration guidance.
d. Cold Shutdown Boron weight conditions cannot be met if required. Procedure 5.8.8, ALTERNATE BORON INJECTION AND PREPARATION provides tank restoration guidance.

Answer:
d. Cold Shutdown Boron weight conditions cannot be met if required. Procedure 5.8.8, ALTERNATE BORON INJECTION AND PREPARATION provides restoration guidance.

Licensee Comments for Question 87:

Two applicants commented that, “The question asked the applicant to determine, based on a given set of plant conditions, if the reduced SLC Tank level was sufficient to inject Cold/Hot Shutdown Boron Weight and which procedure provides SLC Tank level restoration guidance. The stem provided SLC tank level sufficient to inject Hot Shutdown Boron weight (26%) with an ATWS occurring. The question was intended to test which procedure is required to restore the SLC tank to support continued SLC pump operation to achieve Cold Shutdown Boron Weight injection during this ATWS. This supports answer (d). However, based upon the first part of answers (b) & (d) "Cold Shutdown Boron weight conditions cannot be met **IF REQUIRED**" creates the option of not needing Cold Shutdown Boron weight during this ATWS. This allows for SLC Tank restoration IAW the normal SOP since no further guidance is provided in the stem. This is answer (b). Therefore, both procedures identified in (b) or (d), based on needing or not needing additional SLC injection beyond Hot Shutdown Boron Weight, provide SLC Tank restoration guidance. EOP 5.8, Emergency Operating Procedures allows for use of non-EOP Procedures during EOP flowchart usage.”

The station supports accepting both (b) and (d) as correct due to unclear plant conditions in the stem under which tank restoration is required.

NRC Resolution of Question 87

The issue is whether or not the applicant can determine what procedure would be used for Standby Liquid Control (SLC) system recovery (part two of the answer) during an ATWS event.

In order to differentiate between use of the System Operating Procedure (SOP) or the Emergency Operating Procedure (EOP), the applicant must determine if the reactor will remain shut down under all conditions without boron (EOP-6A, FS/Q-1). If the applicant is able to answer “yes,” then SLC would be secured and restored using the SOP (2.2.74). If the applicant answers “no,” more sodium pentaborate solution needs to be added to the tank using the EOP (5.8.8).

The question stem does not provide sufficient information for the applicant to determine whether the reactor will remain shut down under all conditions. In addition, answers B and D contain the words “if required” that further complicate the applicant’s decision process. Since it is reasonable for the applicant to assume *either* the reactor remains shut down under all conditions *or* it does not, there are two correct answers to this exam question.

Since there are two correct answers and they do not contradict each other, NUREG-1021, ES-403, D.1.c., states both answers will be accepted as correct. Thus, answers B and D are correct.

Facility Licensee: Cooper Nuclear Station
Facility Docket No.: 050-298
Operating Test Administered on: 07/31/2014

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
RRMG Set 'A' Scoop Tube lockout RESET pushbutton	While administering JPMs in the simulator, it was noted that the Recirc Pump 'A' MG set scoop tube lockout RESET pushbutton did not work for two applicants during their JPM administration. For these two applicants, the examiners had to cue the applicants that the reset worked in order to complete the JPM, but no other effects were observed on the JPM and it did not affect the outcome of the performance by the applicants. The simulator staff looked at the button and determined that the button needed replacement and that extra force was required to get it to RESET the lockout. The licensee wrote Condition Report CR-CNS-2014-04753 to address this issue.
The HPCI ASD panel is not correctly configured in the simulator	During the administration of a JPM, it was noted that two steps in the JPM were marked as critical that were not critical because the applicant did not have to take any actions to reposition the HPCI Gland Seal Condenser Blower control switch or the HPCI Gland Seal Condenser Condensate Pump control switch. These switches were incorrectly configured in the simulator in the AUTO position and should be in the STOP position per the Emergency Procedure 5.1ASD, Attachment 7, and to match the actual plant configuration. The appropriate JPM steps were changed to not be critical and the licensee wrote Condition Report CR-CNS-2014-04750 to address this issue.