

**ENCLOSURE**

**U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV**

**Docket No.:** 50-482  
**License No.:** NPF-42  
**Report No.:** 50-482/99-301  
**Licensee:** Wolf Creek Nuclear Operating Corporation  
**Facility:** Wolf Creek Generating Station  
**Location:** 1550 Oxen Lane, NE  
Burlington, Kansas  
**Dates:** July 26 to 29, 1999  
**Inspectors:** S. L. McCrory Chief Examiner, Senior Reactor Engineer, Operations Branch  
H. F. Bundy, Senior Reactor Engineer, Operations Branch  
R. E. Lantz, Reactor Engineer, Operations Branch  
**Approved By:** John L. Pellet, Chief, Operations Branch, Division of Reactor Safety

**ATTACHMENTS:**

**Attachment 1:** Supplemental Information  
**Attachment 2:** Facility Licensee Post-Examination Comments  
**Attachment 3:** Final Written Examinations and Answer Key

## EXECUTIVE SUMMARY

### **Wolf Creek Generating Station NRC Inspection Report No. 50-482/99-301**

NRC examiners evaluated the competency of six senior operator and three reactor operator license applicants for issuance of operating licenses at the Wolf Creek Generating Station facility. The licensee developed the initial examinations using NUREG-1021, Revision 8. NRC examiners reviewed and approved the examinations. The initial written examinations were administered to all nine applicants on July 21, 1999, by facility proctors in accordance with the guidance in NUREG-1021, Revision 8. The NRC examiners administered the operating tests on July 26-29, 1999.

#### Operations

- The applicants performed well on the written examination and demonstrated good performance skills in communication, performance verification, and procedure use during the operating examination. However, SRO applicants infrequently communicated degrading plant conditions up to the subsequent levels of the supervisory and management organization. All applicants passed all portions of the examination (Sections O4.1 and O4.2).
- The licensee submitted an examination of generally good quality that required only moderate changes (Section O5.1).

Report Details

Summary of Plant Status

The unit operated at power for the duration of this inspection.

I. Operations

**04 Operator Knowledge and Performance**

**04.1 Initial Written Examination**

**a. Inspection Scope**

On July 21, 1999, the facility licensee proctored the administration of the written examinations approved by the NRC to three individuals who had applied for reactor operator (RO) licenses and six individuals who had applied for senior reactor operator (SRO) licenses. The licensee proposed grades for the written examinations and evaluated the results for question validity and generic weaknesses. The chief examiner reviewed the licensee's results.

**b. Observations and Findings**

All applicants passed the written examination. Applicant scores ranged from 84 to 93 percent with an average of 88 percent. The licensee's post-administration analysis identified that four questions common to both examinations were missed by 50 percent or more of all applicants, that two questions, unique to the RO examination, were missed by two or more RO applicants, and that four questions, unique to the SRO examination, were missed by three or more SRO's. The questions missed were:

- Common        39, 51, 52, and 61
- RO Only        90 and 98
- SRO Only      80, 82, 86, and 93

The chief examiner reviewed the questions and the applicant responses and determined that there were no broad training or knowledge weaknesses. The licensee provided one post-examination comment and recommended change to the written examination (Attachment 2). The chief examiner concurred with the licensee's recommendation.

**c. Conclusions**

All nine applicants passed the written examinations and exhibited no broad knowledge or training weaknesses.

## **04.2 Initial Operating Test**

### **a. Inspection Scope**

The examination team administered the operating examination to the nine applicants on July 26 to 29, 1999. The team evaluated each applicant with the appropriate number of dynamic simulator scenarios. The team evaluated each RO and instant SRO applicant with 10 system tasks and in 4 administrative areas. The team evaluated the upgrade SRO applicant with five system tasks and in 4 administrative areas.

### **b. Observations and Findings**

All applicants passed all portions of the operating test. Overall, the applicants performed well in the dynamic simulator scenarios with good procedure use, self verifications and peer checks. The applicants demonstrated strong communication skills and discipline. Communications clearly identified expected actions with consistent acknowledgment by the operators. However, SRO applicants performing in the supervising operator position displayed a very low level of communication up to the subsequent levels of the supervisory and management organization. They did not routinely attempt to notify the shift supervisor or operations management of degrading plant conditions, even when a forced shutdown was imminent.

### **c. Conclusions**

All nine applicants passed the operating tests. The applicants demonstrated good performance skills in communication, performance verification, and procedure use. However, SRO applicants communicated up to the subsequent levels of the supervisory and management organization very infrequently even as plant conditions degraded significantly.

## **05 Operator Training and Qualification**

### **05.1 Initial Licensing Examination Development**

The facility licensee developed the initial licensing examination in accordance with guidance provided in NUREG-1021, "Operating Licensing Examination Standards," Revision 8.

#### **05.1.1 Examination Outline**

The facility licensee submitted the initial examination outlines on February 1, 1999. The chief examiner reviewed the submittal against the requirements of NUREG-1021, Revision 8 and approved the initial examination outlines with very minor comments and advised the licensee to proceed with examination development.

### 05.1.2 Examination Package

#### a. Inspection Scope

The licensee submitted the draft examinations on May 15, 1999, and the completed final examination package on June 24, 1999, following the chief examiner's onsite review the week of June 21, 1999. The chief examiner and a second examiner reviewed the examinations against the requirements of NUREG-1021, Revision 8.

#### b. Observations and Findings

The licensee submitted a technically valid draft examination of good quality that conformed to the original outline submitted by the licensee. The chief examiner challenged 15 of 125 questions as requiring significant revision or replacement. Most of the 15 questions discriminated at too low a level while some were judged as discriminating too high. The chief examiner provided enhancement comments on an additional 35 questions. After discussion of the suggested enhancements, the licensee modified the examinations as agreed. The chief examiner concurred with the resolution of the comments, the proposed question modifications and replacements, and the final product.

The licensee submitted four scenarios, including a backup, that were of good quality. The chief examiner requested the deletion of one event, considered to be redundant with another event in the scenario, and provided a few enhancement comments during the in-office review. During the onsite validation, the chief examiner deleted one event from two scenarios because they significantly increased the scenario run time with little or no evaluation enhancement. Additionally, the chief examiner made minor adjustments to event sequences and time lines.

To support the systems walkthrough section of the operating test, the facility licensee provided 20 job performance measures (JPM's) of good quality to evaluate selected operator tasks. The chief examiner noted that the examination administration schedule developed by the licensee resulted in 2 of the JPM's being used on subsequent days and requested that the licensee provide additional JPM's to preclude reuse. The chief examiner provided a few minor enhancement comments and the licensee made minor changes to several JPM's during the chief examiner's onsite review.

To support the administrative topics section of the operating test, the licensee submitted three examination sets, two SRO and one RO, that consisted of a mixture of administrative tasks and prescribed questions. While the administrative sets were adequate overall, 6 of 12 (roughly 2 per set) of the prescribed questions discriminated at too low a level and were required to be replaced. The licensee provided a post-examination recommendation regarding the classification scheme for the emergency action level determination associated with Scenario 4 (Attachment 2). The chief examiner accepted the licensee's recommendation as an additional correct answer.

c. Conclusions

The licensee submitted an examination of generally good quality that required only moderate changes.

05.2 Simulation Facility Performance

The examiners observed simulator performance with regard to fidelity during the examination validation and administration. During examination validation and administration, the simulator modeled plant performance accurately and did not exhibit any performance deficiencies. The simulator supported the examination well.

V. Management Meetings

X1 Exit Meeting Summary

The examiners presented the inspection results to members of the licensee management at the conclusion of the inspection on July 29, 1999. The licensee acknowledged the findings presented.

The licensee did not identify as proprietary any information or materials examined during this inspection.

**ATTACHMENT 1**

**SUPPLEMENTAL INFORMATION**

**PARTIAL LIST OF PERSONS CONTACTED**

**Licensee**

- D. Webb, Lead Simulator Specialist**
- A. Palmer, Initial Operator Licensing Supervising Instructor**
- J. Pippin, Manager, Training**
- J. Smith, License Supervising Instructor**
- M. Westman, Superintendent, Operations Training**
- K. Huges, Engineering Specialist, Licensing**
- C. Younie, Manager, Operations**
- T. Harris, Superintendent, Licensing**
- R. Muench, Vice President, Engineering**

**ATTACHMENT 2**

**FACILITY LICENSEE POST-EXAMINATION COMMENTS**