



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

September 24, 2010

Mr. Paul A. Harden  
Site Vice President  
FirstEnergy Nuclear Operating Company  
Beaver Valley Power Station  
P. O. Box 4, Route 168  
Shippingport, PA 15077-0004

SUBJECT: Beaver Valley Power Station Unit 2- NRC EXAMINATION REPORT  
05000412/2010301

Dear Mr. Harden:

On August 23, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed an examination at Beaver Valley Power Station Unit 2. The enclosed report documents the examination findings, which were discussed with Mr. Roy Brosie, Director of Performance Improvement, and other members of your staff at a post exam administration outbrief on August 19, 2010. Final examination results were provided to Mr. Paul Eisenmann, Fleet Exam Developer, in a telephone exit on September 7, 2010.

The examination included the evaluation of eight applicants for instant senior operator licenses. The written and operating examinations were developed using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1. The license examiners determined that all eight of the applicants satisfied the requirements of 10 CFR Part 55, and the appropriate licenses were issued on September 7, 2010.

No findings of significance 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 document 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,

A handwritten signature in black ink, appearing to read "Samuel L. Hansell, Jr.", written in a cursive style.

Samuel L. Hansell, Jr., Chief  
Operations Branch  
Division of Reactor Safety

Docket No.: 050-412

September 24, 2010

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Sincerely,

*/RA/*

Samuel L. Hansell, Jr., Chief  
Operations Branch  
Division of Reactor Safety

Docket No.: 050-412

**SUNSI Review Complete: SLH (Reviewer's Initials)**

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NAME	JDAntonio/SLH	SHansell						
DATE	9/24/10	9/24/10						

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P. Harden

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Enclosure:  
NRC Examination Report 05000412/2010301

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**EXAMINATION REPORT**

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

Dockets: 50-412  
Licenses: NPF-73  
Report : 05000412/2010301  
Licensee: FirstEnergy Nuclear Operating Company  
Facility: Beaver Valley Power Station Unit 2  
Location: Shippingport, PA  
Dates: August 16, 2010 to August 23, 2010 (exam administration)  
September 7, 2010 (completion of exam grading)  
Inspectors: Joseph D'Antonio, Chief Examiner, Operations Branch  
Brian Fuller, Examiner, Operations Engineer  
Tom Hedigan, Examiner, Operations Engineer  
  
Approved By: Samuel L. Hansell, Jr., Chief  
Operations Branch  
Division of Reactor Safety

## SUMMARY OF FINDINGS

ER 05000412/2010301; August 16 - September 7, 2010; Beaver Valley Power Station, Unit 2; Initial Operator Licensing Examination Report.

NRC examiners evaluated the competency of eight applicants for instant senior operator licenses at Beaver Valley Power Station, Unit 2. The facility 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 facility on August 23, 2010. NRC examiners administered the operating tests on August 16-19, 2010. The license examiner determined that all eight 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

No findings of significance were identified.

B. Licensee-Identified Violations

None.

## REPORT DETAILS

### 4. OTHER ACTIVITIES (OA)

#### 4OA5 Other Activities (Initial Operator License Examination)

##### .1 License Applications

###### a. Scope

The examiners reviewed all eight license applications submitted by the licensee to ensure the applications reflected that each applicant satisfied relevant license eligibility requirements. The applications were submitted on NRC Form 398, "Personal Qualification Statement," and NRC Form 396, "Certification of Medical Examination by Facility Licensee." The examiners also audited all 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 of significance were identified.

##### .2 Operator Knowledge and Performance

###### a. Examination Scope

On August 23, 2010, the licensee proctored the administration of the written examinations to all eight applicants. The licensee staff graded the written examinations, analyzed the results, and presented their analysis to the NRC on August 30, 2010.

The NRC examination team administered the various portions of the operating examination to all eight applicants on August 16 - 19, 2010. The eight applicants seeking an instant senior operator license participated in either two or three dynamic simulator scenarios, a control room and facilities walkthrough test consisting of ten system tasks, and an administrative test consisting of five administrative tasks.

###### b. Findings

All of the applicants passed all parts of the operating test. One senior reactor operator instant applicant was initially graded as having failed the senior reactor operator section of the written examination, but was regraded as a pass after evaluation of post exam comments. For the written examinations, the applicants' average score was 89.01 percent and ranged from 83.83 to 93.94 percent. The text of the examination questions, the licensee's examination analysis, and the licensee's post-examination comments may be accessed in the ADAMS system under the accession numbers noted in the attachment.

Chapter ES-403 and Form ES-403-1 of NUREG 1021 require the licensee to analyze the validity of any written examination questions that were missed by half or more of the applicants. The licensee conducted this performance analysis for those questions that met these criteria and submitted the analysis to the chief examiner.

The licensee's written exam recommendations and the NRC responses follow:

#### Reactor/Senior Operator Question 78

The licensee recommended accepting two correct answers for this question. The stem of the question presented an out of specification reactor chemistry condition and asked the applicant for the required technical specification action. Both answers requested by the facility are called for by the relevant technical specification.

#### NRC Response:

The NRC denied the facility recommendation. Of the two answers recommended by the facility, one had a six hour required action time, the other 48 hours. Compliance with the action of the first answer would satisfy the limiting condition for operation; compliance with only the actions of the second answer would not. No change was made to the answer key.

#### Reactor/Senior Operator Question 90

The licensee recommended deleting this question due to there being no correct answer choice. In the stem of the question, the applicant is presented with four valid annunciators and asked which would be addressed first in accordance with procedural guidance. The intended correct answer was a "first-out" annunciator indicating a required reactor trip. However, once the plant actually trips, emergency operating procedures (EOPs) take priority. Since EOPs take priority, asking about annunciator priority is an invalid question. The facility therefore recommends deleting this question.

#### NRC Response:

The NRC accepted the facility recommendation. The fact that EOPs take priority over annunciator response does not alter the fact that there is still a procedurally driven priority to the order in which those annunciators are finally addressed. However, the stem of the question gives no indication that the plant would have failed to trip in response to the first-out condition. The question provides two "yellow border" annunciators, which would both be correct based on the assumption that the plant had tripped as designed and the first-out was no longer an issue. With three answers potentially correct due to incomplete information about plant status in the stem, this question was deleted.

### .3 Initial Licensing Examination Development

#### a. Examination Scope

The facility licensee developed the examinations in accordance with NUREG-1021, Revision 9, Supplement 1. All licensee facility training and operations staff involved in examination preparation and validation were listed on a security agreement. The facility licensee submitted both the written and operating examination outlines on June 1, 2010. The chief examiner reviewed the outlines against the requirements of NUREG-1021, Revision 9, Supplement 1, and provided comments to the licensee. The facility licensee submitted the draft examination package on June 30, 2010. The chief examiner reviewed the draft examination package against the requirements of NUREG-1021, Revision 9, Supplement 1, and provided comments to the licensee on the examination during an onsite validation the week of July 12, 2010. The licensee satisfactorily completed comment resolution on August 2, 2010.

#### b. Findings

The NRC approved the initial examination outline and advised the licensee to proceed with the operating examination development.

The examiners determined that the written and operating examinations initially submitted by the licensee were within the range of acceptability expected for a proposed examination.

No findings of significance were identified.

### .4 Simulation Facility Performance

#### a. Examination Scope

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

#### b. Findings

No findings of significance were identified.

### .5 Examination Security

#### a. Examination Scope

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

b. Findings

No findings of significance were identified.

40A6 Meetings, Including Exit

The chief examiner presented comments concerning examination to Mr. Roy Brosie, Director of Performance Improvement, and other members of the licensee's management staff at a post administration outbrief on August 19, 2010. Final examination results were provided to Mr. Paul Eisenmann, Fleet Exam Developer, in a telephone exit on September 7, 2010. The licensee acknowledged the comments and results presented.

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

ATTACHMENT: SUPPLEMENTAL INFORMATION

**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

**Licensee Personnel**

William J. Rudolph II, Operations Training Manager

**NRC Personnel**

Joseph M. D'Antonio, Chief Examiner

**ITEMS OPENED, CLOSED, AND DISCUSSED**

**Opened**

NONE

**Opened and Closed**

NONE

**Closed**

NONE

**Discussed**

NONE

**ADAMS DOCUMENTS REFERENCED**

Accession No. ML102510217 – FINAL-Written Exam

Accession No. ML102510316 – FINAL-Operating Exam

Accession No. ML102650445 – FINAL-Post Exam Comments and Technical References

Accession No. ML102650459 – FINAL-Post Exam Comments Resolution References