

September 1, 2009

Mr. Barry Allen
Site Vice President
FirstEnergy Nuclear Operating Company
Davis-Besse Nuclear Power Station
5501 North State Route 2, Mail Stop A-DB-3080
Oak Harbor, OH 43449-9760

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION
NRC INITIAL LICENSE EXAMINATION REPORT 05000346/2009301(DRS)

Dear Mr. Allen:

On July 24, 2009, the NRC completed the initial operator licensing examination process at your Davis-Besse Nuclear Power Station. The enclosed report presents the results of the examination. Preliminary observations and findings noted during the examination were discussed with Mr. Hovland and other members of your staff on July 17, 2009. An exit meeting was conducted by telephone on August 7, 2009, between Mr. Steenbergen of your staff and Mr. Palagi of NRC Region III Operator Licensing, to review the resolution of the station's post examination comments and the proposed final grading of the written examination for the license applicants.

The NRC examiners administered initial license examination operating tests during the week of July 13, 2009. Members of the Davis-Besse Training Department and a NRC examiner administered the initial license written examination on July 20, 2009, to the applicants. Nine senior reactor operator (SRO) and one reactor operator (RO) applicants were administered license examinations. The results of the examinations were finalized on August 20, 2009. Nine applicants passed all sections of their examinations resulting in the issuance of eight senior reactor operator licenses and one reactor operator license. One SRO applicant failed the written examination and was issued a proposed license denial.

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

B. Allen

-2-

We will gladly discuss any questions you have concerning this examination.

Sincerely,

/RA/

Hironori Peterson, Chief
Operations Branch
Division of Reactor Safety

Docket No. 50-346
License No. NPF-3

- Enclosures:
1. Operator Licensing Examination Report 050000346/2009301(DRS)
 2. Simulation Facility Report
 3. Post Examination Comments and Resolutions
 4. Written Examinations and Answer Keys (RO & SRO)

cc w/encls 1 & 2:

The Honorable Dennis Kucinich
J. Hagan, President and Chief Nuclear Officer - FENOC
J. Lash, Senior Vice President of Operations and Chief Operating Officer - FENOC
Manager - Site Regulatory Compliance - FENOC
D. Pace, Senior Vice President of Fleet Engineering - FENOC
K. Fili, Vice President, Fleet Oversight - FENOC
P. Harden, Vice President, Nuclear Support
D. Jenkins, Attorney, FirstEnergy Corp.
Director, Fleet Regulatory Affairs - FENOC
Manager - Fleet Licensing - FENOC
C. O'Claire, State Liaison Officer, Ohio Emergency Management Agency
R. Owen, Administrator, Ohio Department of Health
Public Utilities Commission of Ohio
President, Lucas County Board of Commissioners
President, Ottawa County Board of Commissioners

cc w/encls 1, 2, 3, & 4: R. Hovland, Training Manager

We will gladly discuss any questions you have concerning this examination.

Sincerely,

/RA/

Hironori Peterson, Chief
Operations Branch
Division of Reactor Safety

Docket No. 50-346
License No. NPF-3

- Enclosures:
1. Operator Licensing Examination Report 050000346/2009301(DRS)
 2. Simulation Facility Report
 3. Post Examination Comments and Resolutions
 4. Written Examinations and Answer Keys (RO & SRO)

cc w/encls 1 & 2:

The Honorable Dennis Kucinich
 J. Hagan, President and Chief Nuclear Officer - FENOC
 J. Lash, Senior Vice President of Operations and Chief Operating Officer - FENOC
 Manager - Site Regulatory Compliance - FENOC
 D. Pace, Senior Vice President of Fleet Engineering - FENOC
 K. Fili, Vice President, Fleet Oversight - FENOC
 P. Harden, Vice President, Nuclear Support
 D. Jenkins, Attorney, FirstEnergy Corp.
 Director, Fleet Regulatory Affairs - FENOC
 Manager - Fleet Licensing - FENOC
 C. O'Claire, State Liaison Officer, Ohio Emergency Management Agency
 R. Owen, Administrator, Ohio Department of Health
 Public Utilities Commission of Ohio
 President, Lucas County Board of Commissioners
 President, Ottawa County Board of Commissioners

cc w/encls 1, 2, 3, & 4: R. Hovland, Training Manager

DISTRIBUTION:
See next page

DOCUMENT NAME: G:\DRS\Work in Progress\DAV 2009 301 DRS OL.doc

Publicly Available Non-Publicly Available Sensitive Non-Sensitive

To receive a copy of this document, indicate in the concurrence box "C" = Copy without attach/encl "E" = Copy with attach/encl "N" = No copy

OFFICE	RIII		RIII				
NAME	BPalagi:co		HPeterson				
DATE	08/31/09		09/01/09				

OFFICIAL RECORD COPY

Letter to Barry Allen from Hironori Peterson dated September 1, 2009.

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION
NRC INITIAL LICENSE EXAMINATION REPORT 05000346/2009301(DRS)

DISTRIBUTION:

RidsNrrDorLpl3-2 Resource

Susan Bagley

RidsNrrPMDavisBesse Resource

RidsNrrDirslrib Resource

Cynthia Pederson

Steven Orth

Jared Heck

Allan Barker

Jeannie Choe

Linda Linn

DRPIII

DRSIII

Patricia Buckley

Tammy Tomczak

[ROPreports Resource](#)

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No. 50-346
License No. NPF-3

Report No: 05000346/2009301(DRS)

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Davis-Besse Nuclear Power Station

Location: 5501 North State Route 2
Oak Harbor, OH 43449-9760

Dates: July 13 through July 24, 2009

Examiners: B. Palagi, Chief Examiner
D. McNeil, Examiner
K. Walton, Examiner

Approved by: Hironori Peterson, Chief
Operations Branch
Division of Reactor Safety

SUMMARY OF FINDINGS

ER 05000346/2009301(DRS); 07/13/09 - 07/24/09; Davis-Besse Nuclear Power Station;
Initial License Examination Report.

The announced operator licensing initial examination was conducted by regional examiners in accordance with the guidance of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1.

Examination Summary:

- Ten examinations were administered (nine Senior Reactor Operators (SRO) and one Reactor Operator (RO)).
- Nine applicants passed all sections of their examinations resulting in the issuance of eight SRO licenses and one RO license. One SRO applicant failed the written examination and was issued a proposed license denial.

REPORT DETAILS

4. OTHER ACTIVITIES (OA)

4OA5 Other

.1 Initial Licensing Examinations

a. Examination Scope

The NRC examiners conducted an announced operator licensing initial examination during the weeks of July 13 and July 20, 2009. The NRC examiners used the guidance prescribed in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1, to prepare the outline and develop the written examination and operating test. The examiners administered the operating test, consisting of job performance measures and dynamic simulator scenarios, during the period of July 13 through 17, 2009. The facility licensee and a NRC examiner administered the written examination on July 20, 2009. Nine senior reactor operator applicants and one reactor operator applicant were examined. During the on-site validation week of June 20, 2009, the examiners audited three license applications for accuracy.

b. Findings

Written Examination

The NRC examiners developed the written examination. Written examination changes agreed upon between the NRC and the licensee were made according to NUREG-1021, Revision 9. Subsequent to administration, the NRC graded the written examination and conducted a review of each question to determine the accuracy and validity of the examination questions. The licensee submitted three post-examination question comments by letter dated July 23, 2009, and received by NRC on July 24, 2009. The recommendations included accepting two correct answers for each of the three questions. The results of the NRC's review of the station's comments are documented in Enclosure 3, Post Examination Comments and Resolutions.

Operating Test

The NRC examiners developed the Operating Test. Operating Test changes agreed upon between the NRC and licensee were made according to NUREG-1021, Operator Licensing Examination Standards for Power Reactors. The licensee submitted no post-examination comments on the Operating Test. The NRC examiners completed operating test grading on August 20, 2009.

Examination Results

Nine applicants passed all sections of their examinations resulting in the issuance of eight senior reactor operator licenses and one reactor operator license. One SRO applicant failed the written examination and was issued a proposed license denial.

.2 Examination Security

a. Inspection Scope

The NRC examiners briefed the facility contact on the NRC's requirements and guidelines related to examination physical security (e.g., access restrictions and simulator considerations) and integrity in accordance with 10 CFR 55.49, "Integrity of Examinations and Tests," and NUREG-1021, "Operator Licensing Examination Standard for Power Reactors." The examiners reviewed and observed the licensee's implementation and controls of examination security and integrity measures (e.g., security agreements) throughout the examination process.

b. Findings

There was one issue associated with exam security identified by the NRC during the preparation of the exam. A problem was identified with the electronic transmission of the NRC authored Davis-Besse written examination. Following on-site validation of the proposed written examination the facility contact sent the NRC author a June 23, 2009 email containing comments and a marked-up copy of the proposed written examination. When the NRC author opened the email on June 24, 2009, he noted that the document containing the examination comments was password-protected. However, the marked-up written examination was not password-protected. This lack of password-protection is contrary to the examination security guideline contained in NUREG-1021 ES-201 Attachment 1 Physical Security Guideline 3. The NRC had previously briefed the licensee on the requirement to password protect examination-related documents sent via email.

Once this error was discovered, the Chief Examiner contacted the facility. The extent of the loss of examination control was investigated in accordance with the site examination security procedures. The facility contact signed a member of the site Information Technology (IT) group on to the exam security agreement to investigate the occurrence. The IT specialist was able to confirm that no one at First Energy had accessed the email in question from the utility computer system. Additionally, to investigate the possibility of the examination being captured during the internet transfer a Region III IT specialist was consulted. The NRC IT specialist determined that because of the way email messages are broken-up to be transmitted over the internet, the short time the information is in the internet, and the fact that no one knew the email was being sent, it was beyond the ability of a license candidate to intercept the examination in route to the NRC. The licensee documented this issue in the corrective action program as Condition Report (CR) Number 90-62056.

The issue was reviewed and assessed for a possible violation of 10 CFR 55.49, "Integrity of Examinations and Tests." Based on the above evaluations and discussions with the NRC Headquarters Program Office, it was determined that no actual examination compromise had occurred. However, to assure and enhance examination integrity, the NRC examination author modified and rewrote several written examination questions. The violation was considered minor in nature and was not subject to enforcement action in accordance with NRC enforcement policy.

Other than the issue identified above, the licensee's implementation of examination security requirements during examination preparation and administration was acceptable and met the guidelines provided in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors."

4OA6 Meetings

Exit Meeting

The chief examiner presented the examination team's preliminary observations and findings with Mr. Hovland and other members of the licensee management on July 17, 2009. A subsequent exit via teleconference was held on August 7, 2009, with Mr. Steenbergen following receipt of the site post-examination comments. The inspectors stated that they had reviewed proprietary information during the preparation and administration of the examination, but that the proprietary information would not be included in the examination report. The licensee acknowledged the observations provided.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

R. Hovland, Training Manager
D. Imlay, Operations Manager
C. Steenburgen, Operations Training Superintendent
S. Livingston, Initial License Training Supervisor
P. Timmerman, Training Instructor
L. Strauss, Regulatory Compliance

NRC

B. Palagi, Chief Examiner
D. McNeil, Examiner
K. Walton, Examiner

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened, Closed, and Discussed

None.

LIST OF ACRONYMS

ADAMS	Agency-Wide Document Access and Management System
CFR	Code of Federal Regulations
CR	Condition Report
DRS	Division of Reactor Safety
ILT	Initial License Training
IT	Information Technology
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records System
RO	Reactor Operator
SDP	Significance Determination Process
SRO	Senior Reactor Operator

SIMULATION FACILITY REPORT

Facility Licensee: Davis-Besse Nuclear Power Station

Facility Licensee Docket No. 50-346

Operating Tests Administered: July 13 through 17, 2009

The following documents observations made by the NRC examination team during the initial operator license examination. These observations do not constitute audit or inspection findings and are not without further verification and review, indicative of non-compliance with 10 CFR 55.45(b). These observations do not affect NRC certification or approval of the simulation facility other than to provide information which may be used in future evaluations. No licensee action is required in response to these observations.

During the conduct of the simulator portion of the operating tests, the following items were observed:

ITEM	DESCRIPTION
None	None

POST EXAMINATION COMMENTS AND RESOLUTIONS

Question: 28

Given the following conditions:

- A plant heatup is in progress.
- Three RCPs are running.
- RCS Temperature is 445°F.
- Seal Return Temperature is 179°F.

Under these conditions the following occurred:

- RCP Seal Injection was lost.
- RCP Seal Injection restoration was started to all RCPs 25 minutes ago.
- Component Cooling Water is operable and available to all RCPs.
- The SRO ordered the 4th RCP to be started.

When can the 4th RCP be started?

- a. IMMEDIATELY.
- b. After 5 minutes have elapsed.
- c. After RCS temperature is raised 5°F.
- d. After RCS temperature is raised 55°F.

Answer: b.

Reference:

DB-OP-06005, RC Pump Operation, Revision 21

DB-SD-039A, RCS System Description, Revision 5

New

Higher

Licensee Comment:

The station recommends that A and B be accepted as correct answers.

A is correct because the RCP starting interlocks are met for Seal Injection flow once Seal Injection flow is established. The RCP can immediately be started.

B is correct as well because Reference DB-OP-06005 Limits and Precautions 2.2.7 states "Start Seal Injection to all RCPs a minimum of 30 minutes before starting a RCP." Therefore, since only 25 minutes has elapsed, the candidates could apply the 30-minute limit and precaution and selected B as the correct answer.

POST EXAMINATION COMMENTS AND RESOLUTIONS

NRC Resolution:

The answer key for this question is in error. The NRC intended that answer B to be the correct answer to this question. In response to an examination security problem some of the questions and answers were reordered prior to the examination. This resulted in answer A being erroneously indicated as the correct answer on the examination answer key.

Answer A, that under the conditions given in the question stem, the RCP should be started immediately is wrong. As noted by the licensee procedure DB-OP-06005 Limits and Precautions 2.2.7 requires that Seal Injection to all RCPs must be established for a minimum of 30 minutes before starting a RCP. In the question stem it states that Seal Injection was restored 25 minutes ago. While it is true that the electrical circuit logic to allow starting a RCP would be made up and it would be physically possible to start a RCP it would violate DB OP-06005 to do so. Therefore, answer A is not correct, and answer B is the only correct answer.

POST EXAMINATION COMMENTS AND RESOLUTIONS

Question: 94

During implementation of an Abnormal Procedure, what is REQUIRED to allow a deviation from a step sequence?

- a. The Shift Manager has concurred with the deviation.
- b. A Condition Report is written prior to taking the actions.
- c. The reason for the deviation is noted in a copy of the procedure.
- d. A Peer Check of the actions is conducted by any licensed operator.

Answer: a.

Reference:

DB-OP-01003, Step 6.1.5

Bank

Fundamental

Licensee Comment:

The station recommends that A and B be accepted as correct answers.

DB-OP-01003, Step 6.5.3.d states,

“While taking actions out of sequence is highly discouraged, a deviation from step sequence is permissible provided the following conditions are met:

- The deviation in sequence is consistent with the mitigation strategy (i.e., the action is one that will be taken in response to the event just at a later time).
- SRO permission is obtained (normally the Command SRO).
- A second SRO (preferably the Shift Manager) concurs with the action.
- The deviation and reason are documented in the procedure or the Unit Log.”

The answer key is correct in that the Shift Manager is an SRO.

Answer C is also correct because Step 6.5.3.d requires the reason for the deviation must be noted in procedure or the Unit Log.

NRC Resolution:

The question was deleted from the examination. The stem of the question emphasizes what is “REQUIRED” to allow a deviation from a step sequence. The NRC agrees with the license that DB-OP-01003 Step 6.5.3.d is the governing requirement for the condition defined in the question stem. It is not REQUIRED that the Shift Manager has concurred with the deviation, per DB-OP-01003 any SRO may concur. Therefore, answer A is not correct. Similarly, it is not

POST EXAMINATION COMMENTS AND RESOLUTIONS

REQUIRED that the reason for the deviation be noted in the procedure, per DB-OP-01003 the reason could be noted in the unit log instead. Therefore, answer C is not correct. Because there is no correct answer the question was deleted from the examination.

POST EXAMINATION COMMENTS AND RESOLUTIONS

Question: 95

Given the following conditions:

- Power is being lowered from 100%.
- AFPT 1 was out-of-service.

The following event then occurred:

- A reactor trip from 10% power occurred.
- SG startup levels are at 40 inches.
- SG pressures are at 900 psig.
- RCS Hot Leg temperatures are at 550°F due to an overcooling transient that occurred following the reactor trip.
- RCS pressure is 1750 psig.
- The running MFW Pump tripped, however, both MFW Pumps are available.
- AFPT 2 just tripped and is not available.

Of the following, what is the PREFERRED method of restoring feedwater flow to the SGs per DB-OP-02000, Attachment 5, "Guidelines for Restoring Feedwater"?

- a. Using the SUFP at 300 gpm.
- b. Using a Main FW Pump at 900 gpm.
- c. Using the MDFP to the MFW header at 600 gpm.
- d. Using the MDFP to the AFW header at 600 gpm.

Answer: c.

Reference: DB-OP-02000, Attachment 5

New
Higher

Licensee Comment:

The station recommends that C and D be accepted as correct answers.

During a reactor trip with a loss of all feedwater DB-OP-02000, Attachment 5 provides controlling directions and lists the preferred order of feedwater sources. The preferred feedwater source is the Motor Driven Feed pump (MDFP). Attachment 5, Section A, Step 2 provides direction for the MDFP in the Aux. Feedwater Mode and Step 3 provides directions in the Main Feedwater Mode.

C is correct because the stem does not identify the reason for the shutdown, i.e. normal or rapid. If this was a normal shutdown the MDFP would be aligned in the Main Feedwater Mode at approximately 40% power per DB-OP-06902, Power Operations, making answer C correct.

POST EXAMINATION COMMENTS AND RESOLUTIONS

If this was a rapid shutdown the MDFP would be aligned in the Aux. Feedwater Mode making answer D correct.

NRC Resolution:

Only answer C will be accepted as correct. The licensee notes that for a normal shutdown the MDFP would be aligned in the Main Feedwater Mode at approximately 40% power per DB OP 06902, Power Operations, making answer C correct. The licensee also states that for a rapid shutdown the MDFP would be aligned in the Aux. Feedwater Mode making answer D correct. After reviewing the procedures referenced by the licensee the NRC agrees with both these contentions. However, the stem of the question states that power was being lowered from 100% then a trip occurred at 10% power. The candidates should not have assumed that a rapid shutdown was in progress. Prior to the examination NUREG-1021 APPENDIX E - POLICIES AND GUIDELINES FOR TAKING NRC EXAMINATIONS was reviewed with the candidates. NUREG-1021 APPENDIX E states, in part, "When answering a question, do *not* make assumptions regarding conditions that are not specified in the question..." Following this guidance candidates should have answered this question for a normal plant shutdown, making C the only correct answer.

In researching this resolution it was noted that this question had been revised during the per-examination review process. Originally the question was structured as follows.

Given the following conditions:

- AFPT 1 was out-of-service.
- A reactor trip from 10% power occurred.
- SG startup levels are at 13%.
- SG pressures are at 900 psig.
- RCS Hot Leg temperatures are at 450°F due to an overcooling transient that occurred following the reactor trip.
- The running MFW Pump tripped, however, both MFW Pumps are available.
- AFPT 2 just tripped and is not available.

Of the following, what is the PREFERRED method of restoring feedwater flow to the SGs per DB-OP-02000, Attachment 5, "Guidelines for Restoring Feedwater"?

- a. Using the MDFP to the FW header at 600 gpm.
- b. Using the SUFP at 300 gpm.
- c. Using a Main FW Pump at 900 gpm.
- d. Using the MDFP to the AFW header at 600 gpm.

The question was changed to its final form to clarify that a normal shutdown was in progress. This change resulted in C being the only correct answer.

POST EXAMINATION COMMENTS AND RESOLUTIONS

Additionally one of the candidates asked a related question during the examination. His question was, what line-up of the MDFP should be assumed in answering the question. The examination proctor told the candidate to assume the normal line-up for the conditions given in the stem. This candidate answered the question correctly. No other candidate asked a question related to this examination question.

WRITTEN EXAMINATIONS AND ANSWER KEYS (RO/SRO)

RO/SRO Initial Examination ADAMS Accession #ML092400308.