



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352

May 21, 2015

Mr. Thomas A. Vehec
Vice President
NextEra Energy Duane Arnold, LLC
3277 DAEC Road
Palo, IA 52324-9785

SUBJECT: DUANE ARNOLD ENERGY CENTER
NRC INITIAL LICENSE EXAMINATION REPORT 05000331/2015301

Dear Mr. Vehec:

On April 20, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed the initial operator licensing examination process for licensed applicants employed at your Duane Arnold Energy Center. The enclosed report documents the results of those examinations. Preliminary observations noted during the examination process were discussed on April 10, 2015, with you and other members of your staff. An exit meeting was conducted by telephone on April 24, 2015, between Mr. C. Hill, Training Manager, other members of your staff, and Mr. M. Bielby, Senior Operator Licensing Examiner, to review the proposed final grading of the written examination for the licensed applicants. During the telephone conversation, NRC resolution of the station's post-examination comment, initially received by the NRC on April 20, 2015, was discussed.

The NRC examiners administered an initial license examination operating test during the week of April 6, 2015. The written examination was administered by Duane Arnold Energy Center Training Department personnel on April 14, 2015. Five Senior Reactor Operator (SRO) and three Reactor Operator (RO) applicants were administered license examinations. The results of the examinations were finalized on April 24, 2015. All eight applicants passed all sections of their respective examinations and four SROs were issued senior operator licenses and three ROs were issued operator licenses. In accordance with NRC policy, the license for the one remaining SRO applicant is being withheld pending certification by the facility that the applicant has fully satisfied the remaining portion of the six months on-site experience requirement that was deferred until after completion of the examination.

The written examination and other related written examination documentation will be withheld from public disclosure for 24 months per your request.

T. Vehec

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In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the 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/

Hironori Peterson, Chief
Operations Branch
Division of Reactor Safety

Docket No. 50-331
License No. DPR-49

Enclosures:

1. Operator Licensing Examination
Report (ER) 05000331/2015301
w/Attachment: Supplemental Information
2. Simulation Facility Report
3. Post-Examination Comment and Resolution

cc w/encls: Distribution via LISTSERV®
C. Hill, Training Manager, DAEC

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-331
License No: DPR-49

Report No: 05000331/2015301

Licensee: NextEra Energy Duane Arnold, LLC

Facility: Duane Arnold Energy Center

Location: Palo, IA

Dates: April 6 – 20, 2015

Examiners: C. Zoia, Senior Operations Engineer – Chief Examiner
M. Bielby, Senior Operations Engineer – Examiner
D. Reeser, Operations Engineer – Examiner
J. Seymour, Operations Engineer – Examiner in Training

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

SUMMARY OF FINDINGS

ER 05000331/2015301; 04/06/2015 – 04/20/2015; NextEra Energy Duane Arnold, LLC; Duane Arnold Energy Center; Initial License Examination Report.

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

Examination Summary:

Eight of eight applicants passed all sections of their respective examinations. Four applicants were issued Senior Operator licenses and three applicants were issued Operator licenses. The license for the remaining applicant is being held pending certification by the facility that the applicant has fully satisfied the six months on-site experience requirement that was deferred until after completion of the examination. (Section 40A5.1).

REPORT DETAILS

40A5 Other

.1 Initial Licensing Examinations

a. Examination Scope

The U.S. Nuclear Regulatory Commission (NRC) examiners and members of the facility licensee's staff used the guidance prescribed in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9-Supplement 1, to develop, validate, administer, and grade the written examination and operating test. The NRC examiners prepared the outline and developed the written examination and operating test. Because the NRC examiners developed the test outline, they conducted an early validation of the operating test at the station's site-specific simulator during the week of February 23, 2015. After the operating test development was complete, the NRC examiners validated the proposed examination during the week of March 16, 2015, with the assistance of members of the facility licensee's staff. During the on-site validation week, the examiners audited the license applications for accuracy. The NRC examiners, with the assistance of members of the facility licensee's staff, administered the operating test, consisting of job performance measures (JPMs) and dynamic simulator scenarios, during the period of April 6 – 10, 2015. The facility licensee administered the written examination on April 14, 2015.

b. Findings

(1) Written Examination

During the validation of the written examination, several questions were modified or replaced. Changes made to the written examination were documented on Form ES-401-9, "Written Examination Review Worksheet," which will be available electronically in the NRC Public Document Room or from the Publicly Available Records component of Agencywide Documents Access and Management System (ADAMS).

On April 20, 2015, the licensee submitted documentation noting that there was one post-examination comment for consideration by the NRC examiners when grading the written examination. The post-examination comment and the NRC resolution for the post-examination comment is included as Enclosure 3 to this report. The proposed written examination, as well as the final as-administered examination and answer key (ADAMS Accession Number ML15125A418), will be available in 24 months electronically in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS.

The NRC examiners graded the written examination on April 21, 2015, and conducted a review of each missed question to determine the accuracy and validity of the examination questions.

(2) Operating Test

During validation of the operating test, some modifications were made to JPMs and dynamic simulator scenarios. The modifications were cosmetic in nature and added descriptions of actions to be performed by the applicants. Changes made to the operating test, documented in a document titled, "Operating Test Comments," as well as the final as-administered dynamic simulator scenarios and JPMs, are available electronically in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS.

The NRC examiners completed operating test grading on April 23, 2015.

(3) Examination Results

Eight applicants passed all portions of their examinations and seven were issued their respective operating licenses on April 29, 2015. In accordance with NRC policy, the license for the remaining senior reactor operator (SRO) applicant is being withheld pending certification by the facility that the applicant has fully satisfied the six months on-site experience requirement, a portion of which was deferred until after completion of the examination.

.2 Examination Security

a. Scope

The NRC examiners reviewed and observed the licensee's implementation of examination security requirements during the examination validation and administration to assure compliance with Title 10 of the *Code of Federal Regulations*, Section 55.49, "Integrity of Examinations and Tests." The examiners used the guidelines provided in NUREG 1021, "Operator Licensing Examination Standards for Power Reactors," to determine acceptability of the licensee's examination security activities.

b. Findings

No significant findings were identified.

4OA6 Management Meetings

.1 Debrief

The chief examiner presented the examination team's preliminary observations and findings on April 10, 2015, to Mr. T. Vehec, Site Vice President, and other members of the Duane Arnold Energy Center Operations and Training Department staff.

.2 Exit Meeting

The acting chief examiner conducted an exit meeting on April 24, 2014, with C. Hill, Training Manager, by telephone. The NRC's final disposition of the Duane Arnold Energy Center station's post-examination comment was disclosed and discussed with Mr. Hill during the telephone discussion. The examiners asked the licensee whether any of the material used to develop or administer the examination should be considered proprietary. The proposed and administered RO written examination Question 73 will be withheld from ADAMS public disclosure because it contains non-safeguards security-related information. The question will be placed in the non-public disclosure section of ADAMS.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

T. Vehec, Site Vice President
S. Anderson, Exam Developer/Operations Instructor
R. Baird, Corporate Operations Training Manager
T. Biesterveld, General Supervisor Operations Training
M. Davis, Licensing/Emergency Preparedness Manager
J. Ford, Initial License Training
M. Gilbert, Assistant Operations Manager-Training
C. Hill, Training Manager
E. Murray, Continuing Training Manager
G. Rushworth, Exam Writer
M. Strobe, Assistant Operations Manager
B. Udell, Exam Writer
S. Vick, Operations Instructor
R. Wheaton, Operations Director

U.S. Nuclear Regulatory Commission

L. Haeg, DAEC Senior Resident Inspector
C. Zoia, Senior Operations Engineer – Chief Examiner
M. Bielby, Senior Operations Engineer – Examiner
D. Reeser, Operations Engineer – Examiner
J. Seymour, Operations Engineer – Examiner in Training

ITEMS OPENED, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspector reviewed the documents in their entirety, but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

None

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
ARP	Alarm Response Procedure
CFR	<i>Code of Federal Regulations</i>
EOC-RPT	End of Cycle – Recirc Pump Trip
EOP	Emergency Operating Procedure
IPOI	Integrated Plant Operation Instruction
JPM	Job Performance Measures
NRC	U.S. Nuclear Regulatory Commission
RO	Reactor Operator
RRP	Reactor Recirc Pump
SRO	Senior Reactor Operator

SIMULATION FACILITY REPORT

Facility Licensee: Duane Arnold Energy Center

Facility Docket No: 50-331

Operating Tests Administered: April 6 – 10, 2015

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 Comment and Resolution

Question #88 (SRO #13)

Original Question:

Given the following plant conditions:

- Reactor power was 27% as sensed by turbine 1st stage pressure
- While performing Main Turbine Stop valve testing, an operator inadvertently closed Turbine Stop valve "1" while Turbine Stop valve "2" was full closed

(1) Which one of the following correctly describes the response of the Reactor Protection System?

AND

(2) What procedure should be directed as a result of these conditions?

- A. (1) A half scram signal on RPS A is generated
(2) Enter and direct the actions of ARP 1C05(A-2), "A" RPS AUTO SCRAM
- B. (1) Neither a full nor a half scram is generated because the scram signal is bypassed
(2) No procedure entry is required
- C. (1) A full reactor scram is generated because two of four turbine stop valves are fully closed
(2) Enter and execute the actions of EOP 1, RPV Control and IPOI 5, Reactor Scram
- D. (1) A half scram signal on RPS A is generated
(2) Enter and execute the steps of IPOI 5, Reactor Scram

Answer: A.

Facility Response:

Executive Summary:

Question #88 (SRO #13) is being challenged as identifying the wrong correct answer. The question asks which of the choices describes the RPS response to both Turbine Stop valves closing with reactor power at 27% and which procedure should be directed as a result of the response. The facility supports changing the correct answer from "A" to "D" based on applicant feedback.

Applicant Feedback:

The applicant agreed that with “1” and “2” Turbine Stop valves closed only RPS A would trip. However, the applicant noted that based on the given reactor power, and when Turbine Stop valves are less than 90% open, the End of Cycle – Recirc Pump Trip (EOC-RPT) breakers will trip open and cause a loss of both Reactor Recirc Pumps (RRPs). The Integrated Plant Operation Instruction (IPOI) 5, “Reactor Scram”, requires an immediate manual reactor scram for loss of both RRP. This situation was cited by an applicant during the post written examination review as the reason for changing the question answer from A. to D.

Facility Response/References:

Alarm Response Procedure, ARP 1C05A(A-2), “A” RPS AUTO SCRAM, Revision 78, and System Description reference document SD-264, Revision 13, describes and references logic diagram (791E414RS/C71-004, Revision 24) that supports the RPS A trip based on “1” and “2” Turbine Stop valves closing. SD-264 also describes logic diagrams that support the EOC-RPT breakers tripping when Turbine Stop valves are less than 90% open and reactor power greater than 26%.

Abnormal Operating Procedure, AOP 264, Loss of Two Recirc Pumps, immediate action requires inserting a manual scram and carrying out IPOI 5, Reactor Scram, actions.

NRC Final Resolution

The NRC agrees with the facility that although a half scram occurs based on “1” and “2” Turbine Stop valves closing, the tripping of both RRP requires inserting a manual scram and following actions contained in IPOI 5 for a reactor scram. Change answer key from A. to D.

T. Vehec

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Sincerely,

/RA/

Hironori Peterson, Chief
Operations Branch
Division of Reactor Safety

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C. Hill, Training Manager, DAEC

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