UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

January 25, 2013

Mr. T. Preston Gillespie, Jr.
Site Vice President
Duke Energy Corporation
Oconee Nuclear Station
7800 Rochester Highway
Seneca, SC 29672-0752

SUBJECT: OCONEE NUCLEAR STATION - NRC EXAMINATION REPORT
05000269/2012302, 05000270/2012302 AND 05000287/2012302

Dear Mr. Gillespie, Jr.:

During the period December 17 - 20, 2012, the Nuclear Regulatory Commission (NRC) administered operating tests to employees of your company who had applied for licenses to operate the Oconee Nuclear Station. At the conclusion of the tests, the examiners discussed preliminary findings related to the operating tests and the written examination submittal with those members of your staff identified in the enclosed report. The written examination was administered by your staff on December 13, 2012.

Five Reactor Operator (RO) and three Senior Reactor Operator (SRO) applicants passed both the operating test and written examination. One SRO applicant failed the written examination. There were three post-administration comments, one concerning the operating test and two concerning the written examination. These comments, and the NRC resolution of these comments, are summarized in Enclosure 2. A Simulator Fidelity Report is included in this report as Enclosure 3.

The initial examination submittal was within the range of acceptability expected for a proposed examination. All examination changes agreed upon between the NRC and your staff were made according to NUREG-1021, Operator Licensing Examination Standards for Power Reactors, Revision 9, Supplement 1.

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).

If you have any questions concerning this letter, please contact me at (404) 997-4550.

Sincerely,

/RA/

Malcolm T. Widmann, Chief
Operations Branch 1
Division of Reactor Safety

Docket Nos.: 50-269, 50-270, 50-287
License Nos.: DPR-38, DPR-47, DPR-55

Enclosures:
1. Report Details
2. Facility Comments and NRC Resolution
3. Simulator Fidelity Report

cc: (See page 3)

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ADAMS: X☐ Yes ACCESSION NUMBER:_____ ☐ SUNSI REVIEW COMPLETE ☐ FORM 665 ATTACHED

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SIGNATURE	RA	RA	RA				
NAME	GLASKA	JBARTLEY	WIDMANN				
DATE	1/ 24 /2013	1/ 25 /2013	1/ 25 /2013				
E-MAIL COPY?	**YES** NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: G:\OLEXAMS\OCONEE EXAMINATIONS\INITIAL EXAM 2012-302\CORRESPONDENCE\OCONEE EXAM REPORT 2012-302 REV 1.DOCX

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Letter to T. Preston Gillespie, Jr. from Malcolm T. Widmann dated January 25, 2013.

SUBJECT: OCONEE NUCLEAR STATION - NRC EXAMINATION REPORT 05000269/2012302, 05000270/2012302 AND 05000287/2012302

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.:	05000269, 05000270, 05000287
License Nos.:	DPR-38, DPR-47, DPR-55
Report No.:	05000269/2012302, 05000270/2012302 and 05000287/2012302
Licensee:	Duke Energy Carolinas LLC.
Facility:	Oconee Nuclear Station, Units 1, 2, and 3
Location:	Seneca, SC
Dates:	Written Examination – December 13, 2012 Operating Tests – December 17 - 20, 2012
Examiners:	G. Laska, Chief, Senior Operations Examiner T. Kolb, Senior Reactor Engineer D. Bacon, Operations Engineer J. DeMarshall, Reactor Operations Engineer, NRO, Observer M. Donithan, RII Operations Engineer, Observer
Approved by:	Malcolm T. Widmann, Chief Operations Branch 1 Division of Reactor Safety

SUMMARY OF FINDINGS

ER 05000269/2012302; 05000270/2012302; 05000287/2012302; operating test December 17-20, 2012 & written exam 12/13/2012; Oconee Nuclear Station, Units 1, 2, and 3 Operator License Examinations.

Nuclear Regulatory Commission (NRC) examiners conducted an initial examination in accordance with the guidelines in Revision 9, Supplement 1, of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors." This examination implemented the operator licensing requirements identified in 10 CFR §55.41, §55.43, and §55.45 as applicable.

Members of the Oconee Nuclear Station staff developed both the operating tests and the written examination. The NRC developed the written examination outlines.

The NRC administered the operating tests during the period of December 17- 20, 2012. Members of the Oconee Nuclear Station training staff administered the written examination on December 13, 2012. Five Reactor Operator (RO) and three Senior Reactor Operator (SRO) applicants passed both the written examination and operating test. Eight applicants were issued licenses commensurate with the level of examination administered.

There were three post-examination comments.

No findings were identified.
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Report Details

4. OTHER ACTIVITIES

4OA5 Operator Licensing Initial Examinations

a. Inspection Scope

Members of the Oconee Nuclear Station staff developed both the operating tests and the written examination. All examination material was developed in accordance with the guidelines contained in Revision 9, Supplement 1, of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors." The NRC examination team reviewed the proposed examination. Examination changes agreed upon between the NRC and the licensee were made per NUREG-1021, and incorporated into the final version of the examination materials.

The examiners reviewed the licensee's examination security measures while preparing and administering the examinations to ensure examination security and integrity complied with 10 CFR 55.49, "Integrity of Examinations and Tests.

The NRC examiners evaluated five Reactor Operator (RO) and four Senior Reactor Operator (SRO) applicants using the guidelines contained in NUREG-1021. The examiners administered the operating tests during the period of December 17- 20, 2012. Members of the Oconee Nuclear Station training staff administered the written examination on December 13, 2012. Evaluations of applicants and reviews of associated documentation were performed to determine if the applicants, who applied for licenses to operate the Oconee Nuclear Station, met the requirements specified in 10 CFR Part 55, "Operators' Licenses."

b. Findings

No findings were identified. The NRC determined, using NUREG-1021, that the licensee's initial examination submittal was within the range of acceptability expected for a proposed examination

Five RO and three SRO applicants passed both the operating test and written examination. Eight licenses were issued.

Copies of all individual examination reports were sent to the facility Training Manager for evaluation of weaknesses and determination of appropriate remedial training.

The administrative portion of the examination contained an RO and SRO version of the same JPM. Administrative JPMs 238 (RO version) did not have any equipment out of service. JPM 239 (SRO version) stated 1D RPS channel was in manual bypass. The intent of the channel being in manual bypass was to require a technical specification entry at the end of the SRO JPM. The licensee's procedures require all items distributed to the applicant be of a different color than the JPM guide used by the examiner to aid in exam security. Therefore, the licensee printed the initial condition sheets on different color paper. The licensee inadvertently printed out the initial condition sheets for JPM 238 and these were distributed for JPM 239. Immediate corrective actions were to inform the Branch Chief, and determine if we needed to replace the JPM. The NRC decided that there was an adequate number of SRO level JPMs on the administrative portion of the exam, and that another JPM need not be developed. The NRC determined

the JPM the SRO applicants took was an acceptable task, and graded the JPM according to the information the applicants received. PIP O-13-00069 was written to address the issue.

The licensee submitted one post-examination comment concerning the operating test and two comments concerning the written examination. A copy of the final written examination and answer key may be accessed not earlier than January 15, 2015, in the ADAMS system (ADAMS Accession Number ML13018A360 and ML13018A352).

4OA6 Meetings

Exit Meeting Summary

On December 20, 2012, the NRC examination team discussed generic issues associated with the operating test with Mr. T. Ray, Oconee Plant Manager, and members of his staff. The examiners asked the licensee if any of the examination material was proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee personnel

B. Bryant, Corp. OPS Training Manager
J. Collins, Shift Operations Manager
D. Hayes, Assistant Operations Manager
S. Lark, Supervisor Nuclear OPS Training
B. Meixell, Sr. Licensing Specialist
L. Nowell, Supervisor Nuclear OPS Training
S. Perry, Regulatory Specialist
R. Robinson, Operations Shift Manager
T. Ray, Oconee Plant Manager
J. Smith, Licensing Administrator
J. Steely, Operations Training Manager
P. Stovall, Nuclear Training Manager
G. Washburn, Nuclear Station Instructor - Operations
K. Welchel, Simulator Supervisor
C. Witherspoon, Sr. Operations Specialist

NRC personnel

K. Ellis, Senior Resident Inspector (Acting)

NRC Resolution to the Facility Comments

A complete text of the licensee's post examination comments can be found in ADAMS under Accession Number ML13018A362

Operating Test:

LICENSEE COMMENT:

During exam administration, the candidate cue sheet for Admin-239 did not contain information regarding 1D RPS channel being in Manual bypass. This resulted in the correct answer for Step 7 (one of the Critical Steps) of Admin-239 changing from requiring entry into Tech Spec 3.3.1 (RPS Instrumentation) Condition A to No Tech Spec Entry Required.

As a result, we are requesting that the correct response to Step 7 of Admin-239 be changed to "No Tech Spec Entry required".

NRC DISCUSSION:

The original cue sheet intended to be distributed with Administrative JPM -239 for the Senior Reactor Operators had a bullet that stated 1D RPS channel was is bypass. The channel being in bypass coupled with NI-7 being inoperable would have required the applicant to enter Technical Specification 3.3.1 (RPS Instrumentation) Condition A, for the following functions:

Nuclear Overpower
Nuclear Overpower Flux/Flow Imbalance
Reactor Coolant Pump to Power

This would have required channel 1C to be placed in trip within 4 hours. During the implementation of the JPM the RO cue sheet was enclosed with the package and distributed to the applicants. This cue sheet did not have 1D RPS in bypass. Therefore, the above actions were not applicable.

NRC RESOLUTION:

The NRC agrees that based on the cue sheet given the applicants no technical specification actions are required for step 7 of the JPM. The standard for step 7 will be changed to "No Tech Spec Entry required".

Written Examination:

LICENSEE COMMENT:

Question 18

Given the following Unit 1 conditions:

Initial conditions:
- Reactor power = 100%
- 1SA2/A9 (MS PRESS HIGH/LOW) alarms

Current conditions:
- 1A SG pressure = 905 psig increasing
- 1B SG pressure = 22 psig decreasing
- RCS temperature = 530 ºF increasing
- The overcooling has been stopped

1) In accordance with Rule 5 (MSLB), TBVs will initially be adjusted to maintain __(1)__ constant.

2) The reason for maintaining the above temperature constant is to help prevent __(2)__.

Which ONE of the following completes the statements above?

A. 1. CETCs
   2. pressurizer swell and subsequent RCS re-pressurization

B. 1. CETCs
   2. tensile stresses in the isolated SG

C. 1. Tcolds
   2. pressurizer swell and subsequent RCS re-pressurization

D. 1. Tcolds
   2. tensile stresses in the isolated SG

Answer A Discussion
Correct. Rule 5 directs maintaining CETCs constant. This is to reduce Pzr level increase and subsequent RCS re-pressurization.

Answer B Discussion
Incorrect. First part is correct. Second part is plausible because SG tensile stresses are a concern after isolating a SG. However it is not the reason for keeping the temperature constant.

Answer C Discussion
Incorrect. First part is plausible because Tc is the temperature that is normally used for RCS temperature control. Second part is correct.

Answer D Discussion
Incorrect. First part is plausible because Tc is the temperature that is normally used for RCS temperature control. Second part is plausible because SG tensile stresses are a concern after isolating a SG. However it is not the reason for keeping the temperature constant.

COMMENT

The second part of the question states:

The reason for maintaining the above temperature constant is to help prevent ___(2)___.

The candidate answered the question from the position that the "above temperature" referred to the RCS temperature stated in the stem and that holding this temperature constant was in response to the overcooling not the subsequent RCS heat up.

The Lesson Plan EAP-EHT states on Page 9 of 43:

A rapid overcooling could result in SG damage from tube vibration due to high steam/feed flow as well as thermal shock to the SG and from excessive SG tube tensile loads due to exceeding tube-to-shell ΔT limits.

As stated in the lesson plan, stopping the overcooling will prevent tensile stresses in the SG.

RECOMMENDATION:

Accept answers "A" and "B" as correct.

NRC DISCUSSION:

The question asked the applicant (1) In accordance with Rule 5, TBVs will initially be adjusted to maintain core exit thermocouples constant, and (2) the reason for maintaining the RCS temperature constant. Only the second part of the two part question is being commented on. While the licensee states: *A rapid overcooling could result in SG damage from tube vibration due to high steam/feed flow as well as thermal shock to the SG and from excessive SG tube tensile loads due to exceeding tube-to-shell ΔT limits.* However in this case the rapid cooldown has been halted and in fact temperature is increasing. Therefore, the limit in this case is strictly for limiting pressurizer swell and subsequent RCS re-pressurization.

NRC RESOLUTION:

The NRC does not agree with the comment. With RCS temperature rising there is no longer a concern for SG damage. Response A remains the only correct answer.

Question 30

Given the following Unit 1 conditions:

Initial conditions:
- Time = 0400
- A transient occurred resulting in a reactor trip from 100% power
- Pzr level = 400 inches stable
- Letdown cannot be established

Current conditions:
- Time = 0500
- Forced Cooldown tab in progress
- Pzr level = 400 inches stable
- Pzr temperature = 603ºF
- RCS temperature = 581ºF
- RCS pressure = 2100 psig decreasing

1) At 0500, RCS pressure will be controlled by adjusting ___(1)___.

2) If NO operator action is taken, RCS pressure will stabilize at no lower than___(2)___ psig.

Which ONE of the following completes the statements above?

A. 1. HPI flow ONLY
   2. 1320

B. 1. HPI flow ONLY
   2. 1565

C. 1. HPI flow OR Pzr heaters
   2. 1320

D. 1. HPI flow OR Pzr heaters
   2. 1565

Answer A Discussion
Incorrect. First part is correct. Second part is plausible because it is the saturation pressure for 581 degrees.

Answer B Discussion
Correct. The RCS is solid and subcooled. At this time Pzr heaters will not increase RCS pressure. ONLY HPI flow will control pressure (letdown not available). The saturation temperature for 603 degrees is about 1565 psig. Pressure will decease toward this value.

Answer C Discussion
Incorrect. First part is plausible because Pzr heaters will normally increase pressure. Second part is plausible because it is the saturation pressure for 581 degrees.

Answer D Discussion
Incorrect. First part is plausible because Pzr heaters will normally increase pressure. Second part is correct.

COMMENT
The second part of the question states:

If NO operator action is taken, RCS pressure will stabilize at no lower than___(2)___ psig.

The basis for the correct answer is that since the RCS is solid and the Pzr is subcooled RCS pressure will decrease toward the saturation pressure for the current Pzr temperature. The saturation pressure for 603ºF is 1565 psig.

However the way the question is worded the other answer (1320 psig) is also correct. “RCS pressure will stabilize at no lower than 1320 psig” is a true statement.

As worded, 1320 psig is a subset of 1565 psig.

RECOMMENDATION

Accept answers “A” and “B” as correct.

NRC DISCUSSION:

The second part of the question asks: If NO operator action is taken, RCS pressure will stabilize at no lower than _____ psig. As worded, 1320 psig is a subset of 1565 psig and RCS pressure will not stabilize at a value of less than 1320 psig.

NRC RESOLUTION:

The NRC accepts the licensee’s comment and question 30 will be graded with either answer A or B being correct.

SIMULATOR FIDELITY REPORT

Facility Licensee: Oconee Nuclear Station

Facility Docket No.: 05000269/2012302, 05000270/2012302 AND 05000287/2012302

Operating Test Administered: December 17 - 20, 2012

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 Inspection Procedure 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 test, examiners observed the following:

Item	Description
With the SYNC pushbutton depressed, PCB-8 could be paralleled 180 degrees out of phase and remain closed.	During JPM validation it was discovered that while paralleling the Keowee Hydro Unit (KHU) to the Red Bus through PCB-8, there is no simulator feedback if the breaker is closed significantly out of phase. This included attempting to close the breaker 180 ° out of phase. PCB-8 does not have synch check relays and would therefore allow the PCB to be closed regardless of synch scope position. PIP O-13-00069 was written to address the issue.