UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

January 25, 2010

Mr. J. R. Morris
Site Vice President
Duke Energy Carolinas, LLC
Catawba Nuclear Station
4800 Concord Road
York, SC 29745-9635

SUBJECT: CATAWBA NUCLEAR STATION – NRC OPERATOR LICENSE EXAMINATION REPORT 05000413/2009301 AND 05000414/2009301

Dear Mr. Morris:

During the period December 7-14, 2009 the Nuclear Regulatory Commission (NRC) administered operating tests to employees of your company who had applied for licenses to operate the Catawba 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 examinations were administered by your staff on December 22, 2009.

Four Reactor Operator (RO) and three Senior Reactor Operator (SRO) initial license applicants passed both the operating test and written examination. Three SRO initial license applicants failed the written examination. One RO and two SRO 'retake' applicants passed the written examination. There was one post-examination comment concerning the operating test and one post-examination comment concerning the written examinations. 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 written RO/SRO examination submitted by your staff failed to meet the guidelines for quality contained in NUREG-1021, Operator Licensing Examination Standards for Power Reactors, Revision 9, Supplement 1, as described in the enclosed report.

Issues related to examination security identified by your staff, and described in section 4OA5 of the enclosed report, were reviewed by NRC examiners and characterized as minor violations.

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 (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Website 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) 562-4550.

Sincerely,

/RA/

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

Docket Nos.: 50-413, 50-414
License Nos.: NPF-35, NPF-52

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

cc w/encl: (See page 3)

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cc w/encl: (See page 3)

X PUBLICLY AVAILABLE ☐ NON-PUBLICLY AVAILABLE ☐ SENSITIVE X NON-SENSITIVE

ADAMS: ☐ Yes ACCESSION NUMBER:_____ X SUNSI REVIEW COMPLETE ***MTW***

OFFICE	RII:DRS	RII:DRS					
SIGNATURE	FJE /RA/	MTW /RA/					
NAME	FEhrhardt	MWidmann					
DATE	01/20/2010	01/25/2010					
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: O:\CATAWBA EXAMINATIONS\INITIAL EXAM 2009-301 INCLUDES 2008 RETAKES\CORRESPONDENCE\CATAWBA 2009-301 EXAMINATION REPORT AND LETTER.DOC

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Letter to J. R. Morris from Malcolm T. Widmann dated January 25, 2010

SUBJECT: CATAWBA NUCLEAR STATION – NRC OPERATOR LICENSE EXAMINATION REPORT 05000413/2009301 AND 05000414/2009301

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.:	50-413, 50-414
License No.:	NPF-35, NPF-52
Report No.:	05000413/2009301, 05000414/2009301
Licensee:	Duke Energy Carolinas, LLC
Facility:	Catawba Nuclear Station, Units 1 & 2
Location:	York, SC 29745
Dates:	Operating Test – December 7 - 14, 2009 Written Examination - December 22, 2009
Examiners:	F. Ehrhardt, Chief Examiner, Senior Operations Engineer C. Kontz, Senior Project Engineer M. Riches, Operations Engineer
Approved by:	M. Widmann, Chief Operations Branch Division of Reactor Safety

Enclosure 1

SUMMARY OF FINDINGS

ER 05000413/2009301, 05000414/2009301; December 7 - 14, 2009 & December 22, 2009; Catawba Nuclear Station; 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 Catawba Nuclear Station staff developed both the operating tests and the written examinations. The initial written examination submittal did not meet the quality guidelines contained in NUREG-1021.

The NRC administered the operating tests during the period December 7 - 14, 2009. Members of the Catawba Nuclear Station training staff administered the written examinations on December 22, 2009 to ten initial license applicants and three 'retake' applicants who failed the 2008 written examination. Four Reactor Operator (RO) and three Senior Reactor Operator (SRO) initial license applicants passed both the operating test and written examination. Seven initial license applicants were issued Unit 1 licenses commensurate with the level of examination administered. All 'retake' license applicants passed the written examination. All 'retake' license applicants were issued Unit 1 and Unit 2 licenses commensurate with the level of examination administered.

There were two post-examination comments.

No findings of significance were identified.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA5 Operator Licensing Examinations

a. Inspection Scope

Members of the Catawba Nuclear Station staff developed both the operating tests and the written examinations. Two written examinations were developed, one for the 2009 initial license applicants and one for 2008 'retake' applicants, due to installation of a Distributed Control System (DCS) on Unit 1 in December 2009. The 2008 examination was developed by substituting 7300 process control system questions for DCS questions in the 2009 examination, as appropriate. 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 NRC reviewed the licensee's examination security measures while preparing and administering the examinations in order to ensure compliance with 10 CFR §55.49, "Integrity of examinations and tests." During development of the written examination, the facility licensee transmitted examination material to a licensee contractor via non-secure electronic means. Specifically, the licensee e-mailed 12 examination questions without password protecting the electronic files. The licensee reported this examination security issue to the NRC Chief Examiner and entered it into their corrective action program. Per NUREG-1021, the Operations Branch Chief directed the NRC Chief Examiner to replace the K/As associated with these 12 questions. Licensee-identified issues related to NRC examination security during development of the examination, including the issue described above, are listed below.

PIP Serial No.	Description
C-09-06799	12 NRC initial license exam questions were transmitted to a contractor via e-mail without password protection. The NRC replaced the K/As associated with these questions.
C-09-06509	An operations staff member validating the NRC exam transmitted comments for one written question via e-mail without password protection. The NRC directed the facility to write a replacement question.
C-09-05668	An individual not on the examination security agreement entered the simulator, which was posted for restricted access, during exam development. The individual was immediately escorted out of the simulator.

C-09-05543 The door from the (simulator) computer room to the shop was not posted for restricted entry during exam development as required by station procedure OTMP 4.6. The door was locked and no personnel were present in the training center other than exam developers.

C-09-05536 A training instructor signed on to the NRC examination security agreement provided training to an applicant in the HLP program. The training concerned a system modification scheduled to be installed after the upcoming examination and therefore not part of the testable material for the examination.

The NRC examiners evaluated four Reactor Operator (RO) and six Senior Reactor Operator (SRO) applicants using the guidelines contained in NUREG-1021. The examiners administered the operating tests during the period December 7 - 14, 2009. Members of the Catawba Nuclear Station training staff administered the written examinations on December 22, 2009 to four RO and six SRO initial license applicants as well as one RO and 2 SRO 'retake' applicants who failed the 2008 initial written examination. Evaluations of applicants and reviews of associated documentation were performed to determine if the applicants, who applied for licenses to operate the Catawba Nuclear Station, met the requirements specified in 10 CFR Part 55, "Operators' Licenses."

b. Findings

The NRC determined that the licensee's examination submittal was outside the range of acceptable quality specified by NUREG-1021. The initial written examination submittal was outside the range of acceptable quality because more than 20% (9 of 30) questions sampled for review contained unacceptable flaws. Individual questions were evaluated as unsatisfactory for the following reasons:

- Four (4) questions failed to meet the K/A statement contained in the examination outline.
- Five (5) questions contained two or more implausible distractors.

The NRC regional office returned the entire written examination, containing 100 questions, to the licensee for rework and correction in accordance with NUREG-1021. Administration of the written examination was delayed, in part, because the quality of the licensee's examination submittal was unacceptable. Future examination submittals need to incorporate lessons learned.

The NRC determined that the licensee's initial operating test submittal was within the range of acceptability expected for a proposed examination.

The licensee-identified issues related to NRC examination security described above in paragraph "a. Inspection Scope," were reviewed by NRC examiners and discussed with the Branch Chief and were characterized as minor violations.

Four RO applicants and three SRO initial license applicants passed both the operating test and written examination. Three SRO initial license applicants passed the operating test, but did not pass the written examination. Four RO initial applicants and three SRO initial license applicants were issued Unit 1 licenses.

One RO 'retake' applicant and two SRO 'retake' applicants passed the written examination. One RO 'retake' applicant and two SRO 'retake' applicants were issued licenses for Unit 1 and Unit 2.

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

The licensee submitted one post-examination comment concerning the operating test and one comment concerning the written examinations. A copy of the final written examinations and answer keys, with all changes incorporated, and the licensee's post-examination comments, may be accessed in the ADAMS system (ADAMS Accession Numbers ML100070525, ML100070535, and ML100070550.)

4OA6 Meetings, Including Exit

Exit Meeting Summary

On December 16, 2009 the NRC examination team discussed generic issues associated with the operating test with Mr. G. Hamrick, Station Manager, and members of the Catawba Nuclear Station staff. The examiners asked the licensee if any of the examination material was proprietary. No proprietary information was identified.

On January 20, 2010, Malcolm Widmann, Chief, Operations Branch, discussed written examination development issues, examination results, and lessons learned with Ronald Weatherford, Training Manager.

KEY POINTS OF CONTACT

Licensee personnel

H. Blair, Operations
T. Garrison, Operations Training
G. Hamilton, Fleet Training Manager
A. Orton, Operations Training Manager
J. Septula, Operations Training
S. Trippi, Operations Training Initial Supervisor
R. Weatherford, Training Manager

NRC personnel

A. Hutto, Senior Resident Inspector

FACILITY POST-EXAMINATION COMMENTS AND NRC RESOLUTIONS

A complete text of the licensee's post-examination comments can be found in ADAMS under Accession Number ML100070550.

Item

Question 84, K/A 033G2.1.30

Comment

The licensee recommends that the (SRO) question be deleted from the examination.

The licensee states that the question did not provide all necessary information to enable the applicant to make a proper determination of operability (second part of the two part question) in accordance with Nuclear Station Directive (NSD) 203, Operability/Functionality. Specifically, the licensee stated that the question did not state that an Operability Determination was or was not conducted after Intermediate Range channel N-35 was repaired, consistent with station expectations. The licensee did not document any applicant questions concerning this test item during administration of the written examination.

NRC Resolution

The licensee's recommendation was accepted.

The second part of the question was designed to test if applicants knew whether or not the startup rate portion of an intermediate range instrument was required for the channel to be operable. Per NSD 203, an Operability Declaration is a decision by a licensed operator on the operating shift crew that a structure, system, or component is Operable, Inoperable, or Operable But Degraded/Nonconforming. "The declaration may be based on analysis, test or partial test, experience with operating events, engineering judgment, or a combination of those factors taking into consideration equipment functional requirements."

Although the question intended to test equipment functional requirements per Technical Specification Bases, the question did not contain information regarding post-maintenance testing for a system that previously failed (inoperable) and was subsequently repaired. It is reasonable to expect that post-maintenance testing would be performed in order to ensure Technical Specification Surveillance Requirements (e.g. SR 3.3.1.1 – Perform Channel Check) are met before determining the status of the system. Because the question did not contain any information on post-maintenance testing, i.e. whether testing was performed and whether it was successful or unsuccessful, applicants did not have sufficient information to answer the question "…is N-35 operable?"

Because the second part of the question answers contain conflicting information, i.e. answer choices of "Yes" (operable) and "No" (not operable), the question was deleted from the written examination in accordance with NUREG-1021, ES-403, paragraph D.1.c.

Item

Scenario 3, Event 7 (Large Break LOCA / Loss of Emergency Coolant Recirculation)

Comment

The licensee recommends that closing 1NI-100B and 1NV-253B and dispatching an operator to close 1NV-252A (EP/1/A/5000/ES-1.3, step 5.h) NOT be designated as critical tasks.

The licensee maintains that these tasks are not essential to safety, per ES-1021, Appendix D, because actions taken per earlier steps in ES-1.3, and system configuration, will prevent cavitation of the NI and NV pumps.

NRC Resolution

The licensee's recommendation was accepted.

ES-1.3, step 5.g, contains sub-steps to align ND train discharges to NI and NV pump suctions. Additionally, flow from the ND pump discharge is prevented from flowing back to the FWST, and being diverted from the suctions of the NI and NV pumps, by check valves in both the suction line to the NV pumps and the suction line to the NI pumps. The three valves above are closed as a backup to the check valves.

SIMULATOR FIDELITY REPORT

Facility Licensee: Catawba Nuclear Station

Facility Docket No.: 05000413, 05000414

Operating Test Administered: December 7 - 14, 2009

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
Cell 550 (GS Condenser)	Cell 550 caused a THOR halt (simulator freeze) during administration of an NRC JPM. PIP Serial No. C-09-07724. Simulator Modification Work Request No. CFW-115.