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

October 22, 2012

Mr. Steven D. Capps
Site Vice President
Duke Energy Corporation
McGuire Nuclear Station
MG01VP/12700 Hagers Ferry Road
Huntersville, NC 28078

SUBJECT: MCGUIRE NUCLEAR PLANT – NRC OPERATOR LICENSE EXAMINATION REPORT 05000369/2012301 AND 05000370/2012301

Dear Mr. Capps:

During the period August 20 – 28, 2012, the Nuclear Regulatory Commission (NRC) administered operating tests to employees of your company who had applied for licenses to operate the McGuire Nuclear Plant Units 1 and 2. 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 September 5, 2012.

All applicants passed both the operating test and written examination. There was one post-administration comment concerning the operating test. This comment, and the NRC resolution of this comment, is 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 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) 997-4550.

Sincerely,

/RA/

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

Docket No.: 50-369, 50-370
License No.: NPF-9, NPF-17

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

cc w/encl.: (See page 3)

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

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

OFFICE	RII:DRS	RII:DRS	RII:DRS	RII:DRP	RII:DRS		
SIGNATURE	RA	RA	RA	RA			
NAME	MEEKS	LASKA	LANYI	WIDMANN			
DATE	10/22/2012	10/22/2012	10/18/2012	10/22/2012	10/ /2012	10/ /2012	10/ /2012
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: G:\OLEXAMS\MCGUIRE EXAMINATIONS\INITIAL EXAM 2012-301\CORRESPONDENCE\MCGUIRE 2012-301 EXAM REPORT.DOCX

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Letter to Steven D. Capps from Malcolm T. Widmann dated October 22, 2012.

SUBJECT: MCGUIRE NUCLEAR PLANT – NRC OPERATOR LICENSE EXAMINATION REPORT 05000369/2012301 AND 05000370/2012301

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.:	50-369, 50-370
License No.:	NPF-9, NPF-17
Report No.:	05000369/2012301 and 05000370/2012301
Licensee:	Duke Power
Facility:	McGuire Nuclear Plant, Units 1 & 2
Location:	Huntersville, NC 28078
Dates:	Operating Test – August 20 – 28, 2012 Written Examination – September 5, 2012
Examiners:	M. Meeks, Chief Examiner, Senior Operations Engineer G. Laska, Senior Operations Engineer D. Lanyi, Operations Engineer
Approved by:	Malcolm T. Widmann, Chief Operations Branch 1 Division of Reactor Safety

SUMMARY OF FINDINGS

ER 05000369/2012301, 05000370/2012301; August 20 – 28, 2012 & September 5, 2012; McGuire Nuclear Plant, Units 1 &2, 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 McGuire Nuclear Plant staff developed both the operating tests and the written examination.

The NRC administered the operating tests during the period August 20 – 28, 2012. Members of the McGuire Nuclear Plant training staff administered the written examination on September 5, 2012. All applicants passed both the operating test and written examination. Thirteen applicants were issued licenses commensurate with the level of examination administered. One applicant will be issued a license once power plant experience requirements are met.

There was one post-examination comment.

No findings were identified.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA5 Operator Licensing Examinations

a. Inspection Scope

Members of the McGuire Nuclear Plant 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 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."

The NRC examiners evaluated six Reactor Operator (RO) and eight Senior Reactor Operator (SRO) applicants using the guidelines contained in NUREG-1021. The examiners administered the operating tests during the period August 20 – 28, 2012. Members of the McGuire Nuclear Plant training staff administered the written examination on September 5, 2012. Evaluations of applicants and reviews of associated documentation were performed to determine if the applicants, who applied for licenses to operate the McGuire Nuclear Plant, 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.

Three generic weaknesses were identified by the NRC during administration of the operating tests, and were discussed at the exit meeting. The first weakness involved the coordination of operators performing concurrent actions to restore main feedwater and condensate flow using procedure EP/1/A/5000/FR-H.1, "RESPONSE TO LOSS OF SECONDARY HEAT SINK." The second weakness involved operators introducing unnecessary extreme challenges to the INTEGRITY critical safety function by failing to adequately control auxiliary feedwater flow to a faulted steam generator. The final issue involved operators misunderstanding integrated plant response during a pressurizer steam space small break LOCA (*i.e.,* similar to the 1979 accident at TMI-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. A copy of the final written examinations and answer keys, with all changes incorporated,

may be accessed not earlier than September 10, 2014, in the ADAMS system (ADAMS Accession Number(s) ML12275A383 and ML12275A390). The licensee's post-examination comment may be accessed in the ADAMS system as ML12275A393.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On August 29, 2012, the NRC examination team discussed generic issues associated with the operating test with Mr. C. Morris, Plant Manager, and members of the McGuire Nuclear Plant staff. The examiners asked the licensee if any of the examination material was proprietary. No proprietary information was identified.

ATTACHMENT: SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

S. Capps, Site Vice President
C. Morris, Plant Manager
D. Brewer, Organizational Effectiveness Manager
P. Schuerger, Training Manager
D. Brenton, Operations Manager
L. Sarratt, Shift Operations Manager
R. Pope, Operations Training Manager
W. Killette, Operations Exam Team Supervisor
K. Ashe, Regulatory Compliance Manager
S. Helms, Initial Licensed Operator Training Supervisor
S. Mosteller, Operations Department Representative on Operations Exam Team
C. Fletcher, Operations Exam Team Lead

NRC personnel

J. Zeiler, 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 ML12275A393.

Item

Job Performance Measure 'C,' Remove Pressurizer Heaters From Service

Comment

The licensee recommends that JPM 'C' step 19 not be graded as a critical step.

JPM 'C' step 19 (procedure step 3.4.4.10), is listed as a critical step on the final revision. Step 19 is NOT a critical step.

The critical task is placing the [Pressurizer] PZR Pressure Master Controller in "AUTO" in step 20. If the applicant fails to lower the output signal in MANUAL in step 19 to cause the 'C' PZR spray valves to close, going to 'AUTO' on the PZR Pressure Master Controller in step 20 has the same effect. Output will lower causing the 'C' PZR Heaters to cycle on and the Spray Valves receive a signal to close. Since there is no consequence to performing step 19 incorrectly, it is NOT a critical step.

NRC Resolution

The licensee's recommendation was accepted. JPM 'C' step 19 will not be evaluated as a critical step in the JPM, because there were no adverse consequences, or an adverse impact to completion of the assigned task, associated with incorrect performance of JPM 'C' step 19. Correctly setting the PZR Pressure Master Controller to "AUTO" in the next JPM step will mitigate any incorrect performance of the previous step.

SIMULATOR FIDELITY REPORT

Facility Licensee: McGuire Nuclear Plant

Facility Docket No.: 05000369/2012301 and 05000370/2012301

Operating Test Administered: August 20 – 28, 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
OAC Communication Error	During prep week, simulator went to 'freeze' due to a communication problem between the OAC and the main simulator module. Documented in PIP M-12-06735.
'C' Presssurizer Heater Breaker	During prep week, an alarm did not annunciate as expected associated with a trip of the 'C' Pressurizer Heater breaker. Documented in ILT SDR 68.
CRT in the OATC area	During the exam, a CRT (monitor) in the OATC area failed (displayed a blank screen) several times during simulator scenario administration. This monitor was replaced by the simulator support staff. Documented in SDR 501.
Various EMTs	During the exam, on one occasion three radiation monitor modules (EMTs) required replacement between simulator scenarios. Documented in SDR 502.
High Temperature Alarms Unexpectedly Annunciate post-pump start	During both prep week and the exam, unexpected high temperature alarms were received following pump starts (*e.g.,* the '1A1' Component Cooling Water {KC} pump) during simulator scenarios. Operations training personnel (running the simulator at the time) stated a special file was being used to correctly model the temperatures. This file appeared to be ineffective. Documented in SDR 494.
SR Audio Count Rate speaker	During the exam, after performing one simulator JPM and 'resetting' the simulator in order to start the next JPM, the Source Range audio count rate speaker was found making spurious noises (static), and required adjustment by the simulator support staff to resolve the issue. Documented in SDR 503.

Containment Pressure Instrument Channels	During the exam, while performing one of the simulator JPMs, it was noted that the containment pressure parameter was not trending as expected. The issue was later associated with the auxiliary feed water flow rates provided to a faulted steam generator in order to establish initial conditions for the simulator JPM. Documented in PIP M-12-06735.
1B Diesel Generator Cooler Bypass Valve OAC Alarm	During the exam, while performing one of the simulator JPMs, it was noted that an OAC alarm associated with the 1B Diesel Generator Cooler Bypass Valve unexpectedly annunciated when the 1B Diesel Generator was started by the applicants. Documented in ILT SDR 66.