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

August 7, 2003

Duke Energy Corporation
ATTN: Mr. G. R. Peterson
Vice President
McGuire Nuclear Station
12700 Hagers Ferry Road
Huntersville, NC 28078-8985
Duke Energy Corporation

SUBJECT: MCGUIRE NUCLEAR STATION - NRC EXAMINATION REPORT 05000369/2003301 AND 05000370/2003301

Dear Mr. Peterson:

During the period June 16-25, 2003, the Nuclear Regulatory Commission (NRC) administered operating examinations to employees of your company who had applied for licenses to operate the McGuire Nuclear Station Units 1 and 2. At the conclusion of the examination, the examiners discussed the examination questions and preliminary findings with those members of your staff identified in the enclosed report. The written examination was administered by your staff on June 30, 2003.

Five Reactor Operator (RO) applicants and three Senior Reactor Operator (SRO) applicants passed both the written and operating examinations. Two SRO applicants passed the operating test but, failed the written examination. The NRC resolution of five post examination comments is included in this report as Enclosure 2.

In accordance with 10 CFR 2.790 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 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).

No findings of significance were identified.

Should you have any questions concerning this letter, please contact me at (404) 562-4638.

Sincerely,
/RA/
Michael E. Ernstes, Chief
Operator Licensing and
Human Performance Branch
Division of Reactor Safety

Docket Nos. 50-369, 50-370
License Nos. NPF-9, NPF-17

Enclosures: (See page 2)

Enclosures: 1. Report Details
2. NRC Resolution of McGuire Post Exam Comments

cc w/encls:
C. J. Thomas
Regulatory Compliance Manager (MNS)
Duke Energy Corporation
Electronic Mail Distribution

M. T. Cash, Manager
Regulatory Issues & Affairs
Duke Energy Corporation
526 S. Church Street
Charlotte, NC 28201-0006

Lisa Vaughn
Legal Department (EC11X)
Duke Energy Corporation
422 South Church Street
Charlotte, NC 28242

Anne Cottingham
Winston and Strawn
Electronic Mail Distribution

Beverly Hall, Acting Director
Division of Radiation Protection
N. C. Department of Environmental
Health & Natural Resources
Electronic Mail Distribution

County Manager of Mecklenburg County
720 East Fourth Street
Charlotte, NC 28202

Peggy Force
Assistant Attorney General
N. C. Department of Justice
Electronic Mail Distribution

John W. Boyle, McGuire Training Manager
Maintenance Training Center
Courier Mail Code MG03MT
12700 Hagers Ferry Road
Huntersville, NC 28037

Distribution w/encls:
B. Martin, NRR
C. Evans (Part 72 Only)
L. Slack, RII EICS
RIDSNRRDIPMLIPB
PUBLIC

OFFICE	RII:DRS	RII:DRS	RII:DRS	RII:DRP		
SIGNATURE	/RA/	/RA/	/RA By G. Hopper for/	/RA/		
NAME	RBaldwin:pmd	BMonk	MErnstes	RHaag		
DATE	7/31/2003	7/31/2003	8/4/2003	8/6/2003		
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO
PUBLIC DOCUMENT	YES NO					

OFFICIAL RECORD COPY DOCUMENT NAME: C:\ORPCheckout\FileNET\ML032200480.wpd

NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.:	05000369, 05000370
License Nos.:	NPF-9, NPF-17
Report Nos.:	05000369/2003301 and 05000370/2003301
Licensee:	Duke Energy Corporation (DEC)
Facility:	McGuire Nuclear Station, Units 1 and 2
Location:	12700 Hagers Ferry Road Huntersville, NC 28078
Dates:	Operating Tests - June 16-25, 2003 Written Examination - June 30, 2003
Examiners:	R. Baldwin, Chief, Senior Operations Engineer E. Lea, Senior Operations Engineer R. Monk, Operations Engineer
Approved by:	M. Ernstes, Chief Operator Licensing and Human Performance Branch Division of Reactor Safety

Enclosure 1

SUMMARY OF FINDINGS

ER 05000369/2003301, ER 05000370/2003301; 6/16-25/2003; Duke Energy Corporation; McGuire Nuclear Station, Units 1 & 2 Licensed Operator Examinations.

The NRC examiners conducted operator licensing initial examinations in accordance with the guidance in NUREG-1021, Draft Revision 9, "Operator Licensing Examination Standards for Power Reactors." This examination implemented the operator licensing requirements of 10 CFR §55.41, §55.43, and §55.45.

The NRC administered the operating tests during the period June 16 -25, 2003. Members of the McGuire Nuclear Station training staff administered the written examination on June 30, 2003. The written examinations and the operating tests were developed by the McGuire Nuclear Station training staff. Five Reactor Operators (RO) and three Senior Reactor Operators (SRO) passed both the operating and written examinations. Two SRO applicants passed the operating examination, but failed the written examination. The five RO applicants who passed both the operating and written examinations were issued RO licenses. The three SRO applicants who passed both the operating and the written examinations were not issued licenses pending resolution of potential examination appeals.

No significant issues were identified.

Report Details

4. OTHER ACTIVITIES (OA)

4OA5 Operator Licensing Initial Examinations

a. Inspection Scope

The McGuire Nuclear Station developed operating tests and written examinations in accordance with NUREG 1021, "Operator Licensing Examination Standards for Power Reactors," Draft Revision 9. The NRC examination team reviewed the proposed examination. Examination changes agreed upon between the NRC and the licensee were made according to NUREG-1021 and incorporated into the final version of the examination materials.

The Licensee's examination submittal was within the range of acceptability expected for a proposed examination. The examination changes agreed upon between the NRC and the facility were made according to NUREG-1021.

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 examiners evaluated five Reactor Operator (RO) and five Senior Reactor Operator (SRO) applicants who were being assessed under the guidelines specified in NUREG-1021. The examiners administered the operating tests during the period of June 16 - 25, 2003. Members of the McGuire Nuclear Station training staff administered the written examination on June 30, 2003. The evaluations of the applicants and review of documentation were performed to determine if the applicants, who applied for licensees to operate the McGuire Nuclear Station, met requirements specified in 10 CFR Part 55.

b. Findings

No findings of significance were identified.

Five Reactor Operators (RO) and three Senior Reactor Operators (SRO) passed both the operating and written examinations. Two SRO applicants passed the operating examination, but failed the initial written examination. The licensee submitted five post examination comments concerning the written examination. The RO and SRO written examinations and answer keys, licensee's post examination comments, and combined RO/SRO examination and examination references may be accessed in the ADAMS system (ADAMS Accession Numbers, ML0321000227, ML032100224, ML032100229, and ML032110332).

4OA6 Meetings

Exit Meeting Summary

On June 25, 2003, the examination team discussed generic issues with Mr. D. Jamil and members of his staff. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee personnel

J. Boyle, Training Manager
S. Bradshaw, Superintendent of Operations
K. Crane, Technical Specialist - Regulatory Compliance
B. Dolan, Safety Assurance Manager
T. Harrall, Station Manager
D. Jamil, McGuire Site Vice President
A. Orton, Manager Operator Training
B. Peele, Engineering Manager
E. Roberts, Supervisor, Initial Operator Training
C. Thomas, Manager, Regulatory Compliance

NRC personnel

S. Shaeffer, Senior Resident Inspector

NRC RESOLUTION OF McGUIRE POST EXAM COMMENTS

SRO QUESTION # 3, (BANK 207.1)

Licensee Comment: The examination answer key erroneously lists “C” as the correct answer. The facility makes a recommendation that the answer key be revised to list “B” as the correct answer to the question.

NRC Resolution: Recommendation accepted. The answer key was changed to reflect that answer “B” is the only correct answer.

SRO QUESTION # 15, (BANK 1053)

Licensee Comment: The plant conditions stated in the question do not provide the candidate enough information to accurately determine the initial plant conditions at the time of Safety Injection (SI) actuation. The plant conditions given in the question are possible whether SI occurred at 2000 psig or 1700 psig. This information is important because the proper operator response is dependent upon the plant conditions at the time SI occurred. In addition, the different grammatical tense of the verbs (both present and past tense) used in the description of plant conditions contributed to the different interpretations of the question by the candidates.

The facility recommends that answers “A” and “D” both be accepted as the correct answer to the question.

NRC Resolution: Recommendation accepted. The NRC agrees the initial conditions listed in the stem of the question could be viewed differently by each applicant based on grammatical tense. The NRC reviewed OMP 4-3, “Use of Abnormal and Emergency Procedures,” to determine what actions would/could be necessary based on the provided initial conditions. OMP 4-3, provides specific guidance to operators based on plant conditions and addresses this very situation. It pinpoints whether an SI has or has not occurred. Based on this evaluation, the NRC determined that there could be more than one answer.

In conclusion, the answer key was changed to reflect ”D” as an additional correct answer.

SRO QUESTION # 16, (BANK 1054)

Licensee Comment: The question accurately determines a senior operator's ability to analyze plant conditions and apply the appropriate Technical Specification. By the literal interpretation of the Technical Specification, answer "C" is the correct answer, and the operator is not required to take any action to address the high containment temperature.

However, the operational philosophy at McGuire Nuclear Station (MNS) is to take conservative action to ensure the plant is operated well within the Technical Specifications Limiting Conditions for Operation and other plant operating documents. As such, answer "B" would be conservative, expected action taken at MNS to ensure containment temperature is maintained within allowable guidelines.

NRC Resolution: Comment not accepted. The licensee's justification argues the philosophy of conservative action, however, it does not address the fact that the question stem asks "...the required Technical Specification actions..." Since the question does not address what conservative actions MNS would take to address this situation, the NRC determined that this does not answer the question. Additionally, the NRC reviewed Technical Specification 3.6.5, Note 2, to determine applicability. The NRC determined if the plant had just entered the requirement of temperature greater than 125 degrees then Technical Specification Action A would have to be entered and would have to restore containment average temperature to within limits within 80 hours.

In conclusion, the answer key will remain unchanged.

SRO QUESTION # 24, (BANK 1072)

Licensee Comment: The question as written does not provide the candidate with enough information to adequately discern either "A" or "B" as the more correct answer. The McGuire Nuclear Station ALARA program provides guidance that will allow either situation to be selected dependent upon a closer evaluation of the situation, including additional data not provided in the question. The licensee justifies answer "A" as supporting the ALARA goal of maintaining a low collective dose for the station and justifies answer "B" because an extension to exceed an administrative dose limit is not required for this situation and additionally this answer supports the ALARA goal of maintaining a low individual dose.

The licensee recommends that both answer "A" and "B" be accepted as a correct answer to the question.

NRC Resolution: Comment not accepted. The NRC disagrees with the licensee's comment, "the question as written does not provide the candidate with enough information to adequately discern between either "A" or "B" as the correct answer." In their comment, the licensee did not identify what additional information was necessary to answer the question.

The NRC requested additional reference materials from the licensee to further understand the licensee's ALARA program. The additional materials provided were, The Systems ALARA Manual, and NSD 507, "Nuclear Policy Manual." The Systems ALARA Manual, Section II, page 2 of 5 states, "For an effective ALARA program it is not sufficient to merely control the maximum dose to individuals; the collective dose of the group (measured in person-rem) must also be maintained ALARA. The manual continues to state "It would be inappropriate to restrict dose to individuals to a fraction of the specified limit if this action resulted in the exposure of more persons to radiation and increased the total collective dose."

The two distractors in question concern themselves with this very issue, individual dose verses collective dose. Distractor "A" is concerned with an operator who has attained an Alert level (80% of 2000 mrem or 1600 mrem) and is going to add an additional 500 mrem. This additional dose would increase the operator to 2100 mrem, 100 mrem above the Maximum Allowable Exposure (MAE) and would require an extension.

SRO QUESTION # 24, (BANK 1072) (continued)

Distractor “B” is concerned with two operators receiving 750 mrem between the two of them, thus, reducing the amount an individual operator would receive (375 mrem verses 500 in distractor “A”), however, an overall increase of plant ALARA would occur. Distractor B would not be in accordance with the Systems ALARA Manual. The manual specifically discourages expending plant total dose while keeping an individual dose lower.

In conclusion, the original answer “A” was accepted as the only correct answer.

RO QUESTION # 45, (BANK 1029)

Licensee Comment: Answer “D” is based on the Reactor Engineering Analysis & Computer Tools (REACT) software application, which reflects a reactivity penalty for the dropped rod and reduction (decrease) in shutdown margin (SDM). This is a conservative adjustment to the calculation of SDM that is specific to MNS. The question did not specifically state that the applicants were to determine the effect of a dropped rod on SDM as defined by REACT software. The licensee stated that according to the classical definition SDM is unaffected by a dropped control rod and that interviews with the applicant revealed that they had interpreted the question to be based on the classical definition.

The licensee recommends the answer to this question be changed from “D” to “B.”

NRC Resolution: Recommendation accepted. Since the question does not define which definition for SDM is required, the classical definition should be used.

In conclusion, the answer key was changed to reflect “B” as the only correct answer.