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December 28, 2010

Mr. Edwin Lea, Senior Operations Engineer
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Marquis One Tower
245 Peachtree Center Ave., NE Suite 1200
Atlanta, GA 30303-1257

SUBJECT: Duke Energy Carolinas, LLC
Catawba Nuclear Station, Units 1 and 2
Docket Numbers - 50-413 and 50-414
Post Examination Documentation

The post examination materials for the Catawba Nuclear Station initial license examination completed on December 21, 2010 submitted in accordance with NUREG 1021 ES 501 C.1.a, as listed below, are enclosed.

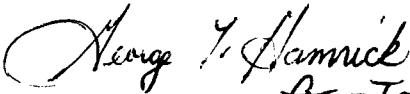
- A. The original examination answer sheets
- B. A clean copy of the original examination answer sheets
- C. The graded copy of the original examination answer sheets
- D. The master examination (Note: this is on the provided CD)
- E. The answer keys for the RO and SRO examinations
- F. The questions asked by and answers provided to applicants during the written examination
- G. The written examination seating chart
- H. The completed form ES-403-1 Written Examination Grading Quality Checklist
- I. CD containing revised form of Job Performance Measures, as identified during exam administration. Also contains master examination
- J. Documentation and explanation of basis for identified Job Performance Measure revisions
- K. Post exam comments on written exam, including supporting documentation
- L. Written exam comments from applicants

Form ES-201-3 Examination Security Agreement will be submitted separately.

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If you have any questions or need additional information, please contact Steve Tripi, Initial Training Supervisor at (803) 701-3770 or Alan Orton, Operations Training Manager at (803) 701-3977.

Sincerely,


George T. Hammick
for James R. Morris
James R. Morris

xc: without attachments

Malcolm T. Widmann, Chief
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G. A. Hutto, III
Senior NRC Resident - Catawba
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**Catawba Nuclear Station December 2010
Initial NRC Exam
Post-Exam Submittal**

ENCLOSURE K:

**Post exam comments on written exam,
including supporting documentation**

**Catawba Nuclear Station December 2010
Initial NRC Exam
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QUESTION 41

**Post Exam Comment, including supporting
documentation**

**Catawba Nuclear Station
December 2010 NRC Exam
Post Exam Comments**

Question #41

The facility recommends that this question be deleted from the examination, due to no correct answer.

Basis:

The question was written based on a version of LCO 3.6.13, Ice Condenser Doors, which was different from the version used by the applicants during their training program at the time of the procedure freeze date (09/20/10). Please see attached LCO 3.6.13, Amendment Nos. 173/165. This version of the LCO was used by the exam developers to develop Question #41, and supports D as being the correct answer. This version of the LCO has been in effect since 2001.

The new version of LCO 3.6.13 was issued and effective on 08/10/10 and *should* have been used to develop the question. Please see attached LCO 3.6.13, Amendment Nos. 256/251. It is believed that the exam developers either did not receive, or for other undetermined reasons, did not realize the LCO had been revised. The nature of the revision changes the specification from "one or more ice condenser doors" to "one or more ice condenser lower inlet doors," and therefore results in no correct answer for the question.

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QUESTION 76

**Post Exam Comment, including supporting
documentation**

**Catawba Nuclear Station
December 2010 NRC Exam
Post Exam Comments**

Question #76

The facility recommends that both answers B and D be accepted as correct.

Basis:

The stem conditions involve sump blockage, resulting in cavitation of the RHR (low head injection) pumps. The answer key indicates B as the correct answer. However, D is also correct, as follows:

Distractor D involves securing the ND (low head injection) pumps, the NV (high head), and the NI (intermediate head) pumps, and initiating makeup to the FWST. The question was intended to test which action(s) would be taken FIRST to mitigate the cavitating ND pumps. This is answer B. However, the question, as written, did not specify the "FIRST" action to take. The actions in distractor D are also in ECA-1.3, and if taken, would indeed mitigate the conditions presented in the stem. Please see attached and highlighted ECA-1.3. Specifically, Step 4.k directs that if the ND pump(s)' cavitation continues, then stop the affected pump. Continuing in the procedure to Step 15 will direct makeup to the FWST.

Therefore, the actions of either B or D, if taken, would mitigate the conditions presented in the stem.

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QUESTION 83

**Post Exam Comment, including supporting
documentation**

**Catawba Nuclear Station
December 2010 NRC Exam
Post Exam Comments**

Question #83

The facility recommends that both answers B and D be accepted as correct.

Basis:

The answer key indicates B as the correct answer. However, D is also correct, as follows: The stem, as worded, asks for the effect of manually isolating an accidental gaseous release, in the context of minimizing exposure to a member of the public, at Location 1 versus Location 2. Both locations are at the Site Boundary. The question was intended to require the applicant to apply knowledge of the basis for Selected Licensee Commitment (SLC) 16.11-19, Gas Storage Tanks, and evaluate the effect of a release at two locations along the Site Boundary. However, the wording of the question leaves room for selecting either answer B (Location 1 - nearest to the release) or answer D (Location 2 - furthest from the release) because the stem did not specifically refer to the SLC basis. This results in either Location selection as being correct. If a member of the public receives less than 0.5 rem at the location nearest to the release (Location 1), they will also receive less than 0.5 rem at the location furthest from the release (Location 2). Therefore, there are two correct answers: B and D.

Please see attached Selected Licensee Commitment 16.11-19, Gas Storage Tanks, and page SLC 16.11-16-5.



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January 10, 2011

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Attached are two additional comments on the 2010 Initial License Written Examination administered on December 21, 2010. These comments were generated following further analysis of the examination results.

If you have any questions or need additional information, please contact Eric Madsen, Operations Training Supervisor, at (803) 701-3143 or Alan Orton, Operations Training Manager at (803) 701-3977.

Sincerely,


James R. Morris *for James R. Morris*

Attachment

JAN 13 2011

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January 10, 2011
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bxc: without attachments

R. T. Simril	CN02OP
R. D. Hart	CN01RC
ELL	EC05O

bxc: cover letter with correspondence review documentation only

Date File	CN01RC
CN-940.00	CN04DM

Question 21

**Catawba Nuclear Station
December 2010 NRC Exam
Post Exam Comments**

Question #21

The facility recommends that both answers A and C be accepted as correct.

Basis:

The question involves a fuel handling accident where source range counts increase by 0.4 decades. The third bullet of the stem states that source range count rates "increased by 0.4 decades and are *stabilizing*."

It could be interpreted that even though the count rates are stabilizing, they could still be increasing (though at a slower rate), and may reach 0.5 decades, which is the alarm setpoint for the alarm 1AD-2, D/3 & D/4 S/R HI FLUX LEVEL AT SHUTDOWN.

Therefore, there are two correct answers, A and C.

Question 86

**Catawba Nuclear Station
December 2010 NRC Exam
Post Exam Comments**

Question #86

The facility recommends that the question be deleted from the exam.

Basis:

The stem conditions involve a malfunctioning controller for the Letdown Heat Exchanger Outlet Temperature Controller. The intent of the question is to test the SRO applicant on procedure selection and knowledge of detailed content for the required mitigating action.

However, the stem is incomplete and confusing. The stem asks the applicant to identify only the procedure containing the required action for mitigation, but not to determine the required action. This makes it confusing for the applicant, since the distractors present the applicant with options outside the stated scope of the stem.

The facility used the guidance of ES-403, D.1.b, as shown below:

The following types of errors, if identified and adequately justified by the facility licensee, are most likely to result in post-examination changes agreeable to the NRC:

- * *a question with an unclear stem that confused the applicants or did not provide all the necessary information*

The question is essentially incompletely developed, since it contains only two distractors linked to the stem, and is therefore an invalid question. The facility recommends that the question be deleted from the exam.