October 3, 2001

Mr. R. P. Powers
Senior Vice President
Nuclear Generation Group
American Electric Power Company
500 Circle Drive
Buchanan, MI 49107-1395

SUBJECT: D. C. COOK NUCLEAR POWER PLANT - NRC INITIAL OPERATOR LICENSE RETAKE EXAMINATION REPORT 50-315/01-302(DRS); 50-316/01-302(DRS)

Dear Mr. Powers:

On September 10, 2001, D. C. Cook Nuclear Power Station training department personnel administered an NRC approved written retake examination for one Senior Reactor Operator applicant. The applicant had failed the written examination portion of the May 2001 initial operator license examination. The written retake examination was graded and the results finalized on September 27, 2001. The applicant passed the retake examination and was issued a Senior Reactor Operator license. The enclosed report presents the results of the examination.

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 the NRC's document control system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADQAMS/index.html (the Public Electronic Reading Room).

We will gladly discuss any questions you have concerning this examination.

Sincerely,

/RA/

David E. Hills, Chief
Operations Branch
Division of Reactor Safety

Docket Nos. 50-315; 50-316
License Nos. DPR-58; DPR-74

Enclosures:
1. Operator Licensing Retake Examination Report 50-315/01-302; 50-316/01-302(DRS)
2. Licensee Post Examination Comments and NRC Resolutions
3. Written Examination and Answer Key (SRO)

See Attached Distribution

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M. Rencheck, Vice President, Nuclear Engineering
R. Whale, Michigan Public Service Commission
Michigan Department of Environmental Quality
Emergency Management Division
MI Department of State Police
D. Lochbaum, Union of Concerned Scientists

cc w/encls 1, 2, & 3: B. Wallace, Training Department

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REGION III

Docket Nos:	50-315; 50-316
License Nos:	DPR-58; DPR-74
Report No:	50-315/01-302(DRS); 50-316/01-302(DRS)
Licensee:	American Electric Power Company
Facility:	Donald C. Cook Nuclear Power Plant
Location:	1 Cook Place Bridgman, MI 49106
Date:	September 10, 2001
Examiner:	H. Peterson, Chief Examiner
Approved by:	David E. Hills, Chief Operations Branch Division of Reactor Safety

SUMMARY OF FINDINGS

ER 05000315-01-302(DRS), 05000316-01-302(DRS), on 09/10/2001, American Electric Power Company, D. C. Cook Nuclear Power Plant, Units 1 and 2. Initial Operator License Retake Examination Report.

The announced operator licensing initial examination was conducted by a regional examiner in accordance with the guidance of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 8, Supplement 1.

Examination Summary:

- One senior reactor operator applicant was administered a written retake examination for initial operator licensing. The applicant passed the written retake examination and was issued a senior operator license (Section 4OA5.1).

Report Details

4. OTHER ACTIVITIES (OA)

4OA5 Other

.1 Initial Licensing Examinations

a. Inspection Scope

An NRC examiner conducted an announced operator licensing initial retake examination on September 10, 2001. The facility licensee training staff used the guidance established in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 8, Supplement 1, to prepare the examination outline and to develop the written retake examination. The NRC reviewed and approved the written retake examination. The facility licensee training staff administered the retake examination on September 10, 2001. One senior reactor operator applicant was examined. The NRC reviewed the written examination from August 7 to 13, 2001, and discussed examination changes and corrections with licensee's training staff on August 17, 2001.

b. Findings

Written Examination

The NRC examiners determined that the written retake examination, as originally submitted by the licensee, was outside the acceptable quality range expected by the NRC. This determination was based on the fact that 23 written questions required replacement and/or modification when reviewed in accordance with NUREG-1021. The problems identified with the written examination included three questions submitted with low discriminatory value, seven questions that did not meet the selected knowledge and abilities criteria, five questions that had technically incorrect answers, and eight questions that contained inappropriate distractors. The examination changes agreed upon between the NRC and the licensee training staff, were incorporated into the written retake examination according to NUREG-1021. Subsequently, the NRC approved the written retake examination with the understanding that the licensee would incorporate any lessons learned from this effort for future examinations.

The licensee's training staff administered the written retake examination on September 10, 2001, in accordance with NUREG-1021. The licensee provided post-examination comments on four written examination questions that were administered to the applicant. The licensee's specific comments and the NRC's resolution of these comments are included in Enclosure 2 to this report. The written retake examination was graded following the answer key amendments and resolution of the licensee's post examination comments.

Examination Results

The NRC examiner independently graded the written retake examination. The applicant passed the written retake examination and was issued a senior operator license.

.2 Examination Security

a. Inspection Scope

The examiner reviewed the licensee's implementation of examination security requirements during the examination preparation and administration.

b. Findings

The NRC examiner determined that the licensee’s overall examination security practices associated with the development and administration of the operator license examination were satisfactory.

4OA6 Meetings

Exit Meeting

The chief examiner presented the examination findings and results to Mr. R. Brown on September 27, 2001 via telephone discussion. The licensee acknowledged the observations and findings presented. No proprietary or safeguards information was identified during the exit meeting.

KEY POINTS OF CONTACT

Licensee

B. Wallace, Training Manager
R. Brown, Operations Training Manager
R. Bailey, Operations Training Instructor
W. Nichols, Operations Training Superintendent (Requal)

LIST OF ACRONYMS

ADAMS	Agency-Wide Document Access and Management System
DRS	Division of Reactor Safety
NRC	Nuclear Regulatory Commission

Enclosure 2

LICENSEE POST WRITTEN EXAM COMMENTS AND NRC RESOLUTION

The following four items are licensee post written examination comments.

SRO EXAMINATION:

QUESTION: 34
The following plant conditions exist:

- Unit 1 is at 7% power on the steam dump to the condenser.
- Turbine rolling up to 1800 rpm.
- All operating condensate booster pumps trip.

Which ONE of the following describes the system response? {ASSUME: NO operator action is taken.}

a. MFP-Immediate trip;
AFW PUMPS-Start on MFW pump trip;
TURBINE TRIP-On Reactor trip

b. MFP-Immediate trip;
AFW PUMPS-Start on SG low low level;
TURBINE TRIP-On MFW pump trip

c. MFP-Trip after 5 sec. delay;
AFW PUMPS-Start on MFW pump trip;
TURBINE TRIP-On MFW pump trip

d. MFP-Trip after 5 sec. delay;
AFW PUMPS-Start on SG low low level;
TURBINE TRIP-On Reactor trip

Answer: C

LICENSEE COMMENT:

The Turbine Control Circuit output was modified by Design Change Package (12-DCP-62) dated 12/07/00 to remove the portion of the output circuit that generates a Main Turbine trip signal on a loss of both Main Feed Pumps. This change is referenced in Section 1.2 of the DCP and in Lesson Plan RO-C-05001, Revision 1, dated 08/03/00. Based upon this modification, the trip of both main feed pumps will not cause a Main Turbine trip which makes distractors B and C incorrect. In addition, a time delay of five (5) seconds on the loss of condensate flow will generate a feed pump trip which makes distractors A and B incorrect. Finally, the reactor does not trip as a result of the turbine trip when below 10% power which makes distractors A and D incorrect. Based upon these considerations, no correct answer exists. Recommendation is to delete the question from the examination.

LICENSEE POST WRITTEN EXAM COMMENTS AND NRC RESOLUTION

NRC RESOLUTION:

Recommendation to delete the question is not accepted. Based on the review of the design change, lesson plan, and control circuit drawings, the originally selected answer C is no longer considered correct because the turbine no longer trips on loss of both main feedwater pumps. Distractors A and B remain incorrect because the main feed pump does not immediately trip, but trips after a 5 seconds delay. However, after further review, distractor D is considered a correct answer. With respect to distractor D, the licensee’s statement that the reactor does not trip as a result of the turbine trip when below 10% power, is correct. However, distractor D notes that the turbine trips on a reactor trip instead of the reactor trips on a turbine trip. The turbine always trips on a reactor trip and therefore that portion of the distractor D is correct. The other portions on choice D are also correct. The main feedwater pumps will trip after 5 seconds and the auxiliary feed pumps will start on steam generator low low level. Therefore, choice D is the only correct answer.

LICENSEE POST WRITTEN EXAM COMMENTS AND NRC RESOLUTION

QUESTION: 55
A large-break LOCA has occurred in Unit 2 with multiple failures of ECCS components. Procedure 02-OHP 4023.E-1, Loss of Reactor or Secondary Coolant, has just been entered.

The following conditions exist:

- Containment area high-range radiation monitor (VRA-1310) reads 1.3 x 10^5 R/hr
- Containment area high-range radiation monitor (VRA-1410) reads 9.9 x 10^4 R/hr
- Containment pressure is 2.6 psig and slowly lowering
- Containment Flood Level status lights are LIT

Based on these indications, the crew is required to:

a. use "adverse containment" values for operator actions in E-1.

b. transition to FR-Z.1, Response to High Containment Pressure.

c. transition to FR-Z.2, Response to Containment Flooding.

d. transition to FR-Z.3, Response to High Containment Radiation Level.

Answer: A

LICENSEE COMMENT:

The stem of the question states that VRA-1310 reads 1.3 x 10^5 R/hr and meets the Adverse Containment criteria which makes distractor A correct. However, the stem of the question also states that the Containment 'Flood Level' status lights are LIT with containment pressure at 2.6 psig. Based upon these conditions, an ORANGE path transition criteria is satisfied per 02-OHP-4023-F-05, Containment. Section 5.2.1 of Attachment 5 in OHI-4023 states that anytime an ORANGE condition is identified the Control Room Team is expected to stop the procedure in progress and implement the required FRP. This expected action makes distractor C a correct response. Recommend accepting two answers, A and C, as correct.

NRC RESOLUTION:

Recommendation to accept answers A and C as both correct is not accepted. Based on the existing containment condition in the question stem, as indicated by the flood level status lights, the recommendation for choice C as a correct answer is accepted. Given the high radiation condition, it is also correct that an adverse containment condition exists; however, choice A indicates adverse containment values for actions to take within procedure E-1. But, considering the flood level indications, the only correct response per the question stem conditions and the emergency contingency procedures, is to immediately transition to FR-Z.2, Response to Containment Flooding, and not to continue in procedure E-1. Subsequently, the recommendation to accept both choices A and C as correct is not accepted. The only correct

LICENSEE POST WRITTEN EXAM COMMENTS AND NRC RESOLUTION

answer is C.

QUESTION: 63
Following a Unit 1 RCS heatup to 280°F, RHR was removed from service and the "Cold Overpress Block" switches were placed in the "Normal" position.

Which ONE of the following pressures (psig) is the MAXIMUM allowable during the subsequent heatup to MODE 3 conditions? {ASSUME: Mode 3 entry has NOT been authorized.}

a. 1450

b. 1550

c. 1650

d. 1750

Answer: C

LICENSEE COMMENT:

The maximum allowable pressure during heatup while in Mode 4 and prior to entering Mode 3 is based upon the definition in Technical Specifications (Mode 4= Tavg less than 350°F but greater than 200°F). Per Step 4.11 of 01-OHP-4021-001-001, the operator is required to plot the heatup limits using Attachment 1 of OHI-6100. Per Attachment 1, the evaluated maximum pressure at 350°F would be just below 1600 psig. Since Mode 3 entry has not been authorized per the stem of the question, the operator must conservatively remain below 1600 psig. Therefore, distractor B is the only correct response. Recommend changing the correct answer to distractor B.

NRC RESOLUTION:

Recommendation to change the correct answer to choice B is accepted. The licensee's original justification for answer choice C was based on the procedure precautions and limitations which limited the pressure to 1700 psig. Based solely on this limitation, answer C appeared to be the correct choice without exceeding 1700 psig. However, due to the specific limitations for Mode 3 and Attachment 1, not to exceed 1600 psig at 350°F during heatup, the only correct choice is B.

LICENSEE POST WRITTEN EXAM COMMENTS AND NRC RESOLUTION

QUESTION: 83
Which ONE of the following Plant Process Computer program failures will cause annunciator Panel 211 Drop 50, PPC Program Failure, to alarm?

a. Plant and Instrumentation Drawings

b. Feedwater Inlet Temperatures

c. Rod Insertion Limit

d. Tilting Factors

Answer: C

LICENSEE COMMENT:

Plant Process Computer (PPC) failure annunciator is caused by a loss of various inputs. One of which comes from input U4014, Tilt Program. In accordance with Chapter 7 of the PPC 1 Nuclear Steam Supply System Program Reference Manual, Tilting Factors is a synchronous application program that executes a cyclic input to the PPC applications program and when the program aborts or fails for any reason a control room panel PPC failure alarm is activated. Recommend accepting both distractor C and D as correct answers.

NRC RESOLUTION:

Recommendation to accept both C and D as correct answers is accepted. The licensee's justification for the original question did not identify that the PPC input noted as Tilt Program was in effect associated with Tilting Factors. However, with further review and detailed reference associated with Tilting Factors definition, Tilt Program was identified to incorporate the Tilting Factors. Based on the additional information, both choices C and D are accepted as correct answers.

Enclosure 3

WRITTEN RETAKE EXAMINATION AND ANSWER KEY (SRO)

SRO Exam ADAMS Accession #ML012710143