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

August 21, 2009

Mr. Jeffrey B. Archie
Vice President
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
P.O. Box 88
Jenkinsville, SC 29065

SUBJECT: VC SUMMER NUCLEAR PLANT – NRC OPERATOR LICENSE EXAMINATION REPORT 05000395/2009301

Dear Mr. Archie:

During the period June 30 – July 8, 2009, the Nuclear Regulatory Commission (NRC) administered operating tests to employees of your company who had applied for licenses to operate the V.C. Summer Nuclear Plant Unit. 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 July 10, 2009.

Three RO applicants and five SRO applicants passed both the operating test and written examination. One RO applicant and one SRO applicant passed the operating test but did not pass the written examination. Three RO applicants and three SRO applicants were issued licenses. There were two borderline grades. One SRO applicant passed the operating test, but passed the written examination with an overall score between 80% and 82%. One SRO applicant passed the operating test, but passed the SRO portion of the written examination with a score between 70% and 74%. Because these are borderline grades, their licenses are being held in abeyance pending any examination appeals. There were six post-examination comments. A Simulator Fidelity Report is included in this report as Enclosure 3.

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 No: 50-395
License No: NPF-12

Enclosures:
1. Report Details
2. Facility Post-Examination Comments and NRC Resolutions
3. Simulator Fidelity Report

cc w/encl: (See Page 3)

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 No: 50-395
License No: NPF-12

Enclosures: 1. Report Details
2. Facility Post-Examination Comments and NRC Resolutions
3. Simulator Fidelity Report

cc w/encl: (See Page 3)

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

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

OFFICE	RII:DRS	RII:DRS	RII:DRS	RII:DRS			
SIGNATURE	RFA /RA/	MTW /RA/	BLC /RA/	MKM /RA/			
NAME	RAiello	MWidmann	BCaballero	MMeeks			
DATE	08/13/2009	08/21/2009	08/13/2009	08/13/2009			
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: O:\SUMMER EXAMINATIONS\INITIAL EXAM 2009-301\REPORT\FINAL\SM EXAMINATION REPORT 2009-301 FINAL (REV 1).DOC

cc w/encl:
R. J. White
Nuclear Coordinator
S.C. Public Service Authority Mail Code 802
Electronic Mail Distribution

Kathryn M. Sutton, Esq.
Morgan, Lewis & Bockius LLP
Electronic Mail Distribution

Susan E. Jenkins
Director, Division of Waste Management
Bureau of Land and Waste Management
S.C. Department of Health and
Environmental Control
Electronic Mail Distribution

R. Mike Gandy
Division of Radioactive Waste Mgmt.
S.C. Department of Health and
Environmental Control
Electronic Mail Distribution

Bruce L. Thompson
Manager
Nuclear Licensing (Mail Code 830)
South Carolina Electric & Gas Company
Electronic Mail Distribution

Robert M. Fowlkes
General Manager
Engineering Services
South Carolina Electric & Gas Company
Electronic Mail Distribution

Thomas D. Gatlin
General Manager
Nuclear Plant Operations (Mail Code 303)
South Carolina Electric & Gas Company
Electronic Mail Distribution

David A. Lavigne
General Manager
Organization Development
South Carolina Electric & Gas Company
Electronic Mail Distribution

L. A. Blue
Training Manager
South Carolina Electric & Gas Company
Electronic Mail Distribution

Letter to Jeffrey B. Archie from Malcolm T. Widmann dated August 21, 2009

SUBJECT: VC SUMMER NUCLEAR PLANT – NRC OPERATOR LICENSE EXAMINATION REPORT 05000395/2009301

Distribution w/encl:
C. Evans, RII
L. Slack, RII
OE Mail
RIDSNRRDIRS
PUBLIC
RidsNrrPMSummer Resource

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.:	50-395
License No.:	NPF-12
Report No.:	05000395/2009301
Licensee:	South Carolina Electric and Gas
Facility:	V.C. Summer
Location:	Jenkinsville, South Carolina
Dates:	Operating Test – June 30 – July 8, 2009 Written Examination – July 10, 2009
Examiners:	Ronald F. Aiello, Chief Examiner, Senior Operations Engineer Bruno L. Caballero, Operations Engineer Michael K. Meeks, Operations Engineer
Approved by:	Malcolm T. Widmann, Chief Operations Branch Division of Reactor Safety

Enclosure 1

SUMMARY OF FINDINGS

ER 05000395/2009301, operating test June 30 – July 8, 2009 & written exam July 10, 2009; V.C. Summer; 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 V.C. Summer training staff developed both the operating tests and the written examination. The NRC developed the written examination outlines.

The NRC administered the operating tests during the period June 30 – July 8, 2009. Members of the V.C. Summer training staff administered the written examination on July 10, 2009. Three RO applicants and five SRO applicants passed both the operating test and written examination. One RO applicant and one SRO applicant passed the operating test but did not pass the written examination. Three RO applicants and three SRO applicants were issued licenses. There were two borderline grades. One SRO applicant passed the operating test, but passed the written examination with an overall score between 80% and 82%. One SRO applicant passed the operating test, but passed the SRO portion of the written examination with a score between 70% and 74%.

There were six post-examination comments.

One Licensee-Identified Violation (LIV) of very low safety significance in the area of examination security has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and corrective actions are listed in Section 4OA7 of this report.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA5 Operator Licensing Examinations

a. Inspection Scope

Members of the V.C. Summer training staff developed both the operating tests and the written examination. The NRC developed the written examination outlines. 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." One Licensee-Identified Violation (LIV) of very low safety significance in the area of examination security has been reviewed by the inspectors.

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 June 30 – July 8, 2009. Members of the V.C. Summer training staff administered the written examination on July 10, 2009. Evaluations of applicants and reviews of associated documentation were performed to determine if the applicants, who applied for licenses to operate the V.C. Summer Nuclear Plant, met the requirements specified in 10 CFR Part 55, "Operators' Licenses."

b. Findings

The NRC determined, using NUREG-1021, that the licensee's examination submittal was within the range of acceptability expected for a proposed examination.

One Licensee-Identified Violation (LIV) of very low safety significance in the area of examination security has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program (Condition report (CR) 09-02791). This violation and corrective actions are listed in Section 4OA7 of this report.

Three RO applicants and five SRO applicants passed both the operating test and written examination. One RO applicant and one SRO applicant passed the operating test but did not pass the written examination. Three RO applicants and three SRO applicants were issued licenses. There were two borderline grades. One SRO applicant passed the operating test, but passed the written examination with an overall

score between 80% and 82%. One SRO applicant passed the operating test, but passed the SRO portion of the written examination with a score between 70% and 74%. These applicants were issued a letter stating that they passed the examination and issuance of their license has been delayed pending any written examination appeals that may impact the licensing decision for their application.

The following operating test concerns were noted:

- The NRC received the final operating test late which caused a one day delay in starting the exam.

- Problems with locks in the training building caused a one hour delay in starting the second day of simulator scenarios.

- On one occasion, a surrogate Shift Technical Engineer informed an applicant SRO that the integrity critical safety function was met, when in actuality there was a red path on integrity and an immediate transition to EOP-16.0 was required.

- Inconsistencies were identified in the area of control room communications and the use of PA announcements.

The following discrepancies were identified:

- Emergency Operating Procedure (EOP) - 4.0,"Steam Generator Tube Rupture," Rev. 18, step 18 b) Alternative Action: For the specific case of a steam generator tube rupture coincident with a stuck-open Pressurizer Power Operated Relief Valve (PORV) and PORV block valve, this step directed operators to transition from EOP-4.0 to EOP-4.2, "SGTR With Loss Of Reactor Coolant: Subcooled Recovery Desired" with a maximum rate Reactor Coolant System (RCS) cool down in progress. The issue with this transition was that EOP-4.2 did not contain procedural guidance to stop the maximum rate cool down at the required temperature determined in EOP-4.0. Instead, the initial 14 steps of EOP-4.2 essentially contained guidance to prepare the plant to commence cooling down; then, step 15 of EPO-4.2 directed operators to "Initiate RCS Cooldown to Cold Shutdown: a. Maintain the cooldown rate in RCS cold legs Less Than 100°F/hr." In a worst-case example, if operators were to transition to EOP-4.2 and continue cooling down at a maximum rate beyond the EOP-4.0 required temperature, an Orange path could be generated in Integrity due to improper operator actions and entry into EOP-16.0, "Response To Imminent Pressurized Thermal Shock," would be required to stop the excessive cool down. The procedural deficiency was discovered by the NRC during validation week.

- Alarm Response Procedure (ARP) 614 1-3 (CC Loop A RM-L2A HI RAD): This procedure required placing excess letdown in service <u>before</u> isolating letdown and stopping the leak into the Component Cooling Water (CCW) system. The Abnormal Operating Procedure (AOP) AOP-102.1, "Loss Of Letdown," Rev. 2 required isolating letdown <u>first</u> followed by placing excess letdown in service.

- EOP-2.0, "Loss of Reactor or Secondary Coolant," Rev. 13: The reference page of this procedure contained different criteria for transitioning to EOP-2.4, "Loss of Emergency Coolant Recirculation," Rev. 11, than was used at step 16 in the body of the EOP-2.0. The confusion over the different criteria led one team of applicants to fail to recognize a loss of recirculation condition, and therefore the team failed to transition to EOP-2.4 when that transition was required.

- There was a caution tag on valve HCV-186, INJ flow, that referenced a commitment to isolate air to the valve (and thereby render it non-functional) in Modes 1 and 2. One alarm response procedure, ARP XCP-644-1-3 CC Loop A RM-L2A HI RAD, did not reflect the correct status of this valve in MODES 1 and 2. Specifically, there was a procedural step in ARP- XCP-644-1-3 that directed the operators to "Adjust HCV-186, INJ flow, to maintain 6-13 gpm per Reactor Coolant Pump (RCP)" even though the air was isolated to the pneumatic operator. No option is provided to use an alternate means to throttle RCP seal injection flow. One simulator crew verbalized the issue and discussed using operators in the field to throttle RCP seal injection flow; two other crews read the step in the ARP and did not identify any problem with using HCV-186.

All of these items (operating test concerns and procedure discrepancies) as well as several others are being tracked via Condition Report (CR) 09-02791.

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 six post-examination comments concerning the written examination. A copy of the final written examination (RO and SRO) and answer keys, with all changes incorporated, and the licensee's post-examination comments may be accessed in the ADAMS system (ADAMS Accession Number(s) ML092290932, ML092290946, and ML092260752.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On July 8, 2009, the NRC examination team discussed generic issues associated with the operating test with Jeff Archie, Site Vice President, and members of the V.C. Summer staff. The examiners asked the licensee if any of the examination material was proprietary. No proprietary information was identified.

4OA7 Licensee Identified Violations

The following violation, of very low safety significance (Green), was identified by the licensee and is a violation of NRC requirements which met the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as a non-cited violation (NCV).

The significance of this event was that four questions were left unsecure in violation of NTM-30.03A, “Development, Review, and Validation of Initial Licensing NRC and Audit Examinations,” Rev 0, Change B and 10 CFR 55 requirements. On July 9, 2009, the licensee called the NRC at Region II to report that four questions on the RO written examination had been left in the copy machine sorter for a period of approximately 15 - 30 minutes. The Chief Examiner in consultation with the Branch Chief discussed the preliminary information with the licensee and allowed the written examination to proceed with the understanding that it could become invalid if it was determined that the examination had actually been compromised.

The licensee is required by 10 CFR 55.40 (b)(2) to establish, implement, and maintain procedures to control examination security and integrity in accordance with 10 CFR 55.49. Procedure NTM-30.03A requires the person that has control and makes copies to verify that no exam material is left in the copy machine. An inadequate check was made at the copy machine which resulted in four questions of the RO exam being left in the copy machine sorter for less than 30 minutes before being identified by a facility instructor, familiar with the sensitivity of such material, who immediately brought it to the attention of the training department.

The licensee completed its investigation and NRC follow-up occurred during the week of July 27, 2009. The inspector concurred with the licensee's bases for no apparent actual compromise and the inspector noted a very low potential for compromise. The bases was that the four questions of the RO written examination were left in the copier for a short length of time (less than 30 minutes) and other factors, such as copier location and applicant whereabouts during the time in question, were taken into consideration.

This licensee identified finding had a very low safety significance (low potential for compromise) for the bases noted above. The issue has been entered into the corrective action system for resolution (CR- 09-02700). This violation of NRC examination security requirements is being treated as a non-cited violation (NCV 05000395/2009301-01).

KEY POINTS OF CONTACT

Licensee personnel

J. Archie, Site Vice President
L. Blue, Nuclear Training Manager
R. Ellis, Operations Training Instructor
D. Gatlin, Plant Manager
F. Lucas, Operations Supervisor
B. Thompson, Nuclear Licensing Manager
R. Quick, Supervisor, Development
R. Ray, Operations Training Supervisor
S. Zarandi, General Manager, Nuclear Support Services

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 ML092260752.

Item

RO Question 16, K/A 005K5.02

Licensee Comment

The licensee recommended that the question be deleted since there are no correct answers.

The question asks, based upon conditions stated in the stem, which of the choices describes the operability of Train 'A' RHR with respect to Technical Specification 3.5.3, ECCS Subsystems – Tavg < 350°F. The licensee contends that for Train 'A' RHR, with respect to Technical Specification 3.5.3, in the cooldown alignment, it is neither Operable nor Inoperable. In accordance with Technical Specification 3.5.3, ECCS Subsystems – Tavg < 350°F, only one ECCS subsystem is required to be operable. The stem of the question states Mode 4 was just entered and Train 'A' RHR was just started in the cooldown mode. There is no information in the stem regarding re-alignment of Train 'B' RHR or abnormalities associated with Train 'B' RHR. The licensee contends that for the conditions stated, Train 'B' RHR is assumed in its normal ECCS alignment (and is the Train taken credit for Operability per T.S. 3.5.3). In accordance with GOP-6 Plant Shutdown From Hot Standby to Cold Shutdown (Mode 3 to Mode 5) and SOP-115, Residual Heat Removal, with RCS temperature greater than 250°F, only one train of RHR should be in service for heatup or cooldown to ensure RHR injection capability.

Because Train 'B' RHR is still in its ECCS alignment and only one ECCS subsystem is required to be Operable, the licensee contends that Train 'A' RHR is not applicable to the specification as asked by the question, and is neither Operable nor Inoperable.

NRC Resolution

The licensee's recommendation was not accepted. Additionally, upon further review, it was determined that choices "A" and "B" are both correct.

Tech Spec 3.5.3, requires that *one* ECCS subsystem SHALL be OPERABLE, including an operable flow path capable of taking suction from the refueling water storage tank.

SOP-115, Residual Heat Removal, Rev 20, Section C (Plant Cooldown Using RHR Train A), page 15 of 132 states:

> *"Initiating cooldown on RHR while RCS Hot Leg temperatures are greater than 250°F renders RHR Loop A incapable of being aligned to the RWST (reference Technical Specification 3.5.3.d) until the Hot Leg temperatures are reduced to less than 250°F."*

Because SOP-115, Section C, stated that Train A was incapable of being aligned to the RWST while aligned for shutdown cooling, Train A loop cannot be considered operable with respect to Tech Spec 3.5.3. [The licensee contends that the Train A loop (when aligned for plant cooldown) is neither operable nor inoperable.]

The stem question, as administered, was worded verbatim (including bolded portions) as follows:

> *"Which ONE (1) of the following describes the operability of RHR **Train 'A'** with respect to Technical Specification 3.5.3, ECCS SUBSYSTEMS – TAVG <350°F?"*

The question did NOT ask the applicants' to decide if the requirements of LCO 3.5.3 were still met. The question asked the applicants' whether or not Train A was operable.

Furthermore, SAP-205, Status Control and Removal and Restoration, Rev 10, Section 4 (Definitions), Item 4.5 defines the term "removal from service" as follows:

> *"Removal from Service: Alignment of a system or component or associated controls such that the system is unavailable to perform its intended function as specified in the Technical Specifications."*

The licensee's procedure for cooling down the plant (GOP-6, Plant Shutdown From Hot Standby to Cold Shutdown, Mode 3 to Mode 5, Rev 11) includes the following Caution 3.5.d, on page 22 of 53:

> *"In Mode 4, one train of ECCS must be capable of taking a suction from the RWST and being manually realigned."*

GOP-6 provides steps to ensure the adjacent train is "protected" which ensures that requirements of Tech Spec 3.5.3 can still be met *even though one of the RHR trains is being used for plant cooldown and cannot be used to fulfill the operability requirements for Tech Spec 3.5.3.*

Additionally, because both answer choices "A" and "B" deal with the flow path requirement portion of Tech Spec 3.5.3, i.e., the loop being used for plant cooldown is not capable of being aligned to the RWST due to pipe voiding concerns, then "B" is also correct. This was not initially contended by the licensee. However, during the post exam analysis, the wording of answer choice "B" was reviewed in detail. Even though the plant cooldown alignment, by itself, does not render train "A" inoperable, it can be stated that the injection lineup cannot be achieved when aligned to the RWST due to the voiding concerns at temperatures > 250°F.

<u>Item</u>

RO Question 33, K/A 027AK2.03

<u>Licensee Comment</u>

The licensee recommended that both choices "B" and "D" be accepted as correct answers.

The question is asking "what is the output on the Master Pressure Controller in relationship to the original value when the controller is placed in MANUAL by the operator." The licensee contends that neither the "Which One Of The Following (WOOTF)" statement nor the conditions stated in the stem clearly define what is meant by the "ORIGINAL" value. The licensee contends that the correct answer to this question is dependent on the operators' interpretation of the "ORIGINAL value."

The licensee contends that there are two possible interpretations of "original":

1) The output of the Master Pressure Controller when PT-444 begins to drift HIGH
2) The output of the Master Pressure Controller when the Master Pressure Controller is placed in MANUAL

If the point of reference is from when PT-444 begins to drift HIGH, then Choice B will be correct. The output of the Master Pressure Controller will begin to increase in value above the output signal of the Master Pressure Controller prior to the point where PT-444 began to drift HIGH. Basically, this is testing "how will the Master Pressure controller respond to the PT-444 failure?"

The licensee contends that if the point of reference is from when the Master Pressure Controller is placed in MANUAL, then Choice D will be correct. The manual control signal tracks the auto signal if the applicant considers the ORIGINAL value to the controller output at the time the controller was taken to MANUAL. Basically, this is testing "the bumpless transfer function of going from AUTO to MANUAL on the Master Pressure Controller." Therefore, depending on how "original" is interpreted, the licensee contends that an applicant could determine either Choice B or Choice D is correct.

<u>NRC Resolution</u>

The licensee's recommendation was not accepted.

The licensee comment centers on whether it was clear what is meant by the word "original" in the question statement: "When placed in MANUAL, the output on the Master Pressure Controller is _____ than its original output, AND the PZR Spray Valves will be approximately ____ open."

The bullets in the question stem were as follows:

"Given the following plant conditions:

- 100% power
- PZR pressure control is in AUTO at 2235 psig
- Group 1 Backup Heaters are ON
- Group 2 Backup Heaters are OFF
- PT-444, PZR Pressure Transmitter, starts to slowly drift HIGH
- The operator places the Master Pressure Controller in MANUAL when PT-444 reads 2275 psig, but does NOT adjust the output of the controller."

With the above in mind, there were three states in time:

state (i): 100% power, PZR pressure control in AUTO at 2235 psig, Group 1 B/U heaters ON and Group 2 B/U heaters OFF

state (ii): beginning from state (i), PT-444 starts to slowly drift HIGH from 2235 to 2275 psig

state (iii): the moment the operator placed the controller in MANUAL but did NOT adjust the output of the controller, at which time PT-444 read 2275 psig.

The question asks: "*When placed in MANUAL*, the output … is ___ than its original output," the question is requiring the applicant to compare the controller at state (iii) to the controller at state (i), which is the original condition provided in the question.

Furthermore, there were no requests from the applicants to clarify the meaning of this word during the administration of the exam. Therefore, "B" was the only technically correct answer as stated in the key.

Item

RO Question 35, K/A 029EK1.02

Licensee Comment

The licensee recommended that the question be deleted since there are no correct answers.

The question is asking "what is the LOWEST Intermediate Range SUR that would generate an Orange path to EOP-13.0." The licensee contends that none of the four choices defines the LOWEST IR SUR that would generate the Orange Path. The licensee contends that any one of the following could be the correct answer:

- just above zero
- >0.0
- not zero or negative

The licensee contends that while +0.2 would generate an Orange Path, it is not the lowest possible IR SUR that would generate an Orange Path. The licensee contends that in order for +0.2 to be correct, the stem would have to be worded similar to "Of the following choices, which ONE (1) is the LOWEST…"

Since the stem was worded "Which ONE (1) of the following is the LOWEST…" the licensee contends that none of the choices is correct (actually the lowest SUR).

NRC Resolution

The licensee's recommendation was not accepted.

The licensee was essentially contending that the words in the question stem "Which ONE (1) of the following is the LOWEST Intermediate Range Startup Rate that will generate an ORANGE Path transition to EOP-13.0, Response to Abnormal Nuclear Power Generation" should be read as follows: "Which ONE (1) of the following is [the absolute lowest possible] IR SUR that will generate an ORANGE Path transition …" However, that interpretation was an assumption, which is not allowed in accordance with Appendix E of NUREG-1021.

Furthermore, that interpretation was a mis-reading of the question stem, which was linked to the provided answer choices ("Which one of the following …"). Answer choices B, C, and D did NOT require a transition to EOP-13.0 based on an ORANGE path. Answer choice A required a transition to EOP-13.0. Therefore, "A" was the only technically correct answer as stated in the key.

Item

RO Question 37, K/A 033G2.4.11

Licensee Comment

The licensee recommended that the question be deleted since there are no correct answers.

The question is asking what is the required action and maximum allowed power level, per T.S. 3.3.1, for an Intermediate Range (IR) channel failure. An IR channel failure is covered by T.S. Table 3.3-1, Functional Unit 5, Action 3. The licensee contends that Action 3 consists of two parts, neither of which requires placing the Level Trip Bypass Switch in BYPASS. The licensee contends that placing the Level Trip Bypass Switch to Bypass is directed by AOP-401.8, Step 2; not T.S. 3.3.1 (as stipulated in the stem). The licensee contends that choices A & B are not correct, since T.S. does not require placing the Level Trip Bypass Switch in BYPASS.

Furthermore, the licensee contends that the stem does not state that AOP-401.8 was entered. Since examinees are not supposed to assume operator actions have occurred unless otherwise told, they should not assume that AOP actions have been taken place. Because of this rule of exam taking (from NUREG-1021, Appendix E, part B, Item #7), the licensee contends that the applicants would eliminate Choices A & B.

Since bistables are not tripped (because this would result in a Reactor Trip) choices C & D are not correct. Therefore, the licensee contends that there are no correct answers to the question.

NRC Resolution

The licensee's recommendation was not accepted.

The licensee was contending that the words "in accordance with Technical Specification 3.3.1…" in the following question statement *"Which ONE (1) of the following is the required action and the MAXIMUM allowed power level increase in accordance with Technical Specification 3.3.1…"* refer to both parts of the question statement. This was an incorrect assumption (see below). Additionally, since IR detector N-35 had failed low as stated in the stem, the entry conditions for AOP-401.8, Intermediate Channel Failure, had been met.

The question statement was asking a two part question: (1) what is the required action for Intermediate Range Detector N-35 failing LOW [at 7% power], and (2) what is the MAXIMUM allowed power level increase in accordance with TS 3.3.1? The fact that the required actions for an IR range failure were covered in an AOP did not render the question invalid. Furthermore, part (2) of the answer pertained to power limitations as delineated in the Technical Specifications. Additionally, there were no questions raised during the examination from any of the applicants. Therefore, "A" was the only technically correct answer as stated in the key.

Item

SRO Question 5 (Exam question 80), K/A 003AA2.03

Licensee Comment

The licensee recommended that the question be deleted since there are no correct answers.

The question asks how a Quadrant Power Tilt Ratio (QPTR) is confirmed with a failed Power Range NI. Choice D was originally considered correct because of the provisions of Technical Specification (TS). 4.2.4.2. The licensee contends that since the stem of the question specifically asks "in accordance with T.S. 3.2.4," there is no correct answer.

Actions under T.S. LCO 3.2.4 assume the QPTR will be calculated by the normal method per STP-108.001. However, if a Power Range (PR) channel is out of service, the normal method is precluded and its affect on QPTR is addressed in T.S. Table 3.3-1. The licensee contends that Table 3.3-1, Functional Unit 3, Action 2# (not T.S. 3.4.2) requires the QPTR verification every 12 hours, using the Power Distribution Monitoring System (PDMS) or in-core detectors.

NRC Resolution

The licensee's recommendation was not accepted.

The licensee contends that because the question asked "in accordance with TS 3.2.4," and the correct answer was taken from a surveillance requirement numbered 4.2.4.2, that the question was invalid and has no correct answers.

T.S. 3/4.2.4 Surveillance Requirement 4.2.4.2 required that the QPTR shall be determined within the limit when above 75 percent rate thermal power with one Power Range Channel inoperable at least once per 12 hours by using the PDMS or Movable Incore Detectors to confirm that the normalized symmetric power distribution is consistent with the indicated QPTR.

The surveillance requirement in question was part of the overall technical specification that was correctly referenced in the question stem. Therefore, "D" was the only technically correct answer as stated in the key.

Item

SRO Question 21 (Exam question 96), K/A G2.4.41

Licensee Comment

The licensee recommended that both choices A & D be accepted as correct answers.

The question asks which set of conditions would require declaration of a Site Area Emergency (SAE). Choice D clearly meets the conditions stated in SS1.1 (Via Table S-3 and Note 3). The licensee contends that choice A, part 2), contains conditions (<108 VDC on both Train A and Train B vital 125 VDC systems) which, by themselves, would require declaration of an SAE.

NRC Resolution

The licensee's recommendation was accepted.

The licensee contends that the key answer of D was correct, and also that the set of conditions in choice "A" was correct because they would also led to a declaration of Site Area Emergency (SAE).

Based on a review of EPP-001 Attachment 2, the licensee is correct. Choices 'B' and 'C' were double-checked to ensure they were not also correct. Therefore, both 'A' and 'D' were correct answers. The answer key was changed to reflect this.

SIMULATOR FIDELITY REPORT

Facility Licensee: V.C. Summer

Facility Docket No.: 50-395

Operating Test Administered: June 30 – July 8, 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
Rad Monitors	Radiation recorders (R/R 1 thru R/R 12) located at panels XCP-6200 were not working. (i.e., not advancing or ON). R/R 5 did not reflect increases on Pt 1 for the RML2A meter increases.
Pressurizer Backup Heater Control Group 1	A Group 1 heater switch malfunctioned on simulator performance day 1 and then again on day 2. (On day 1, the applicant could not get the heater group to re-start. On day 2, another applicant had the heater group in pull-to-lock with the heater still energized).
Generator Turbine Trip Relay (TTR)	On day 2, during the last two scenarios, the generator output breaker/exciter breaker did not auto-open after the 30 second time delay. The applicants identified it and manually opened it. Additionally, it is unclear whether the simulator would reflect a reverse power condition if the applicants' had not manually opened the breaker.
Critical Safety Function Status Trees	The Critical Safety Function Status Tree for Integrity may not have adequate tolerance bands for the "good data" values for cold leg temperatures. This status tree frequently went "purple" (i.e., bad data). Interviews with the applicants indicated that this frequently happens because of the proximity of the SI injection to the cold leg RTD scoops.