

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

August 29, 2012

Victor McCree, Regional Administrator
U. S. Nuclear Regulatory Commission Region II
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, Georgia 30303-1257

Serial No. 12-322D
Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

Dear Mr. McCree:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
WRITTEN LICENSE EXAMINATION COMMENTS

In accordance with NUREG-1021, Section ES-402, two items are being submitted for review concerning the Reactor Operator and Senior Reactor Operator written initial examinations administered at Surry on August 28, 2012. We request that two questions be evaluated for modification as indicated in this letter. One question requires two correct answers, and the other question requires a change to the given correct answer. These questions and an explanation are contained as attachments to this letter.

These two items constitute our only post-exam feedback for this exam.

If you have any questions or require additional information, please contact us.

Very truly yours,



N. L. Lane
Site Vice President

Attachment 1- Question 66 Review Request
Attachment 2 – Question 71 Review Request

Commitments made in this letter: None.

Serial No. 12-322D
Docket Nos. 50-280/281
Written License Exam Comments

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Attachment 1 RO Question #66 (K/A G.2.1.1) Evaluation Request

RO QUESTION: #66 (K/A G2.1.1)

The question as given to the applicants follows:

Current Conditions:

- Unit 1 is in INTERMEDIATE SHUTDOWN.
- 1-CH-MOV-1381 (RCP Seal Return) is required to be locally shut in preparation for a clearance.
- The local shutting of 1-CH-MOV-1381 is NOT directed by a procedure.
- An emergency does NOT exist.

Which ONE of the following describes the necessary approval for local operation and the impact of manual MOV operation on operability, IAW OP-AA-100, "Conduct of Operations"?

Local operation of 1-CH-MOV-1381 must be authorized by ___(1)___ and following manual operation, the valve will be considered ___(2)___.

- a. (1) Shift Manager
(2) inoperable
- b. (1) Shift Manager
(2) operable
- c. (1) Manager Nuclear Operations
(2) inoperable
- d. (1) Manager Nuclear Operations
(2) operable

Current ANSWER: (C)

Attachment 1 RO Question #66 (K/A G.2.1.1) Evaluation Request

COMMENTS:

In analysis of the correct answer, reference is made to administrative procedure OP-AA-100- Attachment 6, which states that: (applicable text underlined)

“Due to possible changes in leakage characteristics, manual operation of a motor-operated Containment Isolation Valve (CIV) when the plant is above 200 degrees requires pre-approval by the Manager Nuclear Operations.”

The procedure also states:

“MOV's are normally operated electrically. An MOV may be operated manually during an emergency or when specifically directed by a procedure. IF a non-emergency operation of an MOV is desired and NOT directed by procedure, permission from the Shift Manager is required and notification to System Engineering and Valve Team before an MOV is operated manually. Manual operation of an MOV has the potential to damage the valve, change leakage characteristics, or damage the motor during subsequent operation. After manual MOV operation, the de-clutch lever remains engaged until electrically operated.”

Therefore, while Manager Nuclear Operations approval is required, the Shift Manager's permission is also required.

RECOMMENDATION:

Based on the above information, both (A) and (C) should be accepted as correct answers.

REFERENCES:

- OP-AA-100 – Page 67, section 2.5

Attachment 1 RO Question #66 (K/A G.2.1.1) Evaluation Request

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Attachment 6

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Status and Configuration Control

2.5 Manual Operation of Motor-Operated Valves (MOV)

MOVs are normally operated electrically. An MOV may be operated manually during an emergency or when specifically directed by a procedure. IF a non-emergency operation of an MOV is desired and **NOT** directed by procedure, permission from the Shift Manager is required and notification to System Engineering and Valve Team before an MOV is operated manually. Manual operation of an MOV has the potential to damage the valve, change leakage characteristics, or damage the motor during subsequent operation. After manual MOV operation, the de-clutch lever remains engaged until electrically operated.

To operate an MOV manually, it is usually de-energized and the Operator depresses the de-clutch lever so that valve can be manually repositioned using the handwheel. To shut (open) an MOV manually, rotate the handwheel in the closed (open) direction. Use attached position indication and system parameters, as applicable, to verify that the valve is in the desired position. After an MOV is fully opened or closed by hand, it is administratively controlled to prevent inadvertent remote operation.

After handwheel operation, a safety-related MOV is declared inoperable for electrical open or close function until it is again operated electrically or an engineering review is performed and formally documented. Power re-engagement of the clutch mechanism is demonstrated by stroking the valve with the motor while verifying proper position indicating lights locally and remotely.

Due to possible changes in leakage characteristics, manual operation of a motor-operated Containment Isolation Valve (CIV) when the plant is above 200 degrees requires pre-approval by the Manager Nuclear Operations.

2.6 Manual Operation of Air-Operated Valves (AOV)

AOVs are **NOT** normally operated manually. An AOV may be operated manually during an emergency or when specifically directed by a procedure. At other times, permission from the Shift Manager is required before an AOV is operated manually. Manual operation of an AOV has the potential to result in inoperability.

Unless otherwise directed by procedure, manual operation of an AOV involves removing the solenoid from operation by closing the air supply, bleeding air from the valve diaphragm, and opening the control power circuit breaker, as required. AOVs are returned to normal operation by closing the control power circuit breaker and opening the air supply.

2.7 Throttle Valve Position

To position a valve in the "Throttled" position, **PERFORM** the following:

- a. IF valve has clearly marked position indication and the lineup specifies the mark, **VERIFY** valve is in the correct position by observing the valve is at proper mark.

Attachment 2 RO Question #71 (K/A G.2.3.7) Evaluation Request

RO QUESTION: #71 (K/A G2.3.7)

- The unit was shutdown and placed on RHR Cooling for a refueling outage. All fuel has been offloaded and the A train of RHR secured for maintenance.
- In the "A" Loop room, the area around the letdown isolation valves has been surveyed and is reading 175 mr/hr. This is the maximum dose observed in the loop room. The dose rate is 35 mr/hr at the loop room entrance.
- The entrance gate to the loop room is being maintained UNLOCKED.
- An Operator has been assigned the task to hang a tagout in the room. It is expected that this task will take 10 to 15 minutes to complete.

Which ONE of the following describes:

- (1) In accordance with 10 CFR 20 requirements, how should HP post the room?

AND

- (2) In accordance with VPAP-2101, Radiation Protection Program, can the Operator perform the task on the general Operator Clearance RWP, or must a specific RWP be obtained?
- a. (1) Radiation Area
(2) General RWP is sufficient
 - b. (1) Radiation Area
(2) Specific RWP is required
 - c. (1) High Radiation Area
(2) General RWP is sufficient
 - d. (1) High Radiation Area
(2) Specific RWP is required

Current ANSWER: (C)

Attachment 2 RO Question #71 (K/A G.2.3.7) Evaluation Request

COMMENTS:

Issue #1

VPAP-2101 states in section 6.8.5.a.2:

“A specific RWP is used for a task if radiological conditions are subject to significant changes or specific controls are considered appropriate (e.g. maintenance on contaminated equipment, opening/accessing systems that contain RM, manipulating high activity radioactive sources).”

The task of ‘hanging a tagout’ in the loop room typically involves opening vents and drain valves to ensure safe working boundaries. This would result in a specific RWP being required.

Issue #2

VPAP-2101 6.8.5.b states:

- “RWPs shall indicate the RWP type and the interval for which the RWP is valid.
- A General RWP may be valid for a maximum of 12 months.
 - A Specific RWP is valid for the stated period, as determined by RP in coordination with Station Outage and Planning.
 - Active General and Specific RWPs shall normally expire at midnight on December 31 of each year.”

HP management has stated (Jason Eggart - Manager-Radiological Protection and Darrell White - Supervisor Health Physics HP operations) that general RWPs are placed on hold during an outage and outage specific RWPs are used for all outage related materials. This is to allow for outage dose data collection. RP works with outage and planning to determine duration of the outage specific RWPs.

Attachment 2 RO Question #71 (K/A G.2.3.7) Evaluation Request

Issue #3

RP-AA-106 (Radiological Work Control Program) states:

“3.2.6 **USE** the following conditions as examples of when Specific RWPs are required to control work:

- Expected exposure is greater than 100 mrem per individual per entry
- Entry into a Locked High Radiation Area or Very High Radiation Area
- To control work in areas having dose rates >100 mrem/hour at 30 cm.
- Contamination levels of 100,000 dpm/100 cm² are involved or anticipated
- A radiological hold point is necessary during the job (for example, a system breach)
- Work in airborne contamination areas
- Radiological conditions are unknown
- Radiography operations are being conducted
- Discrete radioactive particles of 100,000 dpm/particle are involved or anticipated
- Protective clothing, special dosimetry, or other requirements are needed that differ from standard requirements contained in general RWPs
- Specific job or task dose, dose accrual rate, and work duration are desired for use by ALARA and job supervisors to support the capture of lessons learned and future performance improvement

The question stem provides a local dose rate of 175 mr/hr at the letdown isolation valves, which further demonstrates that a specific RWP is required to be developed in accordance with the third bullet above (to control work in areas having dose rates >100 mrem/hour at 30 cm).

Additionally, since the operator is hanging a tagout, and potentially opening vents and/or drains, it would be logical to assume that a radiological hold point would be necessary, and therefore a specific RWP required in accordance with the fifth bullet above (a radiological hold point is necessary during the job (for example, a system breach)).

Finally, C-HP-1081.012 (Radiation Work Permits: Preparing and Approving) provides the same directions as RP-AA-106 and prohibits the use of a general RWP when control work areas have dose rates greater than 100 mr/hr at 30 cm (refer to section 6.2).

RECOMMENDATION:

Based on the information cited above the correct answer for this question should be changed to (D).

Attachment 2 RO Question #71 (K/A G.2.3.7) Evaluation Request

REFERENCES:

- VPAP-2101
- RP-AA-106
- C-HP-1081.012

Attachment 2 RO Question #71 (K/A G.2.3.7) Evaluation Request

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6.8.4 Requirements for a Radiation Work Permit

A RWP is required for any of the following:

- Entry into or work in an RCA
- Entry into Posted Radiation or High Radiation Area outside an RCA
[Commitment 3.2.5]
- Maintenance activities that involve equipment, controls, or instrumentation that contain or are suspected to contain RM which are located outside the RCA
- Activities in areas outside the RCA but within the Protected Area (PA) that involve renovation, repair, excavation, drilling, digging or cutting of material, components or soil that contain or may contain radioactive material [Commitment 3.2.12]
- When determined by RP that a RWP is appropriate

6.8.5 RWP Types and Scope

- a. A RWP is either a General RWP or Specific RWP, based on the activities authorized by the RWP.

Use of General RWPs is prohibited under either of the following conditions:
[Commitment 3.2.7]

- Entry into a Locked High Radiation Area or Very High Radiation Area
- Expected exposure is greater than 100 mrem per individual per entry

1. A General RWP is used to perform certain routine or repetitive tasks with known, stable, and minimal radiological hazards (e.g., routine entries into an RCA for operator rounds, valve lineups, inspection, sampling, radiological surveys, laundry operations).

2. A Specific RWP is used for a task if radiological conditions are subject to significant changes or specific controls are considered appropriate (e.g., maintenance on contaminated equipment, opening/accessing systems that contain RM, manipulating high activity radioactive sources).

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- b. RWPs shall indicate the RWP type and the interval for which the RWP is valid.
- A General RWP may be valid for a maximum of 12 months.
 - A Specific RWP is valid for the stated period, as determined by RP in coordination with Station Outage and Planning.
 - Active General and Specific RWPs shall normally expire at midnight on December 31 of each year.
- c. RWP authorization and radiological controls apply only to the specific activity and area or purpose of entry as stated on the RWP. RWP scope is established and limited by the following RWP sections:
1. **Job Location and Job Description**
Places bounds on tasks to a defined location (area), and functions or activities.
 2. **Radiological Conditions**
Statement of the conditions for which the RWP was prepared. RP will use these values to determine whether a RWP should remain valid based on actual existing radiological conditions.
 3. **Special Instructions Applicable to RWP Users**
Provided, in part, to assure worker activities remain within the intended RWP scope.
- d. General RWPs shall be posted at Access Control. Specific RWPs shall be available near the job location, with a copy available at Access Control for review, as needed.

Attachment 2 RO Question #71 (K/A G.2.3.7) Evaluation Request

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3.2.3 **PROHIBIT** use of General RWPs under the following conditions: [Ref 5.4.4]

- Entry into a Locked High Radiation Area or Very High Radiation Area
- To control work in areas having dose rates >100 mrem/hr at 30 cm.
- Expected exposure >100 mrem per individual per entry

3.2.4 **ALLOW** limited use of General RWPs in High Radiation Areas for routine work (i.e., area tours, operator rounds, plant inspections, HP surveys) when radiological conditions are static and approved by the Manager Radiological Protection and Chemistry.

3.2.5 **USE** Specific RWPs for a task if radiological conditions are subject to significant changes or specific controls are considered appropriate (e.g., maintenance on contaminated equipment, opening/accessing systems that contain radioactive material, manipulating high activity radioactive sources).

3.2.6 **USE** the following conditions as examples of when Specific RWPs are required to control work:

- Expected exposure is greater than 100 mrem per individual per entry
- Entry into a Locked High Radiation Area or Very High Radiation Area
- To control work in areas having dose rates >100 mrem/hour at 30 cm.
- Contamination levels of 100,000 dpm/100 cm² are involved or anticipated
- A radiological hold point is necessary during the job (for example, a system breach)
- Work in airborne contamination areas
- Radiological conditions are unknown
- Radiography operations are being conducted
- Discrete radioactive particles of 100,000 dpm/particle are involved or anticipated
- Protective clothing, special dosimetry, or other requirements are needed that differ from standard requirements contained in general RWPs
- Specific job or task dose, dose accrual rate, and work duration are desired for use by ALARA and job supervisors to support the capture of lessons learned and future performance improvement

3.2.7 **INDICATE** the RWP type and the interval for which the RWP is valid.

- A General RWP may be valid for a maximum of 12 months.
- A Specific RWP is valid for the stated period, as determined by RP.
- Active General and Specific RWPs shall normally expire at midnight on December 31 of each year.

INFORMATION USE

Attachment 2 RO Question #71 (K/A G.2.3.7) Evaluation Request

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6.2 Assigning RWP Number

NOTE: A General RWP is used to perform certain routine or repetitive tasks with known, stable, and minimal radiological hazards (e.g., routine entries into the RCA for operator rounds, valve lineups, inspections, sampling, radiological surveys).

NOTE: Allow limited use of General RWPs in High Radiation Areas for routine work (i.e., area tours, operator rounds, plant inspections, HP surveys) when radiological conditions are static and approved by the Manager Radiological Protection and Chemistry.

NOTE: A Specific RWP is used for a task if radiological conditions are subject to significant changes or specific controls are considered appropriate (e.g., maintenance on contaminated equipment, opening/accessing systems that contain RM, manipulating high activity radioactive sources).

NOTE: Use of General RWPs is prohibited under any of the following conditions. (Reference 2.3.19)

- Entry into a Locked High Radiation Area or Very High Radiation Area
- Control work in areas having dose rates greater than 100 mrem/hr 30 cm.
- Expected exposure is greater than 100 mrem per individual per entry

6.2.1 Log on to the computerized personnel exposure management system and select **RWP Tab**.

- a. Select **Create/Maintain RWP/Model**.
- b. Type in RWP number.
- c. IF RWP does not already exist, THEN follow prompts to write RWP.