

Vogtle SRO  
9-25-15

**ANSWER KEY REPORT**  
for Test Test Form: 0

Answers

#	ID	Points	Type	0
1	002G2.2.37 1	1.00	MCS	B
2	003AG2.2.25 1	1.00	MCS	A
3	004G2.1.23 1	1.00	MCS	A
4	006G2.1.7 1	1.00	MCS	B
5	007EA2.06 1	1.00	MCS	A
6	009EA2.38 1	1.00	MCS	B
7	011A2.02 1	1.00	MCS	C
8	013A2.03 1	1.00	MCS	C
9	027AA2.10 1	1.00	MCS	B
10	037AG2.1.20 1	1.00	MCS	C
11	040AG2.2.40 1	1.00	MCS	B
12	057AG2.4.30 1	1.00	MCS	D
13	059A2.03 1	1.00	MCS	A
14	062AG2.1.25 1	1.00	MCS	A
15	064A2.21 1	1.00	MCS	B
16	067AA2.06 1	1.00	MCS	A
17	068G.2.4.41 1	1.00	MCS	C
18	G2.1.13 1	1.00	MCS	A
19	G2.1.35 1	1.00	MCS	D
20	G2.2.2 1	1.00	MCS	D
21	G2.3.14 1	1.00	MCS	B
22	G2.3.6 1	1.00	MCS	A
23	G2.4.23 1	1.00	MCS	B
24	G2.4.26 1	1.00	MCS	C
25	WE06EA2.01 1	1.00	MCS	C
<b>SECTION 1 ( 25 items)</b>		<b>25.00</b>		

# HL20 NRC SRO Exam Provided References Index

1. Admin 00152-C – Federal and State Reporting Requirements
2. NMP-EP-110-GL03, Figure 1 – Fission Product Barriers
3. NMP-EP-110-GL03, Figure 2 – Classification Hot Matrix
4. NMP-EP-110-GL03, Figure 3 - Classification Cold Matrix
5. IPC Screen Shot – Tech Spec Rounds
6. Tech Spec 3.7.9, Figure 3.7.9-1 – Required Number of Fans/Spray Cells

1.

Given the following:

- Unit 1 is in Mode 3 with the RTBs closed.
- RCPs #2 and #4 are in operation.

Which one of the following completes the following statement?

Per Tech Spec LCO 3.4.5, "RCS Loops - Mode 3," all RCPs may be stopped for less than or equal to one hour per eight hour period provided that core outlet temperature is maintained at least \_\_ (1) \_\_ °F below saturation temperature,

and

per the bases of Tech Spec LCO 3.4.5, for an RCS loop to be considered OPERABLE, its associated SG water level is required to be a **minimum** of \_\_ (2) \_\_ range.

- |    | __ (1) __ | __ (2) __  |
|----|-----------|------------|
| A. | 10        | 9% wide    |
| B. | 10        | 10% narrow |
| C. | 50        | 9% wide    |
| D. | 50        | 10% narrow |

2.

Initial conditions:

- Unit 2 is at 100% reactor power.
- Crew is performing an ARO adjustment.

Current conditions:

- CBD Group 2 rod H-8 DRPI indicates 110 steps.
- CBD Group 2 step counters indicate 226 steps.
- 18003-C, "Rod Control System Malfunction," is in progress.
- I&C determines rod H-8 stationary gripper voltage is below the expected value.

Which one of the following completes the following statement?

After performing a 3-step withdrawal of rod H-8, per the bases of Tech Spec LCO 3.1.4, "Rod Group Alignment Limits," rod H-8 \_\_ (1) \_\_ OPERABLE,

and

the operating crew \_\_ (2) \_\_ required to reduce thermal power to less than 75% RTP.

- |    | __ (1) __ | __ (2) __ |
|----|-----------|-----------|
| A. | is        | is        |
| B. | is        | is NOT    |
| C. | is NOT    | is        |
| D. | is NOT    | is NOT    |

3.

Initial conditions:

- Unit 1 tripped due to a loss of all AC power.
- All RCPs were stopped.
- 1AA02 was re-energized from an off-site source.
- 19102-C, "Loss of All AC Power Recovery with SI Required," was entered.
- 1HV-8103A, B, C, and D, Seal Injection Isolation Valves, were closed.
- CCP 'A' was started with suction aligned to the RWST.

Current conditions:

- RWST level is 28% and lowering.

Which one of the following completes the following statements?

Closure of 1HV-8103A, B, C, and D was required to prevent \_\_\_(1)\_\_\_.

Per 19102-C, the Shift Supervisor \_\_\_(2)\_\_\_ required to go to 19013-C, "Transfer to Cold Leg Recirculation."

\_\_\_(1)\_\_\_

\_\_\_(2)\_\_\_

A. RCP seal damage

is

B. RCP seal damage

is NOT

C. an inter-system LOCA

is

D. an inter-system LOCA

is NOT

4.

Initial conditions:

- Unit 2 reactor trip and SI occurred due to a LOCA.
- 19113-C, "Recirculation Sump Blockage," was entered.
- RCS cooldown to cold shutdown has been initiated.
- RWST level is 8% and slowly lowering.

Current condition:

- CSFST is ORANGE on Integrity.

Which one of the following completes the following statement?

The crew is required to \_\_(1)\_\_,

and

then the Shift Supervisor \_\_(2)\_\_ required to transition to 19241-C, "Response to Imminent Pressurized Thermal Shock Condition."

- A. (1) stop all pumps taking suction from the RWST  
(2) is
- B. (1) stop all pumps taking suction from the RWST  
(2) is NOT
- C. (1) reduce ECCS flow from the RWST to one running train  
(2) is
- D. (1) reduce ECCS flow from the RWST to one running train  
(2) is NOT

5.

Procedure titles as follows:

- 19000-C, "Reactor Trip or Safety Injection"
- 19211-C, "Response to Nuclear Power Generation / ATWT"

Initial conditions:

- Unit 2 is at 100% reactor power.
- Main turbine trips.
  
- DRPI is de-energized.
- Both Reactor Trip handswitches are taken to TRIP.

Current conditions:

- RTB 'A' red light is NOT lit and green light is NOT lit on the QMCB.
- RTB 'B' red light is lit and green light is NOT lit on the QMCB.
  
- Both IR NIs indicate approximately 2E-2% and lowering.
- Both IR NIs indicate negative SUR.

Which one of the following completes the following statement?

Based on given conditions, the Shift Supervisor is required to \_\_(1)\_\_,

and

indication of RTB 'A' status \_\_(2)\_\_ available on Shutdown Panel 'A'.

\_\_(1)\_\_

\_\_(2)\_\_

- |    |                       |        |
|----|-----------------------|--------|
| A. | continue in 19000-C   | is     |
| B. | continue in 19000-C   | is NOT |
| C. | transition to 19211-C | is     |
| D. | transition to 19211-C | is NOT |

6.

Initial conditions:

- Unit 1 was at 100% reactor power.
- 130 gpm RCS leak occurred.
- Crew performed a manual reactor trip and SI.
- All RCPs were stopped.

Current conditions:

- The following trends are observed:

<u>Time</u>	<u>RVLIS Full Range</u>	<u>Pressurizer Level</u>
1000	100	0
1015	92	11
1030	84	45
1045	61	92

Which one of the following completes the following statement?

Based on the current conditions, a reactor head steam void \_\_ (1) \_\_ exist,

and

per NMP-EP-110, "Emergency Classification Determination and Initial Action," the Shift Manager is required to declare, as a **minimum**, a(n) \_\_ (2) \_\_ Emergency.

#### REFERENCES PROVIDED

- |    | <u>__ (1) __</u> | <u>__ (2) __</u> |
|----|------------------|------------------|
| A. | does             | Alert            |
| B. | does             | Site Area        |
| C. | does NOT         | Alert            |
| D. | does NOT         | Site Area        |



7.

Initial conditions:

- Unit 1 is in Mode 5.
- Pressurizer level is 20% cold cal.
- RHR Train 'B' is in service.
- RHR Train 'A' is in standby.
- CCP 'A' is in service.

Current conditions:

- Instrument air header pressure is 95 psig and lowering.
- 18028-C, "Loss of Instrument Air," is in progress.

Which one of the following completes the following statement?

Per 18028-C, the crew \_\_\_(1)\_\_\_ required to stop RHR pump 'B',

and

to control pressurizer level, the Shift Supervisor is required to place safety grade charging in service using \_\_\_(2)\_\_\_.

- |    | ___(1)___ | ___(2)___   |
|----|-----------|---|
| A. | is        | 13006-1, "Chemical and Volume Control System"     |
| B. | is        | steps in 18028-C (use of 13006-1 is not required) |
| C. | is NOT    | 13006-1, "Chemical and Volume Control System"     |
| D. | is NOT    | steps in 18028-C (use of 13006-1 is not required) |

8.

Procedure title as follows:

- 13503B-1, "Train 'B' Reactor Control Solid-State Protection System"

Initial conditions:

- Unit 1 reactor trip and SI occurred due to a SGTR.
- 19030-C, "Steam Generator Tube Rupture," was entered.

Current conditions:

- Crew is preparing to perform a maximum rate depressurization of the RCS to minimize break flow.
- SI Train 'B' will NOT reset.

Which one of the following completes the following statement?

Based on the current conditions, Auxiliary Spray \_\_ (1) \_\_ available to depressurize the RCS from the control room,

and

to reset SI Train 'B', the Shift Supervisor will direct de-energizing both SSPS 48 VDC power supplies and unlatching the slave relays using \_\_ (2) \_\_.

- |    | __ (1) __ | __ (2) __                |
|----|-----------|--------------------------|
| A. | is        | an Attachment in 19030-C |
| B. | is        | 13503B-1                 |
| C. | is NOT    | an Attachment in 19030-C |
| D. | is NOT    | 13503B-1                 |

9.

Initial conditions:

- Unit 1 is at 100% reactor power.
- 1PT-455, Pressurizer Pressure, failed **high**.
- All Tech Spec required actions have been taken.

Current condition:

- I&C requests to perform a COT on 1PT-457, Pressurizer Pressure.

Which one of the following completes the following statements?

Per Tech Spec LCO 3.3.1, "Reactor Trip System (RTS) Instrumentation," 1PT-457 \_\_\_(1)\_\_\_ allowed to be placed in bypass for the COT.

If permission is given to perform the COT, automatic pressurizer heater operation \_\_\_(2)\_\_\_ be available to control pressurizer pressure at 2235 psig.

- |    | ___(1)___ | ___(2)___ |
|----|-----------|-----------|
| A. | is        | will      |
| B. | is        | will NOT  |
| C. | is NOT    | will      |
| D. | is NOT    | will NOT  |

10.

**At time 1000:**

- Unit 1 is at 100% reactor power.
- 18009-C, "Steam Generator Tube Leak," is in progress.
- SG sample results indicate high activity on SG #1.

**At time 1045:**

- 1RE-0724, Steam Line Rad Monitor, indicates 105 gpd.
- 1RE-0810, SJAE Exhaust Rad Monitor, indicates 120 gpd.
- 1RE-0724 ROC indicates 55 gpd/hour.
- 1RE-0810 ROC indicates 60 gpd/hour.

Which one of the following completes the following statement?

Per the bases of Tech Spec LCO 3.4.17, "Steam Generator (SG) Tube Integrity," the primary to secondary leakage limit ensures that during a LOCA or MSLB, a single crack leaking at the maximum allowed rate will NOT \_\_(1)\_\_,

and

per 18009-C, the Shift Supervisor is required lower reactor power by initiating \_\_(2)\_\_.

- A. (1) exceed the limit for secondary coolant activity  
(2) 18013-C, "Rapid Power Reduction"
- B. (1) exceed the limit for secondary coolant activity  
(2) 12004-C, "Power Operation (Mode 1)"
- C. (1) propagate to a SGTR  
(2) 18013-C, "Rapid Power Reduction"
- D. (1) propagate to a SGTR  
(2) 12004-C, "Power Operation (Mode 1)"

11.

Initial conditions:

- Unit 1 is at 100% reactor power.
- A steam leak exists in containment.

Current conditions:

- ALB01-E06 CNMT HI TEMP is received.
- IPC data for containment temperature is collected.

Which one of the following completes the following statement?

Based on the IPC data provided, the Tech Spec LCO 3.6.5, "Containment Air Temperature," surveillance for containment temperature (Tech Spec SR 3.6.5.1) \_\_\_(1)\_\_\_ within Tech Spec limits,

and

per the bases of Tech Spec LCO 3.4.15, "RCS Leakage Detection Instrumentation," containment normal and reactor cavity sumps remain OPERABLE as long as the steam leak in containment does not interfere with the system's ability to detect a \_\_\_(2)\_\_\_ gpm unidentified leak from the RCS within 1 hour.

#### REFERENCES PROVIDED

	___(1)___	___(2)___
A.	is	10
B.	is	1
C.	is NOT	10
D.	is NOT	1

12.

Given the following:

- Unit 1 is in a refueling outage with the reactor head removed.
- 1BD1 is tagged out.
- All vital AC panels associated with 1BD1 are powered from their alternate sources.

**At time 1000:**

- A loss of both RATs occurred.
- DG1A started and re-energized its associated bus.
- Maintenance reported restoration of power from RAT '1B' will take at least 30 minutes.

**At time 1010:**

- Shift Manager makes an emergency declaration.

Which one of the following completes the following statement?

Per NMP-EP-110, "Emergency Classification Determination and Initial Action," the Shift Manager is required to declare, as a **minimum**, a(n) \_\_ (1) \_\_,

and

per NMP-EP-111, "Emergency Notifications," the NRC is required to be notified of the declaration no later than time \_\_ (2) \_\_.

#### REFERENCES PROVIDED

	__ (1) __	__ (2) __
A.	Alert Emergency	1025
B.	Alert Emergency	1110
C.	NOUE	1025
D.	NOUE	1110

13.

Initial condition:

- Unit 2 is at 45% reactor power.

Current condition:

- SG #3 MFRV fails open and can NOT be closed.

Which one of the following completes the following statements?

With no operator action, the reactor will automatically trip \_\_ (1) \_\_ the main turbine trips.

Based on the given conditions, per 00152-C, "Federal and State Reporting Requirements," the NRC Operations Center is required to be notified in no later than \_\_ (2) \_\_ hours.

**REFERENCES PROVIDED**

	__ (1) __	__ (2) __
A.	after	4
B.	after	8
C.	before	4
D.	before	8

14.

Initial conditions:

- Unit 1 is at 100% reactor power.
- Tech Spec surveillance was discovered missed for NSCW Train 'B', fan #3.
- The surveillance was last performed 60 days ago.
- The surveillance has a 31 day periodicity.

Current conditions:

- NSCW Train 'B' basin temperature is 73 °F.
- Outside air wet-bulb temperature is 70 °F.

Which one of the following completes the statements below?

Per Tech Spec LCO 3.7.9, "Ultimate Heat Sink (UHS)," a minimum of \_\_ (1) \_\_ fans/spray cells are required for the given conditions,

and

if a risk evaluation is NOT performed, the NSCW fan #3 missed surveillance \_\_ (2) \_\_ required to be performed no later than 24 hours from time of discovery to maintain fan OPERABILITY.

#### REFERENCES PROVIDED

	__(1)__	__(2)__
A.	3	is
B.	3	is NOT
C.	4	is
D.	4	is NOT



15.

Initial conditions:

- Unit 1 is at 100% reactor power.
- CCP 'B' is tagged out.
- 14980A-1, "Diesel Generator 1A Operability Test," is in progress.
- DG1A is parallel with the grid and has been stable at 6800 kW for 15 minutes.

Current condition:

- 1AA02-05, Normal Incoming Breaker, trips open.

Which one of the following completes the following statement?

DG1A is currently operating in the \_\_ (1) \_\_ mode,

and

following the 1AA02-05 Normal Incoming breaker trip, the Shift Supervisor is required to declare CCP 'A' **inoperable** in no later than \_\_ (2) \_\_ hours.

- |    | __ (1) __ | __ (2) __ |
|----|-----------|-----------|
| A. | unit      | 4         |
| B. | unit      | 24        |
| C. | parallel  | 4         |
| D. | parallel  | 24        |

Question Number 16, K/A 067AA2.06, is removed due to  
Confidential information per 10CFR 2.390.

17.

Initial conditions:

- Unit 1 is at 100% reactor power.
- Unit 1, WMT #9 release is in progress per 13216-1, "Liquid Waste Release."
- 1RE-0018, Liquid Radwaste Effluent, alarm setpoints are as follows:
  - High is  $2.79 \text{ E-}5 \text{ } \mu\text{Ci/cc}$ .
  - Alert is  $2.23 \text{ E-}5 \text{ } \mu\text{Ci/cc}$ .

**At time 1000:**

- 1RE-0018 indicates  $5.62 \text{ E-}3 \text{ } \mu\text{Ci/cc}$  and is in **high** alarm.
- 1RV-0018, Waste Discharge Isolation, is NOT closed.
- Systems Operator is dispatched to secure the release.

**At time 1016:**

- Systems Operator reports the release is terminated.
- 1RE-0018 indicates  $5.64 \text{ E-}3 \text{ } \mu\text{Ci/cc}$  and lowering.

Which one of the following completes the following statement?

1RV-0018, Waste Discharge Isolation, valve position   (1)   be **directly** verified from the Main Control Room,

and

per NMP-EP-110-GL03, "VEGP EALS - ICs, Threshold Values, and Basis," an Alert Emergency classification threshold value   (2)   been exceeded.

#### REFERENCES PROVIDED

- |    | <u>  (1)  </u> | <u>  (2)  </u> |
|----|----------------|----------------|
| A. | can            | has            |
| B. | can            | has NOT        |
| C. | can NOT        | has            |
| D. | can NOT        | has NOT        |

18.

Given the following:

- Both units are at 100% reactor power.
- Unit 2 containment entry is planned.
- A Controlled Key for the radiation control lock is issued to an RP Tech.
- A Priority Key for the containment airlock door is issued to a Security Officer.

Which one of the following completes the following statements?

Per 00008-C, "Plant Lock and Key Control," retaining a Controlled Key past the end of shift requires approval from the \_\_ (1) \_\_.

Per 00008-C, when a plant employee having access to Priority Keys is terminated under **unfavorable** conditions, a key compromise \_\_ (2) \_\_ occurred.

\_\_ (1) \_\_

\_\_ (2) \_\_

- |    |                    |         |
|----|--------------------|---------|
| A. | issuing department | has     |
| B. | issuing department | has NOT |
| C. | Shift Manager      | has     |
| D. | Shift Manager      | has NOT |

19.

Initial condition:

- Unit 2 is in Mode 6.

Current conditions:

- Core reload is in progress.
- Fuel movement is in progress in the FHB.

Which one of the following completes the following statement?

Per 93300-C, "Conduct of Refueling Operations," the Fuel Handling Supervisor (FHS) is required to be in \_\_\_(1)\_\_\_ with the above activities in progress,

and

the FHS is responsible for \_\_\_(2)\_\_\_.

A. (1) the FHB

(2) authorizing the unlatching of a fuel assembly in the Reactor Vessel

B. (1) the FHB

(2) ensuring the appropriate entries and sign-offs are made on the Fuel Handling Data Sheets

C. (1) containment

(2) authorizing the unlatching of a fuel assembly in the Reactor Vessel

D. (1) containment

(2) ensuring the appropriate entries and sign-offs are made on the Fuel Handling Data Sheets

20.

Initial conditions:

- Unit 1 is at 100% reactor power.
- 14710-A1, "Train 'A' Remote Shutdown Panel Transfer Switch and Control Circuit 18 Month Surveillance Test," Data Sheet 4, is in progress.

Current conditions:

- 1HS-8801E, BIT Isolation 1HV-8801A, is transferred to LOCAL at SDP 'A'.
- ALB04-F03 TRAIN A SHUTDOWN PNL ON LOCAL CNTL is received.

Which one of the following completes the following statement?

Per the bases of Tech Spec LCO 3.5.2, "ECCS - Operating," 1HV-8801A \_\_\_(1)\_\_\_ OPERABLE,

and

1HS-8801A handswitch light indication on the QMCB \_\_\_(2)\_\_\_ available.

- |    | ___(1)___ | ___(2)___ |
|----|-----------|-----------|
| A. | is        | is        |
| B. | is        | is NOT    |
| C. | is NOT    | is        |
| D. | is NOT    | is NOT    |

21.

Initial condition:

- Unit 1 is at 100% reactor power.

Current condition:

- The following reactor coolant Dose Equivalent I-131 trends are recorded:

<u>TIME</u>	<u>ACTIVITY (<math>\mu\text{Ci/gm}</math>)</u>
1130	0.8
1145	1.1
1200	1.3
1215	1.6

Which one of the following completes the following statement?

The **first** time that Tech Spec LCO 3.4.16, "RCS Specific Activity," is NOT met is \_\_\_(1)\_\_\_,

and

per the bases of Tech Spec 3.4.16, "RCS Specific Activity," the required action to reduce RCS Tavg below 500 °F if the gross specific activity is exceeded is to reduce the risk of opening the \_\_\_(2)\_\_\_.

- |    | ___(1)___ | ___(2)___                 |
|----|-----------|---------------------------|
| A. | 1145      | Atmospheric Relief Valves |
| B. | 1145      | Main Steam Safety Valves  |
| C. | 1215      | Atmospheric Relief Valves |
| D. | 1215      | Main Steam Safety Valves  |

22.

Given the following:

- Unit 1 is at 100% reactor power.
- Chemistry is preparing for a radioactive release.

Which one of the following completes the following statements?

The simultaneous release of two \_\_ (1) \_\_ Waste Processing System tanks from the plant site at the same time is allowed.

13216-1, "Liquid Waste Release," \_\_ (2) \_\_ the Chemistry Manager to authorize the simultaneous release of the two tanks.

- |    | __ (1) __ | __ (2) __        |
|----|-----------|------------------|
| A. | Liquid    | requires         |
| B. | Liquid    | does NOT require |
| C. | Gaseous   | requires         |
| D. | Gaseous   | does NOT require |



23.

Procedure titles as follows:

- 19211-C, "Response to Nuclear Power Generation / ATWT"
- 19231-C, "Response to Loss of Secondary Heat Sink"
- 19251-C, "Response to High Containment Pressure"

Initial conditions:

- Unit 1 reactor tripped.
- 19231-C is in progress.

Current conditions:

- The STA reports the following CSFSTs:
  - Subcriticality is ORANGE
  - Core Cooling is GREEN
  - Heat Sink is GREEN
  - Integrity is GREEN
  - Containment is RED
  - Inventory is GREEN

Which one of the following completes the following statement?

Based on the current conditions, the Shift Supervisor is required to \_\_ (1) \_\_ 19231-C,  
and  
then transition to \_\_ (2) \_\_.

- |    | __ (1) __        | __ (2) __ |
|----|------------------|-----------|
| A. | complete         | 19211-C   |
| B. | complete         | 19251-C   |
| C. | immediately exit | 19211-C   |
| D. | immediately exit | 19251-C   |

24.

Initial condition:

- Both units are at 100% reactor power.

Current conditions:

- Shift manning has been reduced to 6 Non-Licensed Operators and the following Supervisors:
  - 1 Shift Manager
  - 2 Shift Supervisors
  - 1 Support Shift Supervisor
- All operating crew members are fully qualified.

Which one of the following completes the following statement?

Per 00012-C, "Shift Manning Requirements," the Unit 1 Outside Area Operator \_\_ (1) \_\_ be assigned to both the Unit 1 SO ERO position and a Fire Brigade position at the same time,

and

the shift STA position is required to be assigned to the \_\_ (2) \_\_.

- |    | __ (1) __ | __ (2) __                |
|----|-----------|--------------------------|
| A. | can       | Shift Manager            |
| B. | can       | Support Shift Supervisor |
| C. | can NOT   | Shift Manager            |
| D. | can NOT   | Support Shift Supervisor |

25.

Procedure titles as follows:

- 19222-C, "Response to Degraded Core Cooling"
- 19241-C, "Response to Imminent Pressurized Thermal Shock Condition"

Initial conditions:

- Unit 2 reactor is tripped.
- Core Cooling CSFST is ORANGE.
- 19222-C is in progress.
- RCPs #1, #2, and #3 are running.

Current conditions:

- SG depressurization to 200 psig is in progress.
- A valid RED path exists on the Integrity CSFST.

Which one of the following completes the following statement?

During the SG depressurization to 200 psig, the RCPs that are currently running \_\_\_(1)\_\_\_ required to be stopped,

and

the Shift Supervisor is required to \_\_\_(2)\_\_\_.

- |    | ___(1)___ | ___(2)___                         |
|----|-----------|-----------------------------------|
| A. | are       | remain in 19222-C                 |
| B. | are       | immediately transition to 19241-C |
| C. | are NOT   | remain in 19222-C                 |
| D. | are NOT   | immediately transition to 19241-C |