

**Name:** \_\_\_\_\_

# **NRC - RO Exam Student Test**

***Start Time:*** \_\_\_\_\_

***Stop Time:*** \_\_\_\_\_

### List of RO References

1	19111-C, ECA-1.1 Loss of Emergency Coolant Recirculation	Table in step 7.b (page 7 of 49)
2	19111-C, ECA-1.1 Loss of Emergency Coolant Recirculation	Table 1 (page 45 of 49) Figure 1 (page 46 of 49)
3	11840-1, "Main Turbine Electro-Hydraulic Control (EHC) System Alignment"	
4	DWG 1X4DB194, "EHC Hydr. Power Unit"	

1.

Given the following:

- Unit 1 is at 100% reactor power.

Which one of the following completes the following statement?

The Rod Control Logic Cabinet is energized from \_\_ (1) \_\_ or \_\_ (2) \_\_.

\_\_ (1) \_\_

\_\_ (2) \_\_

- |    |  |  |
|----|--|--|
| A. | Vital 125 VDC Panel<br>(1AD11)         | Vital 120 VAC Panel<br>(1AY1A)               |
| B. | Vital 125 VDC Panel<br>(1AD11)         | Regulated 120 VAC Instrument Panel<br>(1NYS) |
| C. | 1A MG Set via a<br>120 VAC transformer | Vital 120 VAC Panel<br>(1AY1A)               |
| D. | 1A MG Set via a<br>120 VAC transformer | Regulated 120 VAC Instrument Panel<br>(1NYS) |

2.

Initial condition:

- Unit 1 is at 8% reactor power.

Current condition:

- 1NAA de-energizes due to a fault on the bus.

Which one of the following completes the following statement?

When conditions stabilize, \_\_(1)\_\_ flow on 1FI-414, RCS Flow Loop 1 will be observed, and

the reactor \_\_(2)\_\_ automatically trip due to the event.

- |    | __(1)__ | __(2)__  |
|----|---------|----------|
| A. | ~113%   | will     |
| B. | ~113%   | will NOT |
| C. | ~6%     | will     |
| D. | ~6%     | will NOT |

3.

Initial conditions:

- Unit 1 is at 100% reactor power.
- VCT level is 50%.
- VCT makeup control is in automatic.

Current condition:

- VCT level transmitter, 1LT-112, fails **high**.

Assuming no operator action, which one of the following completes the following statements?

VCT Divert Valve, 1LV-112A, is aligned to the \_\_ (1) \_\_.

If actual VCT level lowers to 29%, automatic makeup \_\_ (2) \_\_ occur.

- |    | __ (1) __ | __ (2) __ |
|----|-----------|-----------|
| A. | PRT       | will      |
| B. | PRT       | will NOT  |
| C. | RHUT      | will      |
| D. | RHUT      | will NOT  |

4.

Initial conditions:

- Unit 1 is in Mode 5 with solid plant conditions.
- RHR Train 'B' is in service aligned to low pressure letdown.
- RHR Train 'A' is in standby.
- CCP 'A' is in service.

Current condition:

- Instrument air header depressurizes due to an air line break.

Which one of the following completes the following statement?

With no operator action, RCS pressure will \_\_(1)\_\_,

and

per 18028-C, "Loss of Instrument Air," to mitigate the pressure transient, the crew  
\_\_(2)\_\_ stop RHR pump 'B'.

- |    | __(1)__  | __(2)__  |
|----|----------|----------|
| A. | increase | will     |
| B. | increase | will NOT |
| C. | decrease | will     |
| D. | decrease | will NOT |

5.

Initial conditions:

- Unit 1 is at 95% reactor power with a power ascension in progress.
- CBD is at 200 steps.

Current conditions:

- ALB10-D06 ROD DEV is received.
- CBD rod M12 DRPI indicates 109 steps.
- 18003-C, "Rod Control System Malfunction," is entered.
- Reactor power has been lowered per 18003-C guidance.

Which one of the following completes the following statement?

Per 18003-C, control rod M12 is considered \_\_(1)\_\_,

and

per 18003-C, the reason for the power reduction is to minimize \_\_(2)\_\_ heat rates and power distribution variances.

	__(1)__	__(2)__
A.	dropped	core
B.	dropped	local
C.	misaligned	core
D.	misaligned	local

6.

Initial conditions:

- Unit 1 is in Mode 6 for refueling.
- RHR pump 'B' is in service.
- RHR pump 'A' is tagged out.

Current conditions:

- RHR pump 'B' is stopped to place a fuel assembly in the vicinity of the RCS hot leg nozzle.
- Chemistry requests permission to make a chemical addition to the RCS.

Which one of the following completes the following statement?

Per Tech Spec 3.9.5, "Residual Heat Removal (RHR) and Coolant Circulation - High Water Level," the Chemistry technician \_\_ (1) \_\_ allowed to make the chemical addition to the RCS,

and

per Tech Spec 3.9.5, RHR pump 'B' \_\_ (2) \_\_ required to be returned to service no later than 1 hour from being stopped.

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



7.

Initial conditions:

- Unit 1 experienced a LOCA.
- 19012-C, "Post-LOCA Cooldown and Depressurization," is in progress.
- Both RHR pumps are stopped.
- RCS temperature and pressure are stable.
- Containment pressure is 4.2 psig and slowly lowering.

Current conditions:

- CCP 'A' was stopped three minutes ago per 19012-C.
- SIP 'B' is stopped per 19012-C.
- Subcooling is 29°F and lowering.

Which one of the following completes the following statements?

When CCP 'A' is stopped, RCS subcooling margin will **initially** \_\_(1)\_\_\_.

Based on the current conditions, the OATC \_\_(2)\_\_\_ required to restart an ECCS pump.

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

8.

**At time 0100:**

- Unit 1 reactor tripped.

**At time 0530:**

- Safety Injection occurred.
- All RCPs were stopped.

**At time 0730:**

- RVLIS Full Range is 73% and stable.
- 19111-C, "Loss of Emergency Coolant Recirculation," Step 18b RNO is in progress:

Step 18b RNO. Establish minimum ECCS flow to remove decay heat by performing the following:

- 1) Determine minimum ECCS flow required using the following: TABLE 1 or FIGURE 1.
- 2) Throttle ECCS flow to minimum value.

Which one of the following completes the following statement?

Based on the current conditions, the active fuel \_\_(1)\_\_ covered,

and

the crew is required to throttle ECCS flow to approximately \_\_(2)\_\_ per Step 18b RNO.

**REFERENCES PROVIDED**

	__(1)__	__(2)__
A.	is	225 gpm
B.	is	320 gpm
C.	is NOT	225 gpm
D.	is NOT	320 gpm

9.

Initial conditions:

- Unit 1 is in Mode 5 with solid plant conditions.
- Pressurizer bubble is being established.

Current conditions:

- A transient results in an RCS pressure spike.
- ALB12-E02 PRZR REL TANK HI PRESS is received.
- ALB12-E03 PRZR REL TANK HI TEMP is received.

Which one of the following completes the following statement?

The RHR pump \_\_(1)\_\_ relief valve lifting caused the PRT high pressure condition,  
and

per 13004-1, "Pressurizer Relief Tank Operation," recirculation through the RCDT heat exchanger to lower PRT temperature is expected to take approximately \_\_(2)\_\_.

	__(1)__	__(2)__
A.	discharge	1 hour
B.	discharge	8 hours
C.	suction	1 hour
D.	suction	8 hours

10.

Initial condition:

- Unit 1 is operating at 55% reactor power with a plant startup in progress.

Current conditions:

- Both Unit 1 RATs de-energize.
- Both DGs start and re-energize their respective bus.
- No other switchyard components are affected.

Which one of the following completes the following statement?

With no operator action, **one minute after** the RATs de-energize, the Reactor Trip Breakers will be \_\_ (1) \_\_,

and

DRPI \_\_ (2) \_\_ be available to check control rod positions.

- |    | __ (1) __ | __ (2) __ |
|----|-----------|-----------|
| A. | open      | will      |
| B. | open      | will NOT  |
| C. | closed    | will      |
| D. | closed    | will NOT  |

11.

Initial conditions:

- Unit 1 is at 100% reactor power.
- CCW Train 'A' is in service.
- Multiple CCW Train 'A' low pressure and low flow alarms annunciate, then clear.
- No other alarms were received.

Current conditions:

- CCW Train 'A' pressure and flow are stable.
- 18020-C, "Loss of Component Cooling Water," is entered.

Which one of the following completes the following statement?

A CCW Train 'A' pump has experienced a \_\_ (1) \_\_,

and

the standby CCW Train 'A' pump \_\_ (2) \_\_ auto start in response to CCW low header pressure.

- |    | __ (1) __     | __ (2) __ |
|----|---------------|-----------|
| A. | locked rotor  | did       |
| B. | locked rotor  | did NOT   |
| C. | sheared shaft | did       |
| D. | sheared shaft | did NOT   |

12.

Given the following:

- Unit 1 experienced a small break LOCA.
- 19012-C, "Post-LOCA Cooldown and Depressurization," is in progress.
- RCS pressure is 1315 psig and stable.
- Containment pressure is 3.5 psig.

Which one of the following completes the following statement?

19012-C requires a **minimum** SG NR level of \_\_ (1) \_\_,

and

natural circulation flow \_\_ (2) \_\_ used in conjunction with break flow to accomplish decay heat removal.

- |    | __ (1) __ | __ (2) __ |
|----|-----------|-----------|
| A. | 10%       | is        |
| B. | 10%       | is NOT    |
| C. | 32%       | is        |
| D. | 32%       | is NOT    |

13.

Initial condition:

- Unit 1 is at 100% reactor power.

Current conditions:

- PORV-455A starts leaking by.
- OATC observes pressurizer pressure indicating 2205 psig and slowly lowering.
- No operator action has been taken.

Which one of the following completes the following statement?

Based on the current conditions, the pressurizer backup heaters \_\_ (1) \_\_ be energized, and

if pressure lowers to 2185 psig, both PORV block valves \_\_ (2) \_\_ receive a close signal.

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

14.

Initial condition:

- Unit 1 is at 100% reactor power.

Current condition:

- 1NB01-05, Pressurizer Heater Back-Up Gr-A, breaker trips open.

Which one of the following completes the following statement?

Tech Spec 3.4.9, "Pressurizer," requires two groups of pressurizer heaters with \_\_(1)\_\_\_ capacity of  $\geq 150$  kW,

and

Pressurizer Heater Back-Up Gr-A \_\_(2)\_\_\_ a Tech Spec required group of heaters.

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

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

- |    |               |        |
|----|---------------|--------|
| A. | a total       | is     |
| B. | a total       | is NOT |
| C. | each having a | is     |
| D. | each having a | is NOT |



15.

Initial condition:

- Unit 1 experienced a reactor trip and SI.

Current conditions:

- The OATC aligns ECCS for Cold Leg Recirculation.
- RCS pressure is 1450 psig.
- 19010-C, "Loss of Reactor or Secondary Coolant," is in progress.

Which one of the following completes the following statements?

Prior to the LOCA, each RHR pump is aligned for injection into \_\_ (1) \_\_ Cold Legs.

Following alignment to Cold Leg Recirculation, SIPs \_\_ (2) \_\_ providing injection **flow** to the core.

- |    | __ (1) __ | __ (2) __ |
|----|-----------|-----------|
| A. | 2         | are       |
| B. | 2         | are NOT   |
| C. | 4         | are       |
| D. | 4         | are NOT   |

16.

Initial conditions:

- Unit 1 is at 50% reactor power.
- RCS pressure is 2235 psig.
- Pressurizer level control is selected to CH 459 / 461.
- All pressurizer heaters are manually energized.

Current condition:

- Pressurizer level transmitter, 1LT-461, fails **low**.
- No operator action has been taken.

Which one of the following completes the following statement?

1LV-460, Letdown Isolation Valve, \_\_(1)\_\_ close,

and

the pressurizer backup heaters are \_\_(2)\_\_.

\_\_(1)\_\_

\_\_(2)\_\_

- |    |          |              |
|----|----------|--------------|
| A. | will     | energized    |
| B. | will     | de-energized |
| C. | will NOT | energized    |
| D. | will NOT | de-energized |

17.

Given the following:

- Unit 1 is at 100% reactor power.

Which one of the following completes the following statement?

The \_\_ (1) \_\_ Reactor Trip protects against Departure from Nucleate Boiling (DNB),  
and

the Trip Setpoint \_\_ (2) \_\_ in response to **lowering** pressurizer pressure.

- |    | __ (1) __  | __ (2) __         |
|----|------------|-------------------|
| A. | OT delta T | remains unchanged |
| B. | OT delta T | decreases         |
| C. | OP delta T | remains unchanged |
| D. | OP delta T | decreases         |

18.

Initial condition:

- Unit 1 is at 100% reactor power.

Current conditions:

- The bistable(s) for Containment Pressure Channel I (1PT-937) are **de-energized**.
- No Tech Spec actions have been taken.

Which one of the following completes the following statement?

The **minimum** number of **additional** channels required to initiate an actuation signal on High-1 is   (1)  ,

and

the **minimum** number of **additional** channels required to initiate an actuation signal on High-3 is   (2)  .

	<u>  (1)  </u>	<u>  (2)  </u>
A.	1	1
B.	1	2
C.	2	1
D.	2	2

19.

Initial condition:

- Unit 1 is at 100% reactor power and stable.

The following DRPI alarms and indications are observed:

- ALB10-D05 RPI URGENT ALARM is lit.
- ALB10-C05 RPI NON URGENT ALARM is lit.
- ALB10-E05 ROD AT BOTTOM is lit.
- Control rod H8 Rod Bottom LED is lit.
- Control rod H8 General Warning LED is flashing.
- Data A and Data B Failure LEDs are flashing.
- No other alarms are received.

Which one of the following completes the following statements?

Control rod H8 \_\_ (1) \_\_.

Automatic rod motion and manual rod motion \_\_ (2) \_\_ inhibited.

- |    | __ (1) __    | __ (2) __ |
|----|--------------|-----------|
| A. | dropped      | are       |
| B. | dropped      | are NOT   |
| C. | did NOT drop | are       |
| D. | did NOT drop | are NOT   |

20.

Initial condition:

- Unit 1 is at 100% reactor power.

Current conditions:

- A spurious turbine runback occurs and is terminated at 70% reactor power.
- ALB10-F06 DELTA FLUX DEVIATION is received.

Which one of the following completes the following statement?

Per Tech Spec 3.2.3, "Axial Flux Difference (AFD)," the AFD is considered outside limits when a **minimum** of \_\_\_(1)\_\_\_ OPERABLE Power Range NI channels indicate outside AFD limits,

and

based on current conditions, per Tech Spec 3.2.3, further reduction in thermal power \_\_\_(2)\_\_\_ required.

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

21.

Initial condition:

- Unit 1 is at 100% reactor power.

Current condition:

- ALB08-E03 RCP 1 VIBRATION ALERT is received.

Which one of the following completes the following statement?

Per the applicable Annunciator Response Procedure, the operators are directed to monitor the RCP vibration readings on the \_\_ (1) \_\_,

and

per 13003-1, "Reactor Coolant Pump Operation," the RCP maximum operating limit for **frame** vibration is \_\_ (2) \_\_ mils.

\_\_ (1) \_\_

\_\_ (2) \_\_

- |    |                                  |    |
|----|----------------------------------|----|
| A. | plant computer                   | 5  |
| B. | plant computer                   | 20 |
| C. | local vibration monitoring panel | 5  |
| D. | local vibration monitoring panel | 20 |

22.

Initial condition:

- Unit 1 is at 100% reactor power.

Current condition:

- CVCS makeup capability is lost.

Which one of the following completes the following statements?

As VCT level begins to slowly lower, VCT pressure is \_\_(1)\_\_ maintained.

If VCT pressure were to lower from 25 to 18 psig, RCP seal #1 leak-off flow rates would \_\_(2)\_\_.

- |    | __(1)__       | __(2)__  |
|----|---------------|----------|
| A. | automatically | decrease |
| B. | automatically | increase |
| C. | manually      | decrease |
| D. | manually      | increase |



23.

Given the following:

- Unit 1 is in Mode 3 following a steam line break in containment.
- Only Train 'A' containment cooling units are available.
- Containment temperature is 241°F and slowly rising.
- Containment pressure is 11 psig and slowly rising.

Which one of the following completes the following statement?

SG NR level instruments on the QMCB will indicate \_\_(1)\_\_ than actual level,

and

the instrument inaccuracies \_\_(2)\_\_ a **direct** result of changes in containment pressure.

- |    | __(1)__ | __(2)__ |
|----|---------|---------|
| A. | lower   | are     |
| B. | lower   | are NOT |
| C. | higher  | are     |
| D. | higher  | are NOT |

24.

Given the following:

- Unit 1 requires Emergency Boration.
- Shift Supervisor directs Emergency Boration through the BIT flow path.

Which one of the following completes the following statement?

For the selected Emergency Boration flow path, 13009-1, "CVCS Reactor Makeup Control System," directs the operator to establish a **minimum** flow rate to the RCS greater than \_\_ (1) \_\_ gpm,

and

the boron concentration for the **source** used above is required to be between \_\_ (2) \_\_ ppm.

	__ (1) __	__ (2) __
A.	30	2400 - 2600
B.	30	7000 - 7700
C.	87.5	2400 - 2600
D.	87.5	7000 - 7700

25.

Given the following:

- Unit 1 reactor trip and SI occurred due to a LOCA.
- Containment Spray (CS) actuated.

Which one of the following completes the following statement?

During the ECCS injection phase, CS pumps and ECCS pumps \_\_ (1) \_\_ suction header(s) **penetrating** the RWST,

and

the CS pumps' sump suction valves \_\_ (2) \_\_ automatically open on LO-LO RWST level.

\_\_ (1) \_\_

\_\_ (2) \_\_

- |    |                |          |
|----|----------------|----------|
| A. | share a common | will     |
| B. | share a common | will NOT |
| C. | have separate  | will     |
| D. | have separate  | will NOT |

26.

Given the following:

- An SI occurred and has NOT been reset.
- An LOSP occurs a few minutes later.
- 1AA02 is powered from DG1A.
- 1BA03 is powered from DG1B.

While the DGs are operating, an electrical perturbation results in the following:

- DG1A 186A lockout relay energizes (Generator Differential).
- DG1B 186B lockout relay energizes (Phase Overcurrent).

Which one of the following describes the current condition of the Containment Spray discharge valves?

1HV-9001A, Containment Spray Pump 'A' Discharge Isolation, \_\_(1)\_\_ have power available,

and

1HV-9001B, Containment Spray Pump 'B' Discharge Isolation, \_\_(2)\_\_ have power available.

	__(1)__	__(2)__
A.	does	does
B.	does	does NOT
C.	does NOT	does
D.	does NOT	does NOT

27.

Initial conditions:

- Unit 1 is at 100% reactor power.
- One group of pressurizer backup heaters is energized in manual.
- Pressurizer pressure control is selected to CH 455 / 456.

Current condition:

- Pressurizer pressure transmitter, 1PT-455, fails **low**.

Which one of the following completes the following statement?

In response to the failure, the remaining pressurizer backup heaters will \_\_(1)\_\_,

and

the pressurizer spray valve controllers will demand full \_\_(2)\_\_ position.

\_\_(1)\_\_

\_\_(2)\_\_

- |    |            |        |
|----|------------|--------|
| A. | energize   | open   |
| B. | energize   | closed |
| C. | remain off | open   |
| D. | remain off | closed |

28.

Initial conditions:

- Unit 1 is at 100% reactor power.
- Containment Spray pump 'A' is tagged out.

Current conditions:

- Large break LOCA occurs.
- 19010-C, "Loss of Reactor or Secondary Coolant," is in progress.
- Containment Spray pump 'B' trips.
- Containment pressure is 22 psig.
- Containment hydrogen concentration is 5.1%.

Which one of the following completes the following statement?

The **preferred** method for reducing containment hydrogen concentration is \_\_ (1) \_\_ the containment atmosphere,

and

a(n) \_\_ (2) \_\_ path entry condition exists for 19251-C, "Response to High Containment Pressure."

	__ (1) __	__ (2) __
A.	diluting	red
B.	diluting	orange
C.	purging	red
D.	purging	orange

29.

Initial condition:

- Unit 1 is at 100% reactor power.

Current conditions:

- ATWT is in progress.
- The reactor trip and bypass breakers will NOT open locally.

Which one of the following completes the following statement?

Per 19211-C, "Response to Nuclear Power Generation / ATWT," the Control Rod Drive MG Set \_\_ (1) \_\_ breakers will be opened,

and

P-4 \_\_ (2) \_\_ be generated when the MG set breakers are locally opened.

- |    | __ (1) __ | __ (2) __ |
|----|-----------|-----------|
| A. | input     | will      |
| B. | input     | will NOT  |
| C. | output    | will      |
| D. | output    | will NOT  |

30.

Initial conditions:

- Unit 1 reactor startup is in progress.
- Critical data is being collected per 12003-C, "Reactor Startup (Mode 3 to Mode 2)."

Current condition:

- Intermediate Range N35 fails **bottom** of scale.

Which one of the following completes the following statement?

Based on the current conditions, the SR BLOCK PERMISSIVE P-6 light on the BPLB \_\_\_(1)\_\_\_ remain lit,

and

placing the affected channel's Level Trip switch in BYPASS per 18002-C, "Nuclear Instrumentation System Malfunction," aligns NI \_\_\_(2)\_\_\_ power to the SSPS input relay.

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



31.

Given the following:

- Unit 1 is in Mode 6.
- Preparation for fuel movement is in progress in the Fuel Handling Building.
- The following radiation monitors are in service:
  - ARE-2532A/B, Fuel Handling Building Effluent Radiogas Monitors
  - 1RE-008, Fuel Handling Building Area Monitor

Which one of the following completes the following statement?

ARE-2532A/B \_\_ (1) \_\_ be monitored and the alarm setpoints adjusted from the SRDC panel,

and

1RE-008 \_\_ (2) \_\_ be monitored and the alarm setpoints adjusted from the SRDC panel.

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

32.

Initial conditions:

- Unit 1 experienced a SGTR.
- 19030-C, "Steam Generator Tube Rupture," is in progress.
- 1NAA is de-energized due to a bus fault.
- AFW flow to all intact SGs is approximately 50 gpm.
- All intact SG NR levels are approximately 40% and stable.

Current condition:

- Crew is preparing to perform a maximum rate cooldown.

Which one of the following completes the following statements?

Per 19030-C, prior to initiating a maximum rate cooldown, AFW flow to **intact** SGs \_\_\_(1)\_\_\_ required to be raised.

The cooldown is initiated per Step 17 using \_\_\_(2)\_\_\_.

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

33.

Initial condition:

- Unit 1 is at 100% reactor power.

Current conditions:

- Unit 1 reactor trips.
- RTB 'B' fails to open.

Which one of the following completes the following statement?

With no operator action, RCS temperature will be controlled at approximately \_\_(1)\_\_\_ by the \_\_(2)\_\_\_.

- |    | __(1)__ | __(2)__     |
|----|---------|-------------|
| A. | 557° F  | steam dumps |
| B. | 557° F  | ARVs        |
| C. | 559° F  | steam dumps |
| D. | 559° F  | ARVs        |

34.

Initial conditions:

- Unit 1 is at 100% reactor power.
- Train 'A' sequencer simulated software sequence test is in progress per 13540A-1, "Safety Features Sequencer System - Train A."
- Containment Coolers #1, 2, 5, and 6 are running in high speed.

Current conditions:

- A steam line rupture occurs on SGs #1 and 2.
- In 3 seconds the following parameter trends occur:
  - SG pressures lower from 900 psig to 600 psig.
  - Containment pressure has risen to 14 psig.
- Reactor trip, Safety Injection, and Steam Line Isolation occur.

Which one of the following completes the following statement?

The Steam Line Isolation was initiated by \_\_ (1) \_\_,

and

Train 'A' Containment Coolers will be running in \_\_ (2) \_\_ speed.

\_\_ (1) \_\_

\_\_ (2) \_\_

- |    |                    |      |
|----|--------------------|------|
| A. | containment High-2 | high |
| B. | containment High-2 | low  |
| C. | SG low pressure    | high |
| D. | SG low pressure    | low  |

35.

Given the following:

- Unit 1 is at 25% reactor power.
- Power ascension is in progress.

Which one of the following completes the following statement?

As turbine load is increased while maintaining Tavg on program, main steam header pressure will \_\_(1)\_\_,

and

the method used to maintain Tavg on program during the power increase that results in the MOST negative MTC is \_\_(2)\_\_.

- A. (1) decrease  
(2) control rod withdrawal with boron concentration held constant
- B. (1) decrease  
(2) boron concentration reduction with control rod position held constant
- C. (1) increase  
(2) control rod withdrawal with boron concentration held constant
- D. (1) increase  
(2) boron concentration reduction with control rod position held constant

36.

**At time 1100:**

- Unit 1 is at 11% reactor power.
- The Control Room is evacuated due to a fire per 18038-1, "Operation From Remote Shutdown Panels."
- MFP 'A' is tripped prior to exiting the Control Room.

**At time 1105:**

- Personnel established local control of all components per 18038-1.
- SG NR levels have lowered to 55%.
- Shift Supervisor gives direction to, "Verify **all** AFW pumps running."

Which one of the following completes the following statement?

The MDAFW Pumps \_\_(1)\_\_ require manual start,

and

the TDAFW Pump \_\_(2)\_\_ require manual start.

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

37.

Given the following:

- 19100-C, "Loss of All AC Power," is in progress on Unit 1.
- The crew is performing Step 29, "Depressurize intact SGs to 300 psig."
- UO could NOT stop depressurizing SGs at 300 psig.
- All SGs reach 175 psig before the depressurization is stopped.

Which one of the following completes the following statement?

A potential exists for \_\_(1)\_\_ to occur, which could result in **immediate** \_\_(2)\_\_.

- A. (1) nitrogen injection from the accumulators  
(2) core uncover
- B. (1) nitrogen injection from the accumulators  
(2) disruption of natural circulation flow
- C. (1) voiding in the reactor vessel  
(2) core uncover
- D. (1) voiding in the reactor vessel  
(2) disruption of natural circulation flow

38.

Initial condition:

- Loss of off-site power has occurred.

Current condition:

- 19002-C, "Natural Circulation Cooldown," is in progress.

Which one of the following completes the following statements?

Loop deltaT is expected to \_\_(1)\_\_ as natural circulation flow is **first** being established.

The number of available CRDM fans \_\_(2)\_\_ affect the required RCS subcooling that must be maintained during the 19002-C natural circulation cooldown.

- |    | __(1)__ | __(2)__  |
|----|---------|----------|
| A. | rise    | does     |
| B. | rise    | does NOT |
| C. | lower   | does     |
| D. | lower   | does NOT |



39.

Initial condition:

- Unit 1 is at 100% reactor power.

Current conditions:

- An LOSP occurs.
- 19100-C, "Loss of All AC Power," is in progress.
- 1DD1 bus voltage is 103 VDC and lowering.

Which one of the following completes the following statement?

Per 19100-C, 1DD1 \_\_ (1) \_\_ required to be removed from service at this time,

and

the reason for removing 1DD1 from service is to prevent \_\_ (2) \_\_.

\_\_ (1) \_\_

\_\_ (2) \_\_

- |    |        |                                  |
|----|--------|----------------------------------|
| A. | is     | battery damage                   |
| B. | is     | an excessive buildup of hydrogen |
| C. | is NOT | battery damage                   |
| D. | is NOT | an excessive buildup of hydrogen |

40.

Given the following conditions:

- Unit 1 reactor power is being raised from 30% to 50%.

Which one of the following completes the following statement?

As reactor power increases, the BFRVs will continue to open until \_\_ (1) \_\_ reaches 40%, and subsequently the BFRVs will \_\_ (2) \_\_.

- A. (1) first stage turbine power  
(2) remain as-is
- B. (1) first stage turbine power  
(2) fully close
- C. (1) steam flow  
(2) remain as-is
- D. (1) steam flow  
(2) fully close

41.

Given the following:

- Unit 1 CVCS mixed bed demin resin transfer is in progress.
- A valve failure causes a liquid release on 'C' level of the Auxiliary Building, which results in airborne radioactivity.

Which one of the following completes the following statement?

The airborne radioactivity release will be monitored by \_\_ (1) \_\_,

and

the running Auxiliary Building HVAC units \_\_ (2) \_\_ automatically trip.

- A. (1) ARE-0014, Waste Gas Processing System Effluent Monitor  
(2) will NOT
- B. (1) 1RE-12442C, Plant Vent Radiogas Particulate (Low Range)  
(2) will NOT
- C. (1) ARE-0014, Waste Gas Processing System Effluent Monitor  
(2) will
- D. (1) 1RE-12442C, Plant Vent Radiogas Particulate (Low Range)  
(2) will

42.

Initial condition:

- Unit 1 is at 100% reactor power.

Current conditions:

- A reactor trip occurs due to a feedwater transient.
- ALB13-E04 FWI SI OR P14 SG HI-HI LVL is received.

Which one of the following completes the following statements?

The MFPs \_\_ (1) \_\_ automatically trip.

In order to open the BFIVs, the reactor trip breakers \_\_ (2) \_\_ required to be cycled.

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

43.

Radiation monitors are as follows:

- 1RE-002, Containment Low Range Area Monitor
- 1RE-003, Containment Low Range Area Monitor
- 1RE-2565, Containment Vent Monitor

Initial conditions:

- Unit 1 is in Mode 6.
- Core offload is in progress.

Current condition:

- ALB06-E01 CNMT VENT ISO ACTUATION is received.

Which one of the following completes the following statement?

A **high** radiation level of 15 mrem/hour has been exceeded on \_\_(1)\_\_,

and

the **high** radiation condition \_\_(2)\_\_ latch in on the SRDC panel.

\_\_(1)\_\_

\_\_(2)\_\_

- |    |                 |          |
|----|-----------------|----------|
| A. | 1RE-002/1RE-003 | does     |
| B. | 1RE-002/1RE-003 | does NOT |
| C. | 1RE-2565        | does     |
| D. | 1RE-2565        | does NOT |

44.

Initial condition:

- Unit 1 is at 100% reactor power.

Current conditions:

- An electrical fault results in the following indications:
  - 1HV-5106, TDAFW Steam Admission Valve, red and green handswitch lights are out.
  - 1FV-5132 and 5134, MDAFW SGs #2 and 3 Discharge Throttle Valves, red, green, and white lights are out.

Which one of the following completes the following statement?

A loss of Train 'C' \_\_(1)\_\_ power has occurred,

and

a loss of Train 'B' \_\_(2)\_\_ power has occurred.

	__(1)__	__(2)__
A.	125 VDC	480 VAC
B.	125 VDC	125 VDC
C.	480 VAC	480 VAC
D.	480 VAC	125 VDC

45.

Initial conditions:

- Unit 1 is at 100% reactor power.
- 1AY2A is de-energized.

Current condition:

- Safety Injection is actuated.

Which one of the following completes the following statement?

DG1A \_\_(1)\_\_ automatically start,

and

the Train 'A' sequencer \_\_(2)\_\_ run the Safety Injection load sequence.

\_\_(1)\_\_

\_\_(2)\_\_

- |    |          |          |
|----|----------|----------|
| A. | will     | will     |
| B. | will     | will NOT |
| C. | will NOT | will     |
| D. | will NOT | will NOT |

46.

Initial conditions:

- Unit 1 is at 100% reactor power.
- DG1A is tagged out for maintenance.
- 1CY1A is powered by its alternate supply.

Current condition:

- Unit 1 experiences an LOSP.

Which one of the following completes the following statement?

The alternate supply for 1CY1A is a(n) \_\_ (1) \_\_,

and

**immediately** following the LOSP, 1CY1A will be \_\_ (2) \_\_.

- |    | __ (1) __             | __ (2) __    |
|----|-----------------------|--------------|
| A. | inverter              | energized    |
| B. | inverter              | de-energized |
| C. | regulated transformer | energized    |
| D. | regulated transformer | de-energized |



47.

Initial condition:

- Unit 1 is at 100% reactor power.

Current conditions:

- Unit 1 reactor is tripped.
- 19100-C, "Loss of All AC Power," is in progress.

Which one of the following completes the following statement?

In order to control the TDAFW discharge valves to SGs #1 and 4 from the main control room, battery \_\_ (1) \_\_ power must be conserved,

and

to minimize battery drain, 1-PDIC-5180A, TDAFW pump speed controller, \_\_ (2) \_\_ permitted to be used to control TDAFW flow to the SGs.

- |    | __ (1) __ | __ (2) __ |
|----|-----------|-----------|
| A. | 1AD1B     | is        |
| B. | 1AD1B     | is NOT    |
| C. | 1CD1B     | is        |
| D. | 1CD1B     | is NOT    |

48.

Given the following:

- Unit 1 is at 100% reactor power.
- DG1A is in its normal standby alignment.

Which one of the following completes the following statement?

Handswitch 1HS-4414B, DSL GEN 1A UNIT/PARALLEL, was taken to the \_\_(1)\_\_\_ position when placing DG1A in standby alignment,

and

its associated blue indicating light is \_\_(2)\_\_\_.

- |    | __(1)___ | __(2)___ |
|----|----------|----------|
| A. | unit     | lit      |
| B. | unit     | NOT lit  |
| C. | parallel | lit      |
| D. | parallel | NOT lit  |

49.

Initial condition:

- Unit 1 is at 7% reactor power.

Current condition:

- Instrument air line to 1FV-0121, CVCS Charging Flow Control Valve, is severed.

Which one of the following completes the following statement?

With no operator action, seal injection flow to the RCPs will \_\_(1)\_\_,

and

a reactor trip \_\_(2)\_\_ occur on pressurizer level.

\_\_(1)\_\_

\_\_(2)\_\_

- |    |          |          |
|----|----------|----------|
| A. | increase | will     |
| B. | increase | will NOT |
| C. | decrease | will     |
| D. | decrease | will NOT |

50.

Given the following:

- Unit 1 is in a refueling outage.
- Core reload is in progress.
- The personnel air lock is being used for access.
- The equipment hatch is open.
- Designated personnel are available to close the equipment hatch and airlock.

Which one of the following completes the following statements?

Per Tech Spec 3.9.4, "Containment Penetrations," \_\_ (1) \_\_ personnel air lock door(s) must be capable of being closed.

Per Tech Spec 3.9.4, the equipment hatch must be capable of being closed by a minimum of \_\_ (2) \_\_ bolts.

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

51.

Initial condition:

- Unit 1 Waste Gas Decay Tank release is in progress.

Current condition:

- ARE-0014, Waste Gas Processing Effluent Monitor, is in **intermediate** alarm.
- No operator action has been taken.

Which one of the following completes the following statement?

ARV-0014, Plant Vent Radwaste Gas, isolation valve is \_\_ (1) \_\_,

and

the position of ARV-0014 can be verified \_\_ (2) \_\_.

- A. (1) open  
(2) on the IPC in the Control Room
- B. (1) open  
(2) locally on the Gaseous Waste Panel
- C. (1) closed  
(2) on the IPC in the Control Room
- D. (1) closed  
(2) locally on the Gaseous Waste Panel

52.

TR title as follows:

- TR 13.3.6, "Fuel Handling Building Post Accident Ventilation Actuation Instrumentation (common system)"

Initial conditions:

- Fuel movement is in progress in Unit 1 spent fuel pool.
- ARE-2533A/B, Fuel Handling Building Effluent Radiogas Monitor, is OOS.
- ARE-2532A/B, Fuel Handling Building Effluent Radiogas Monitor, is in service.

Current conditions:

- 1RE-008, Fuel Handling Building Area Monitor, detector fails **high**.
- Chemistry has removed 1RE-008 from service.

Which one of the following completes the following statement?

The personnel in the SFP area \_\_ (1) \_\_ alerted to the failed detector by an audible alarm,

and

per TR 13.3.6, 1RE-008 \_\_ (2) \_\_ required to be in service for movement of irradiated fuel in the SFP.

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

53.

Initial condition:

- Unit 1 is at 100% reactor power.

Current conditions:

- 1RE-1950, ACCW - Liquid, radiation level trends up and then stabilizes.
- ACCW surge tank level increases slightly and then stabilizes.

Which one of the following completes the following statement?

A \_\_ (1) \_\_ heat exchanger tube leak has occurred,

and

the ACCW surge tank level stabilized due to an automatic isolation of the flow path due to high \_\_ (2) \_\_.

- |    | __ (1) __       | __ (2) __   |
|----|-----------------|-------------|
| A. | letdown         | flow        |
| B. | letdown         | temperature |
| C. | thermal barrier | flow        |
| D. | thermal barrier | temperature |

54.

Initial conditions:

- Unit 1 is at 100% reactor power.
- ACCW pump #1 is running.
- ACCW pump #2 is in standby.

Current conditions:

- An SI occurred and **has** been reset.
- 5 minutes later, RAT '1A' experiences a fault.
- DG1A re-energizes 1AA02 and completes the load sequence.

Which one of the following completes the following statement?

Based on the given sequence of events, ACCW pump #1 \_\_ (1) \_\_ be running,

and

ACCW pump #2 \_\_ (2) \_\_ be running.

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



55.

Initial condition:

- Unit 1 is at 100% reactor power.

Current condition:

- 18017-C, "Abnormal Grid Disturbances / Loss of Grid," Section 'A' for "Degraded Grid Conditions," is in progress.

Which one of the following completes the following statement?

Per 18017-C, the DGs are \_\_(1)\_\_ to ensure availability,

and

the Main Generator is operated within the acceptable region of the reactive capability curve to prevent damage to the \_\_(2)\_\_ windings.

- A. (1) maintained in standby alignment  
(2) Main Generator
- B. (1) maintained in standby alignment  
(2) Reserve Auxiliary Transformer
- C. (1) started and carrying the 1E buses  
(2) Main Generator
- D. (1) started and carrying the 1E buses  
(2) Reserve Auxiliary Transformer

56.

Initial conditions:

- Unit 1 is at 100% reactor power.
- Air Compressors #1 and #3 are in service.

Current conditions:

- ALB01-C06 SERVICE AIR HDR LO PRESS is received.
- 1PI-9377, Service Air Header Pressure, on the QMCB lowered to 92 psig and is now stable at 105 psig.
- No operator action has been taken.

Which one of the following completes the following statement?

All air compressors in AUTO-PTL \_\_(1)\_\_ currently running,

and

1-PV-9375, Service Air Dryer Inlet Isolation Valve, \_\_(2)\_\_ closed.

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

57.

Initial condition:

- Unit 1 at 100% reactor power.

Current condition:

- The running fire water jockey pump trips.

Which one of the following completes the following statement?

The standby fire water jockey pump \_\_ (1) \_\_ automatically start as fire header pressure lowers,

and

the electric fire pump's automatic start setpoint is \_\_ (2) \_\_ psig.

- |    | __ (1) __ | __ (2) __ |
|----|-----------|-----------|
| A. | will      | 95        |
| B. | will      | 110       |
| C. | will NOT  | 95        |
| D. | will NOT  | 110       |

58.

Initial conditions:

- LOCA has occurred on Unit 1.
- 19000-C, "Reactor Trip or Safety Injection," is entered.
- Verification of Immediate Operator Actions is complete.
- Containment pressure is 23.8 psig.

Current conditions:

- ALB06-D06 CNMT SPRAY ACTUATION is NOT lit.
- ALB06-E06 CNMT ISO PHASE A ACTUATION is NOT lit.

Which one of the following completes the following statement?

The **first** required action in 19000-C to be performed by the crew is to actuate \_\_(1)\_\_,

and

this action will be taken using \_\_(2)\_\_ direction.

- |    | __(1)__           | __(2)__              |
|----|-------------------|----------------------|
| A. | CIA               | Foldout Page         |
| B. | CIA               | OATC Initial Actions |
| C. | Containment Spray | Foldout Page         |
| D. | Containment Spray | OATC Initial Actions |

59.

Given the following:

- A LOCA with SI actuation occurred on Unit 1.
- SI can NOT be reset.

Which one of the following completes the following statement?

The CIA signal \_\_ (1) \_\_ be reset,

and

the CVI signal \_\_ (2) \_\_ be reset.

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

60.

Initial condition:

- Unit 1 is in Mode 3.

Current condition:

- Operators are preparing to withdraw the shutdown banks per 12003-C, "Reactor Startup (Mode 3 to Mode 2)."

Which one of the following completes the following statement?

Per 12003-C, the crew is required to notify \_\_ (1) \_\_ of the reactor startup prior to Mode 2 entry,

and

a "Mode 2" log entry is required when \_\_ (2) \_\_ bank withdrawal commences.

- A. (1) the Power Control Center by GenComm Web  
(2) control
- B. (1) plant personnel by page announcement  
(2) control
- C. (1) the Power Control Center by GenComm Web  
(2) shutdown
- D. (1) plant personnel by page announcement  
(2) shutdown

61.

Initial condition:

- Unit 1 is at 100% reactor power.

Current conditions:

- ARE-2532A, FHB - Effluent Radiogas, fails **high**.
- ALB05-C03 HIGH RADIATION ALARM is received.

Which one of the following completes the following statement?

When ALB05-C03 is received, Train 'B' FHB Post Accident Filter Unit \_\_ (1) \_\_ automatically start,

and

when the FHB Isolation Reset handswitch is taken to RESET, the white light illuminating alerts the operator that the actuation signal \_\_ (2) \_\_ present.

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

62.

Given the following:

- Unit 1 Control Room is being evacuated due to a fire.
- The operating crew is fully staffed.

Which one of the following completes the following statement?

Per 18038-1, "Operation From Remote Shutdown Panels," the \_\_ (1) \_\_ will be dispatched to Shutdown Panel 'C' (TDAFW Pump Room),

and

the **preferred** method for establishing communications between all stations is via \_\_ (2) \_\_.

\_\_ (1) \_\_

\_\_ (2) \_\_

- |    |                  |  |
|----|------------------|--|
| A. | Unit Operator    | sound powered telephones<br>(red box)              |
| B. | Unit Operator    | bridge phone extension 3145,<br>codes 123# or 234# |
| C. | Systems Operator | sound powered telephones<br>(red box)              |
| D. | Systems Operator | bridge phone extension 3145,<br>codes 123# or 234# |



63.

Initial conditions:

- Unit 1 is at 45% reactor power.
- EHC Pump 'A' discharge filter #8 is in service.
- EHC Pump 'A' discharge filter #4 is tagged out for replacement.

Current conditions:

- The following EHC Pump 'A' discharge filter #4 valve tags are ready for release:

1-1615-U4-592, EHC HYD PUMP 'A' DISCH FILTER #4 INLET ISO  
1-1615-U4-593, EHC HYD PUMP 'A' DISCH FILTER #4 OUTLET ISO

- EHC Pump 'A' discharge filter #8 is to remain in service.

Which one of the following completes the following statement?

Both valves will be \_\_(1)\_\_ after the tagout is released to standby alignment,  
and

if EHC pressure were to lower to 1000 psig, the reactor \_\_(2)\_\_ trip.

#### REFERENCES PROVIDED

	__(1)__	__(2)__
A.	OPEN	would
B.	OPEN	would NOT
C.	CLOSED	would
D.	CLOSED	would NOT

64.

Procedure title as follows:

- 14807A-1, "Train 'A' Motor Driven Auxiliary Feedwater Pump and Check Valve Inservice and Response Time Test"

**At time 1000:**

- Unit 1 is at 7% reactor power with a startup in progress.
- MDAFW pump 'A' discharge valves, 1HV-5137 and 1HV-5139, to the SGs are closed by the UO to perform a surveillance per 14807A-1.

**At time 1005:**

- MDAFW pump 'A' is started.

**At time 1010:**

- MDAFW pump 'A' is stopped.

**At time 1015:**

- Train 'A' MDAFW system is returned to normal standby alignment.

Which one of the following completes the following statement?

During performance of the surveillance and per Tech Spec 3.7.5, "Auxiliary Feedwater (AFW) System," the UO would track an LCO not met (out-of-service) time of \_\_ (1) \_\_ minutes,

and

if a Train 'A' MDAFW actuation signal were received during the surveillance when the discharge valves were closed, the valves would \_\_ (2) \_\_.

- |    | __ (1) __ | __ (2) __          |
|----|-----------|--------------------|
| A. | 10        | automatically open |
| B. | 10        | remain closed      |
| C. | 15        | automatically open |
| D. | 15        | remain closed      |

65.

Initial conditions:

- Unit 1 is in Mode 5.
- RCS level has been lowered to 192 feet to remove the reactor head.
- ALARA briefing is in progress for closing the Equipment Hatch.

Current conditions:

- The Unit Operator is performing a surveillance that specifies an Independent Verification (IV) of a manual valve inside containment.
- The area where the valve is located has the following conditions:
  - Airborne contamination is 0.1 DAC.
  - The operator is expected to receive 15 mrem of dose while performing the IV.

Per NMP-GM-005-002, "Human Performance Tools Instruction," which one of the following identifies the reason for waiving the IV?

- A. 15 mrem exposure
- B. Plant Mode of operation
- C. RCS at reduced inventory
- D. 0.1 DAC airborne contamination

66.

Initial condition:

- Unit 1 is at 11% reactor power with a startup in progress following a refueling outage.

Current condition:

- ALB15-C01 HIGH RADIATION ALARM is received due to SG tube leakage.

Which one of the following completes the following statement?

1RE-0724, Steam Line Radiation, \_\_ (1) \_\_ available to monitor SG activity,

and

the monitor is designed to detect \_\_ (2) \_\_ radiation.

- |    | __ (1) __ | __ (2) __   |
|----|-----------|-------------|
| A. | is        | noble gas   |
| B. | is        | nitrogen-16 |
| C. | is NOT    | noble gas   |
| D. | is NOT    | nitrogen-16 |

67.

Initial condition:

- Unit 1 and Unit 2 are at 100% reactor power.

Current conditions:

- Unit 1, ALB05-C03 HIGH RADIATION ALARM is received.
- 1RE-12116, Control Room Air Intake Radiogas Monitor (Train 'A'), **red** indication light is illuminated on the SRDC.
- Unit 2 has **no** radiation monitor in alarm.

Which one of the following completes the following statement?

The **Unit 1**, Train 'B' CREFS unit \_\_ (1) \_\_ automatically start,  
and

the **Unit 2**, Train 'B' CREFS unit \_\_ (2) \_\_ automatically start.

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

68.

Given the following:

- Both Unit 1 and Unit 2 are at 100% reactor power.
- A fire occurs in the Fuel Handling Building as a result of a **seismic** event.

Which one of the following completes the following statement?

The \_\_(1)\_\_ pumps and piping are designed to provide firefighting water following the seismic event,

and

per 13903-C, "Fire Protection System Operation," the seismic flow path \_\_(2)\_\_ be automatically aligned.

- |    | __(1)__     | __(2)__  |
|----|-------------|----------|
| A. | NSCW        | will     |
| B. | NSCW        | will NOT |
| C. | Diesel fire | will     |
| D. | Diesel fire | will NOT |

69.

Initial conditions:

- Unit 1 is at 100% reactor power.
- ALB13-A01 STM GEN 1 FLOW MISMATCH is received.

Current conditions:

- RCS pressure is 2237 psig and rising.
- Main generator output is 1225 MWe and rising.

Which one of the following completes the following statements?

Based on the current conditions, a \_\_(1)\_\_ line break is in progress.

Per 10020-C, "EOP and AOP Rules of Usage," isolating the main steam lines on a secondary fault \_\_(2)\_\_ an approved early operator action.

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

70.

Initial condition:

- 19010-C, "Loss of Reactor or Secondary Coolant," is in use.

Current conditions:

- Step 11, "Check if ECCS flow should be reduced," is in progress with the following conditions:
  - RCS pressure is 1335 psig and stable.
  - Pressurizer level is 30% and stable.
  - CETCs are 550°F.
  - The highest WR Thot is 540°F.
  - Containment pressure is 4.5 psig.
  - All SG NR levels are <10% with 200 gpm AFW flow to each SG.

Which one of the following completes the following statement?

Based on the current conditions, ECCS flow \_\_(1)\_\_ be reduced because \_\_(2)\_\_.

A. (1) can

(2) all termination criteria have been satisfied

B. (1) can NOT

(2) pressurizer level and RCS subcooling do not meet termination criteria

C. (1) can NOT

(2) RCS subcooling and secondary heat sink do not meet termination criteria

D. (1) can NOT

(2) pressurizer level is the only termination criterion not met



71.

Initial condition:

- The crew is performing 19112-C, "LOCA Outside Containment."

Current condition:

- RCS pressure is 1500 psig.

Which one of the following completes the following statement?

Per 19112-C, the **first** system to be isolated from the RCS to attempt leak isolation is \_\_ (1) \_\_,

and

per 19112-C, to determine if the leak is isolated, the operator is directed to check for rising RCS \_\_ (2) \_\_.

- |    | __ (1) __ | __ (2) __  |
|----|-----------|------------|
| A. | SI        | subcooling |
| B. | SI        | pressure   |
| C. | RHR       | subcooling |
| D. | RHR       | pressure   |

72.

Initial conditions:

- Unit 1 reactor tripped.
- 19231-C, "Response to Loss of Secondary Heat Sink," is in use.
- Bleed and Feed has been initiated.
- 1AA02 is faulted.
- SIP 'B' is running.
- 1PORV-455 is CLOSED.
- 1PORV-456 is OPEN.

Current conditions:

- ALB07-C06 CHARGING PUMP OVERLOAD TRIP is received.
- ALB07-B06 CHARGING LINE HI/LO FLOW is received.
- CCP 'B' handswitch green and amber lights are lit.

Which one of the following completes the following statement?

Per 19231-C, the minimum requirement for the RCS **Feed** path   (1)   met,

and

the Reactor Head vents must be   (2)   to delay core uncover.

- |    | <u>  (1)  </u> | <u>  (2)  </u>  |
|----|----------------|-----------------|
| A. | is             | opened          |
| B. | is             | verified closed |
| C. | is NOT         | opened          |
| D. | is NOT         | verified closed |

73.

Initial condition:

- A steam line break inside containment occurred on Unit 1.

Current conditions:

- RCS cold leg temperature is slowly lowering.
- RCS pressure is slowly lowering.
- 19241-C, "Response to Imminent Pressurized Thermal Shock Condition," is in progress.

Which one of the following completes the following statement?

Per 19241-C major operator actions, the in-progress RCS cooldown \_\_ (1) \_\_ required to be stopped,

and

the in-progress RCS depressurization \_\_ (2) \_\_ required to be stopped.

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

74.

Initial conditions:

- Large break LOCA occurred on Unit 1.
- Containment pressure is 23 psig.
- Both Containment Spray (CS) Pumps are running.
- RWST level is 26% and lowering.
- Four Containment Coolers are running in low speed.

Current conditions:

- 19111-C, "Loss of Emergency Coolant Recirculation," is in progress.
- The crew is at the step to "Determine Containment Spray requirements."

Which one of the following completes the following statement?

Per 19111-C, for the current conditions, \_\_(1)\_\_ CS pump(s) is(are) required to be running,

and

when a CS pump is stopped, its discharge valve \_\_(2)\_\_ automatically close.

#### REFERENCES PROVIDED

	__(1)__	__(2)__
A.	0	will
B.	0	will NOT
C.	1	will
D.	1	will NOT

75.

Given the following:

- Large break LOCA is in progress on Unit 1.
- 1RE-002, 1RE-003, 1RE-005, and 1RE-006, Containment Area Radiation, are in **high** alarm.
- 19013-C, "Transfer to Cold Leg Recirculation," is in progress.
- The crew just completed realigning Containment Spray suction.

Which one of the following completes the following statement?

Per 19013-C, if dose rates will not allow reading local suction and discharge pressure indications, proper operation of Containment Spray shall be verified by observing containment   (1)   lowering,

and

per 19010-C, "Loss of Reactor or Secondary Coolant," Containment Spray is required to remain in the recirculation mode for no less than   (2)   hours.

	<u>  (1)  </u>	<u>  (2)  </u>
A.	pressure	1.5
B.	pressure	2
C.	temperature	1.5
D.	temperature	2

**ANSWER KEY REPORT**  
for NRC - RO Exam Test Form: 0

Answers

#	ID	Points	Type	0
1	001K2.03 1	1.00	MCS	D
2	003A3.04 1	1.00	MCS	D
3	004K6.09 1	1.00	MCS	D
4	005A2.02 1	1.00	MCS	B
5	005AK3.05 1	1.00	MCS	D
6	005K5.09 1	1.00	MCS	C
7	006A1.06 1	1.00	MCS	C
8	006G2.4.47 1	1.00	MCS	A
9	007A2.02 1	1.00	MCS	D
10	007EA2.06 1	1.00	MCS	C
11	008A1.03 1	1.00	MCS	C
12	009EK2.03 1	1.00	MCS	A
13	010A3.02 1	1.00	MCS	A
14	010K6.02 1	1.00	MCS	C
15	011EK2.02 1	1.00	MCS	C
16	011K6.03 1	1.00	MCS	B
17	012K5.01 1	1.00	MCS	B
18	013K6.01 1	1.00	MCS	D
19	014A1.02 1	1.00	MCS	D
20	015A2.04 1	1.00	MCS	C
21	015AA1.23 1	1.00	MCS	C
22	022AK3.01 1	1.00	MCS	B
23	022K3.02 1	1.00	MCS	D
24	024AG2.2.22 1	1.00	MCS	C
25	026K1.01 1	1.00	MCS	B
26	026K2.02 1	1.00	MCS	C
27	027AK2.03 1	1.00	MCS	B
28	028K1.01 1	1.00	MCS	B
29	029EG2.4.34 1	1.00	MCS	D
30	033AG2.2.44 1	1.00	MCS	A
31	034A4.01 1	1.00	MCS	B
32	038EA2.05 1	1.00	MCS	B
33	039K4.02 1	1.00	MCS	C
34	040AG2.2.36 1	1.00	MCS	D
35	045K5.17 1	1.00	MCS	B
36	054AA1.02 1	1.00	MCS	C
37	055EK1.02 1	1.00	MCS	B
38	056AK1.01 1	1.00	MCS	A
39	057AK3.01 1	1.00	MCS	A
40	059A4.03 1	1.00	MCS	D
41	059AK2.02 1	1.00	MCS	B
42	059K4.19 1	1.00	MCS	A
43	061AA2.03 1	1.00	MCS	A
44	061K2.01 1	1.00	MCS	A
45	062K3.02 1	1.00	MCS	B
46	062K4.07 1	1.00	MCS	D
47	063A1.01 1	1.00	MCS	C

**ANSWER KEY REPORT**  
for NRC - RO Exam Test Form: 0

Answers

#	ID	Points	Type	0
48	064G2.1.31 1	1.00	MCS	A
49	065AA2.08 1	1.00	MCS	B
50	069AA2.02 1	1.00	MCS	A
51	071A3.03 1	1.00	MCS	B
52	072K3.02 1	1.00	MCS	B
53	073K1.01 1	1.00	MCS	C
54	076K2.04 1	1.00	MCS	A
55	077AK3.02 1	1.00	MCS	A
56	078A4.01 1	1.00	MCS	B
57	086K4.02 1	1.00	MCS	D
58	103A2.03 1	1.00	MCS	C
59	103K1.08 1	1.00	MCS	A
60	G2.1.14 1	1.00	MCS	B
61	G2.1.28 1	1.00	MCS	A
62	G2.1.8 1	1.00	MCS	C
63	G2.2.15 1	1.00	MCS	C
64	G2.2.23 1	1.00	MCS	C
65	G2.3.13 1	1.00	MCS	A
66	G2.3.15 1	1.00	MCS	D
67	G2.3.5 1	1.00	MCS	B
68	G2.4.25 1	1.00	MCS	B
69	G2.4.45 1	1.00	MCS	A
70	WE02EA1.03 1	1.00	MCS	B
71	WE04EK1.03 1	1.00	MCS	D
72	WE05EA1.02 1	1.00	MCS	A
73	WE08EK1.02 1	1.00	MCS	B
74	WE11G2.1.25 1	1.00	MCS	D
75	WE16EK2.02 1	1.00	MCS	A
<b>SECTION 1 ( 75 items)</b>		<b>75.00</b>		