ML19239A463

ES-401	Site-Specific RO Written Examination Cover Sheet	Form ES-401-7

U.S. Nuclear Regulatory Commission
Site-Specific RO Written Examination

Applicant Information

Name:	
Date: 06/25/19	Facility/Unit FARLEY 1 & 2
Region: I ☐ II ☒ III ☐ IV ☐	Reactor Type: W ☒ CE ☐ BW ☐ GE ☐
Start Time:	Finish Time:

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. To pass the examination, you must achieve a final grade of at least 80 percent. Examination papers will be collected 6 hours after the examination begins

Applicant Certification

All work done on this examination is my own. I have neither given nor received aid.

_____
Applicant's Signature

Results

Examination Value	75 Points
Applicant's Score	_____ Points
Applicant's Grade	_____ Percent

1. Which one of the following completes the statements below for Unit 1?

   _(1)_ supply power to the _(2)_ which supplies power to the Rod Drive Motor Generator Sets.

   A. (1) 4160V Busses 1D and 1E

      (2) 600V Load Centers 1B and 1C

   B. (1) 4160V Busses 1D and 1E

      (2) 600V Load Centers 1D and 1E

   C. (1) 4160V Busses 1F and 1G

      (2) 600V Load Centers 1B and 1C

   D. (1) 4160V Busses 1F and 1G

      (2) 600V Load Centers 1D and 1E

2. The following condition exists on Unit 1:

   - The Unit is at 100% Power.

   Subsequently, the following is observed:

   - The 1C RCP trips.

   Which one of the following completes the statements below **at 60 seconds after** the 1C RCP trips?

   1C SG Pressure is _(1)_.

   1B SG Pressure is _(2)_.

A. (1) RISING

   (2) RISING

B. (1) RISING

   (2) FALLING

C. (1) FALLING

   (2) RISING

D. (1) FALLING

   (2) FALLING

DELETE

Question 2 deleted from exam due to post-exam contention.

Michael Meeks 08/06/2019

3. Which one of the following describes an interlock that will prevent the 1A RCP from starting after its handswitch is placed in START?

   A. 1A RCP Seal Injection flow is 6.5 GPM.

   B. The 1A RCP Oil Lift Pump has been running for 90 seconds.

   C. The 1A RCP Oil Lift Pump Pressure is 550 PSIG.

   D. HH1, RCP 1A BRG UPPER/LOWER OIL RES LO LVL, is in alarm.

4. The following conditions exist on Unit 1:

   - Reactor Power is 100%.
   - VCT Pressure is 25 PSIG.
   - Letdown flow is 105 GPM.
   - Seal injection flow rates are 9 GPM to each RCP.

   Subsequently, the following occurs:

   - LT-115, VCT LVL, fails to 100%.

   Which one of the following completes the statement below **assuming no operator action**?

   Initially, VCT **pressure** will _(1)_.

   The VCT **level** change _(2)_ result in automatic rollover of charging pump suctions to the RWST.

A. (1) lower

   (2) WILL

B. (1) remain the same

   (2) WILL

C. (1) lower

   (2) will NOT

D. (1) remain the same

   (2) will NOT

5. The following occurs on Unit 1:

At 1000:

- A Safety Injection has occurred.

At 1005:

- RCS Pressure is 450 PSIG.
- CTMT Pressure is 2.7 PSIG and slowly rising.

Which one of the following completes the statements below **at 1005**?

Safety Injection flow _(1)_ directed to the Cold Legs.

RHR _(2)_ supplying injection flow.

A. (1) is NOT

(2) IS

B. (1) is NOT

(2) is NOT

C. (1) IS

(2) IS

D. (1) IS

(2) is NOT

6. The following conditions exist on Unit 1:

- The Reactor Vessel Head is de-tensioned.
- The RCS is at MIDLOOP.
- 'A' Train of RHR is in service for cooling.

Subsequently, the following occurs:

- FK-605A, 1A RHR HX BYP FLOW, failed to 100% DEMAND.
- FCV-605A cannot be controlled manually.
- 1A RHR Pump flow indication is fluctuating.
- The Rad Side SO reports that the 1A RHR Pump is **cavitating**.

Which one of the following completes the statements below?

Without operator action, RCS Temperature will _(1)_.

The crew is required to _(2)_ FCV-603A, 1A RHR HX DISCH VLV, per AOP-12.0, Residual Heat Removal System Malfunction.

A. (1) RISE

(2) throttle OPEN

B. (1) RISE

(2) throttle CLOSED

C. (1) LOWER

(2) throttle OPEN

D. (1) LOWER

(2) throttle CLOSED

7. The following conditions exist on Unit 1:

- Unit 1 is at 90% power.
- A startup following a forced outage is in progress.
- Fuel preconditioned power level is greater than 90% per Reactor Engineering.

Subsequently, the following is observed:

- CB D bank demand is at 200 Steps.
- CB D rod H2 is at 185 Steps.
- It is determined that rod H2 is actually misaligned and cannot be moved.

Which one of the following completes the statements below per AOP-19.0, Malfunction of Rod Control System?

The crew _(1)_ required to reduce power.

The crew _(2)_ allowed to use Control Rods in AUTO for RCS temperature control.

A. (1) IS

(2) IS

B. (1) IS

(2) is NOT

C. (1) is NOT

(2) IS

D. (1) is NOT

(2) is NOT

8. The following conditions exist on Unit 1:

At 1000:

- The 'A' Train was ON SERVICE.
- Containment Pressure peaked at 3.2 PSIG.
- RCS Subcooling was 14°F.
- The hottest Core Exit Thermocouples indicate the following:
  - 1275°F
  - 1250°F
  - 1248°F
  - 1185°F
  - 1150°F
- RWST level was 19.0 ft and slowly lowering.

Subsequently, a Large Break LOCA occurs. The following **current** conditions exist:

- The crew has just transitioned to ESP-1.3, Transfer to Cold Leg Recirculation.
- RHR Pumps are running and taking suction from the RWST.
- RWST level is 2.5 ft and lowering.

Which one of the following completes the statement below?

At 1000 SPDS displayed a _(1)_ path on CORE COOLING per CSF-0.2, CORE COOLING.

Based upon the **current** conditions, the crew _(2)_ required to stop running RHR pumps.

A. (1) RED

   (2) is NOT

B. (1) RED

   (2) IS

C. (1) ORANGE

   (2) is NOT

D. (1) ORANGE

   (2) IS

9. The following conditions exist on Unit 2:

- The Unit is Shutdown.
- RCS Temperature is 250°F.

	Level (GAL)	Boron (ppm)
2A BAT	11,327	7600 ppm
2B BAT	15,148	7100 ppm
RWST	452,000	2450 ppm

Which one of the following is required per the applicable procedure?

A. RAISE level in the RWST.

B. RAISE level in the 2A BAT.

C. RAISE boron concentration in 2B BAT.

D. RAISE boron concentration in the RWST.

10. Unit 1 is at 100% power when the following occurs:

- HE4, PRT LVL HI-LO, Alarms.
- HE5, PRT PRESS HI, Alarms.

Which one of the following completes the statements below?

HE4 and HE5 alarms were the direct result of _(1)_, lifting.

PI-472, PRT PRESS, will indicate _(2)_ when the PRT rupture disc ruptures.

A. (1) V-8117, Relief Valve in Letdown Line Downstream of Letdown Orifices

(2) 100 PSIG

B. (1) V-8117, Relief Valve in Letdown Line Downstream of Letdown Orifices

(2) 115 PSIG

C. (1) V-8819, Relief Valve in Letdown Line Downstream of Low Pressure Letdown Valve

(2) 100 PSIG

D. (1) V-8819, Relief Valve in Letdown Line Downstream of Low Pressure Letdown Valve

(2) 115 PSIG

11. Unit 1 is at 100% power when the following occurs:

- A Reactor Trip occurs.

Subsequently, the following conditions exist:

- Operators are performing Immediate Action steps of EEP-0, Reactor Trip or Safety Injection.
- One control rod has not fully inserted.
- Reactor power is 3% and lowering.
- RCS Tavg is 535°F.

Which one of the following completes the statements below per the applicable procedure?

The crew is required to commence an emergency boration when directed by __(1)__.

The current RCS Tavg __(2)__ result in a higher calculated required boration volume.

A. (1) EEP-0, Reactor Trip or Safety Injection

(2) will NOT

B. (1) ESP-0.1, Reactor Trip Response

(2) will NOT

C. (1) EEP-0, Reactor Trip or Safety Injection

(2) WILL

D. (1) ESP-0.1, Reactor Trip Response

(2) WILL

12. The following conditions exist on Unit 1:

- EEP-0, Reactor Trip or Safety Injection, is in progress

AT 1000:

- The step to "Check Pressurizer PORVs and Spray Valves" is in progress when the following is observed:
  - Pressurizer pressure is 2275 psig and slowly falling.
  - PRT parameters are rising.
- Subsequently, the following trends are observed:

Time	1000	1001	1002	1003	1004
TI-465, C SAFETY VLV (°F)	98	104	115	130	150
TI-463, PORV SAFETY VLV (°F)	113	114	115	117	119

Which one of the following completes the statements below?

At 1000 pressurizer spray valves _(1)_ **closed**.

Only _(2)_ is stuck open.

A. (1) are NOT

(2) PCV-445A, PRZR PORV

B. (2) ARE

(1) PCV-445A, PRZR PORV

C. (1) are NOT

(2) PRZR SAFETY VLV 8010C

D. (1) ARE

(2) PRZR SAFETY VLV 8010C

13. The following conditions exist on Unit 1:

- Unit 1 is at 100% Power.
- The 'B' Train is On Service.
- The 1B CCW Pump is tagged out.

Subsequently, the following is observed:

- The 1A CCW Pump handswitch AMBER light is LIT, GREEN light is LIT, RED light is NOT lit.

- The 1C CCW Pump handswitch AMBER light is NOT lit, GREEN light is NOT lit, RED light is LIT.

Which one of the following lost CCW cooling?

A. 1B SFP Heat Exchanger

B. 1C Charging Pump

C. 1A Charging Pump

D. 1A RHR HX

14. The following conditions exist on Unit 1:

- EEP-0, Reactor Trip or Safety Injection, is in progress.
- Containment Pressure peaked at 3.5 PSIG and is slowly lowering.
- Total HHSI flow is 200 GPM.
- The SCMM is not available.

Subsequently, the following indications are observed:

Time	1000	1005	1010	1015
RCS Pressure (PSIG)	1765	1745	1725	1705
RCS Temperature (°F)	575	586	595	610

Which one of the following is the **earliest** time the crew is required to trip all RCPs?

REFERENCE PROVIDED

A. 1000

B. 1005

C. 1010

D. 1015

15. Unit 1 is operating at 100% power when the following occurs:

- The Reactor Trips and an LOSP occurs.

Subsequently, the following is observed:

- The 1A PZR HTR GROUP BACKUP handswitch is in AUTO.
- RCS pressure is 2000 psig.

Which one of the following completes the statements below per ESP-0.1, Reactor Trip Response?

Operator action on the EPB _(1)_ required to align electrical power to the 1A Pressurizer Heater Power Supply.

Operator action on the MCB _(2)_ required to energize the 1A PZR heaters.

A. (1) is NOT

(2) is NOT

B. (1) is NOT

(2) IS

C. (1) IS

(2) is NOT

D. (1) IS

(2) IS

16. The following conditions exist on Unit 1:

- A Large Break LOCA occurred.
- The following is observed on the IPC:

Subsequently, the following occurred:

- The crew completed required actions of FRP-P.1, Response to Imminent Pressurized Thermal Shock Conditions when the following indications are observed:
  - PRNIs indicate 2%.
  - IRNI SUR indicates -0.3 DPM.
  - LI-3594A, CTMT SUMP LVL, indicates 8.2 FT.
  - PI-950, CTMT PRESS, indicates 22 PSIG.

Which one of the following completes the statements below per CSF-0, Critical Safety Function Status Tree?

Based upon the given IPC indication, the IPC SPDS console is __(1)__.

The **next** CSF the crew is required to respond to is __(2)__.

REFERENCE PROVIDED

A. (1) operable

(2) CONTAINMENT

B. (1) operable

(2) SUBCRITICALITY

C. (1) NOT operable

(2) CONTAINMENT

D. (1) NOT operable

(2) SUBCRITICALITY

17. The following conditions exist on Unit 1:

- The unit is at 100% Power.
- LS-459Z, PRZR LVL CONT CH, switch is in the CHANNEL III/II position.

Subsequently, the following occurs:

- The bellows **inside the D/P sensor** associated with LT-459, PRZR LVL, ruptures.

Which one of the following completes the statements below?

Indicated level on LI-459, PRZR LVL, is erroneously _(1)_ due to the ruptured bellows.

The Pressurizer level indication on the HSDP _(2)_ a **cold calibrated** instrument.

A. (1) HIGH

(2) is NOT

B. (1) HIGH

(2) IS

C. (1) LOW

(2) is NOT

D. (1) LOW

(2) IS

18. The following conditions exist on Unit 1:

- Unit is at 100% Power.

Subsequently, the following occurs.

- RCS pressure lowers.

Which one of the following completes the statement below?

Penalties _(1)_ be applied to the **OPΔT** trip setpoint due to the change in RCS pressure.

The 100% Power **OPΔT** trip setpoint is _(2)_, with no penalties applied.

A. (1) will NOT

(2) 110%

B. (1) will NOT

(2) 117%

C. (1) WILL

(2) 110%

D. (1) WILL

(2) 117%

19. Unit 1 has experienced a reactor trip and the following conditions exist:

- The operating crew is verifying the immediate operator actions per EEP-0, Reactor Trip or Safety Injection.

The STA reports the following current Plant Computer indications:

- PT0455 PRESSURIZER PRESSURE CHAN 1 is 1841 psig and falling.
- PT0456 PRESSURIZER PRESSURE CHAN 2 is 1855 psig and falling.
- PT0457 PRESSURIZER PRESSURE CHAN 3 is 1845 psig and falling.
- PT0444A PRESSURIZER PRESSURE CHAN 4 is 1857 psig and falling.
- PT0445A PRESSURIZER PRESSURE CHAN 5 is 1855 psig and falling.
- FE0122 CHG PUMP DISCHARGE HEADER FLOW is 150 gpm and stable.
- FE0150 LETDOWN HX LETDOWN OUTLET FLOW is 125 gpm and stable.

Which one of the following completes the statements below based upon the conditions given above?

A Safety Injection _(1)_ currently required.

Safety Injection automatic actuation _(2)_ occurred.

A. (1) IS

(2) has NOT

B. (1) IS

(2) HAS

C. (1) is NOT

(2) has NOT

D. (1) is NOT

(2) HAS

20. The following conditions exist on Unit 1:

- All RCPs trip and cannot be restarted.
- ESP-0.1, Reactor Trip Response, is in progress.
- PK-464, STM HDR PRESS, is in MANUAL.
- At the step to verify Natural circulation adequate, the following conditions exist:
  - All SG pressures are 979 PSIG and stable.
  - The SCCM indicates 22°F.
  - RCS hot leg temperatures are stable.
  - CETCs are stable.
  - RCS cold leg temperatures are 544°F and stable.

Which one of the following completes the statements below?

Natural circulation _(1)_ adequate per ESP-0.1.

Raising **DEMAND** on PK-464, STM HDR PRESS, _(2)_ enhance Natural Circulation Flow.

REFERENCE PROVIDED

A. (1) IS

   (2) will NOT

B. (1) IS

   (2) WILL

C. (1) is NOT

   (2) will NOT

D. (1) is NOT

   (2) WILL

21. The following conditions exist on Unit 1:

- The unit is at 90% power.
- Control Rods are in AUTO.
- Bank D rods are at 200 steps.

Subsequently, the following occurs:

- N-44 fails **low**.

Which one of the following describes the Rod Control System response, **assuming no operator action**?

A. Rods step out until T_{avg} -T_{ref} mismatch causes them to step back in.

B. Rods step in until T_{avg} -T_{ref} mismatch causes them to step back out.

C. Rods step in and do NOT step back out.

D. Rods do not move.

22. The following conditions exist on Unit 1:

The highest thermocouple temperatures on A Train:

- A8 = 610°F
- F11 = 608°F
- J12 = 617°F
- N6 = 607°F
- M11 = 609°F

The highest thermocouple temperatures on B Train:

- D3 = 609°F
- E8 = 612°F
- H5 = 610°F
- H11 = 611°F
- L8 = 614°F

Subsequently, the following occurs:

- Thermocouple M11 fails **low**.
- Thermocouple L8 fails **low**.

Which one of the following completes the statements below following the circuit failures?

The Channel A SCMM calculation _(1)_ be affected.

The Channel B SCMM calculation _(2)_ be affected.

A. (1) WILL

(2) WILL

B. (1) WILL

(2) will NOT

C. (1) will NOT

(2) WILL

D. (1) will NOT

(2) will NOT

23. The following occurred on Unit 1:

AT 1000:

- Unit 1 was at 100% Power when a **Safety Injection** occurred.

AT 1005:

- Containment Temperature peaked at 123°F.

Which one of the following completes the statements below **at 1005**?

(1) Containment Cooler Fans are running.

Containment Cooler Fan drop-out dampers are (2).

A. (1) **only** TWO

(2) CLOSED

B. (1) FOUR

(2) CLOSED

C. (1) **only** TWO

(2) OPEN

D. (1) FOUR

(2) OPEN

24. The following conditions exist on Unit 1:

- The Unit is at 88% power.
- The Unit is ramping offline at 5 MW/min.
- The Makeup System is aligned for repetitive borations.

Subsequently, the following occurs:

- MOV-8107, CHG PUMPS TO REGENERATIVE HX, closes and cannot be re-opened.

Which one of the following completes the statement below?

Per AOP-16.0, CVCS Malfunction, the **first** action the crew is required to take is to _(1)_.

Additional operator action _(2)_ necessary to prevent automatically aligning the Charging Pump suctions to the RWST.

A. (1) isolate Letdown

(2) IS

B. (1) isolate Letdown

(2) is NOT

C. (1) stop the ramp

(2) IS

D. (1) stop the ramp

(2) is NOT

25. Unit 1 was at 100% Power when the following occurred:

- A Large Break LOCA and LOSP have occurred.
- The 1A CS Pump tripped and cannot be started.
- The 1B DG did not start automatically.
- The 2C DG is tagged out.

Which one of the following will be used in conjunction with the main body of EEP-0, Reactor Trip or Safety Injection, to restore power to the Containment Cooling System via an affected ESF bus?

A. FNP-0-SOP-38.0-1B, 1B Diesel Generator and Auxiliaries

B. AOP-5.0, Loss of A or B Train Electrical Power

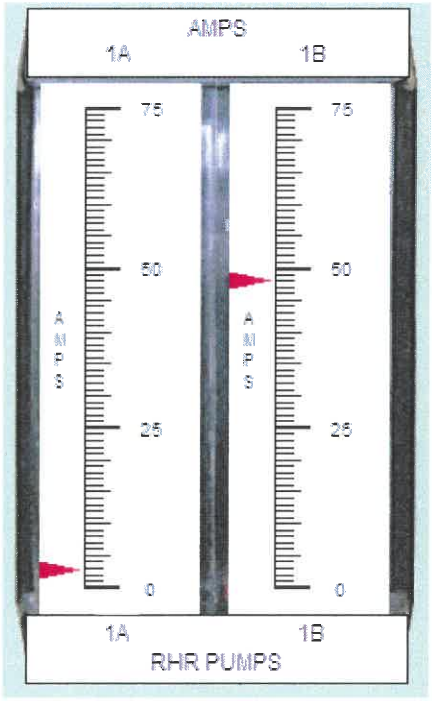
C. AOP-5.1, Contingency Electrical Alignments

D. EEP-0.0, Attachment 8, Safety Injection Alignment

26. The following conditions exist on Unit 1:

- Cold Leg Recirculation has just been established per ESP-1.3, Transfer to Cold Leg Recirculation.
- Both RHR Pumps are running.

Subsequently, the following **stable** conditions are observed:



Which one of the following describes the event that has occurred?

REFERENCE PROVIDED

A. The 1B RHR Pump suction is clogged.

B. The 1B RHR Pump has a locked rotor.

C. The 1A RHR Pump has a sheared shaft.

D. The 1A RHR Pump discharge line has broken.

27. The following conditions exist on Unit 1:

- The Unit is at 100% power.
- 'A' Train is ON SERVICE.

Subsequently, the following is observed:

- LI-3027A, CCW SRG TK LVL, indicates 26 INCHES and slowly **lowering**.
- LI-3027B, CCW SRG TK LVL, indicates 30 INCHES and **stable**.

Which one of the following completes the statement below?

A CCW leak exists in the _(1)_.

The crew _(2)_ required to shift the CCW Miscellaneous Header to the opposite train.

A. (1) Letdown Heat Exchanger

(2) IS

B. (1) Letdown Heat Exchanger

(2) is NOT

C. (1) 1B RCP Oil Cooler

(2) IS

D. (1) 1B RCP Oil Cooler

(2) is NOT

28. Which one of the following is the power supply for the component listed below?

- MOV-8820A, 1A CS PUMP TO SPRAY HDR ISO

A. 600V MCC U

B. 600V MCC V

C. 600V LC A

D. 600V LC B

29. The following conditions exist on Unit 1:

- The Unit is at 100% power.
- RCS Pressure is 2235 PSIG.
- All PRZR HTR GROUP BACKUP handswitches are in the ON position.

Subsequently, the following simultaneous events occur:

- An instantaneous 15% Load Rejection occurs.
- PK-444A, PRZR PRESS REFERENCE, fails to operate in AUTO.

Which one of the following completes the statements below?

Following the Load Rejection TI-450, PRZR SRG LINE, indication will **initially** _(1)_.

To maintain the required RCS Pressure the operator must _(2)_ the **DEMAND** on PK-444A per AOP-100, Instrumentation Malfunction.

A. (1) RISE

(2) RAISE

B. (1) RISE

(2) LOWER

C. (1) LOWER

(2) RAISE

D. (1) LOWER

(2) LOWER

30. The following conditions exist on Unit 1:

- ESP-0.4, Natural Circulation Cooldown with Allowance for Reactor Vessel Head Steam Voiding (Without RVLIS) in progress.
- RCS Pressure is 1600 PSIG.
- RCS Hot Leg Temperature is 450°F.
- Pressurizer Level is 30% and stable.

Prior to depressurizing the RCS the following conditions are observed:

- PCV-445A, PRZR PORV, fails OPEN.
- Pressurizer Level is 35% and rapidly rising.

Which one of the following explains the rapidly rising Pressurizer level per ESP-0.4?

A. The steam space in the Pressurizer collapsed which allowed more makeup to be injected into the RCS by the LHSI Pumps.

B. Pressurizer level reference legs flash which results in an increased indicated level.

C. Accumulators injected into the RCS which increased Pressurizer level.

D. A steam bubble formed in the Reactor upper head region which pushed liquid volume from the Reactor Head to the Pressurizer.

31. Which one of the following completes the statement below?

A CAUTION in EEP-1, Loss of Reactor or Secondary Coolant, states that fire or explosion may occur if post LOCA hydrogen recombiners are placed in service when Containment hydrogen concentration is greater than _(1)_.

A single Post LOCA Hydrogen Recombiner (independent of the Containment Pressurization and Vent system) _(2)_ have the capacity to prevent Containment hydrogen concentration from exceeding the lower flammability limit.

A. (1) 4.0%

(2) DOES

B. (1) 4.0%

(2) does NOT

C. (1) 3.0%

(2) DOES

D. (1) 3.0%

(2) does NOT

32. The following conditions exist on Unit 1:

- Core Offload is in progress.
- Containment Purge is in operation.

Subsequently, the following occurs:

- FH4, CP RE24 A OR B HI RAD, alarms.
- No other alarms are received.

Which one of the following completes the statements below?

Containment Purge fans _(1)_ automatically trip.

The Containment Evacuation Alarm _(2)_ automatically sound.

A. (1) WILL

(2) WILL

B. (1) WILL

(2) will NOT

C. (1) will NOT

(2) WILL

D. (1) will NOT

(2) will NOT

33. The following conditions exist on Unit 1:

- The Unit is at 100% power.
- STP-33.2A, Reactor Trip Breaker Train A Operability Test, is in progress.
- Reactor Trip Breaker A is OPEN.
- Reactor Trip Bypass Breaker A is CLOSED.
- Reactor Trip Breaker B is CLOSED.

Subsequently, the following conditions occur:

- An automatic reactor trip signal is generated.
- The Reactor does **not** trip.

Which one of the following completes the statements below?

When the RX TRIP ACTUATION switches are taken to TRIP _(1)_ will OPEN.

Per EEP-0, Reactor Trip or Safety Injection, if the RX TRIP ACTUATION switches fail to trip the Reactor, the next action required is to _(2)_.

A. (1) ONLY Reactor Trip Breaker B

(2) trip the MG set supply breakers

B. (1) BOTH Reactor Trip Bypass Breaker A and Reactor Trip Breaker B

(2) trip the MG set supply breakers

C. (1) ONLY Reactor Trip Breaker B

(2) insert Control Rods manually

D. (1) BOTH Reactor Trip Bypass Breaker A and Reactor Trip Breaker B

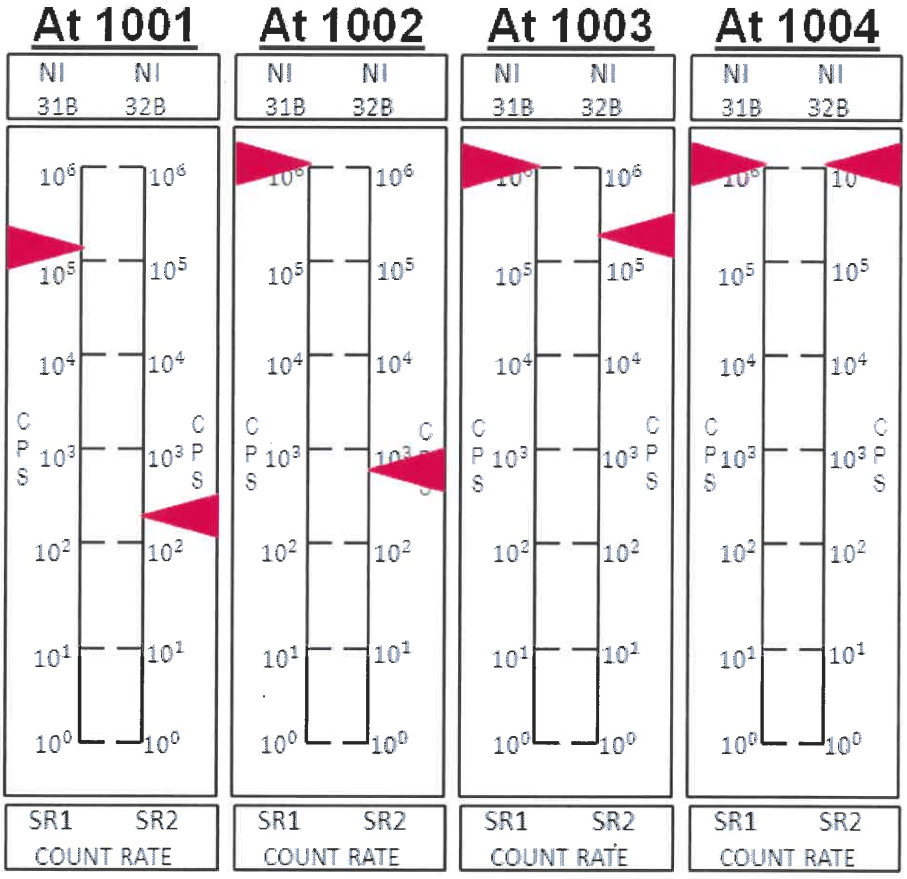
(2) insert Control Rods manually

34. The following occurs on Unit 1:

At 1000:

- The Unit is in MODE 2.
- A Reactor Startup is in progress per UOP-1.2, Startup of Unit From Hot Standby to Minimum Load.
- NI-31B, COUNT RATE, indicates 200 CPS.
- NI-32B, COUNT RATE, indicates 200 CPS.

Subsequently, the following indications are observed and an automatic reactor trip does **not** occur:



Which one of the following was the **earliest** time that the operating crew was required to manually initiate a Reactor Trip per EEP-0, Reactor Trip or Safety Injection?

REFERENCE PROVIDED

A. 1001

B. 1002

C. 1003

D. 1004

35. The following conditions exist on Unit 1:

- A Shutdown is in progress in accordance with UOP-2.1, Shutdown of Unit From Minimum Load to Hot Standby.
- SRNIs are de-energized.
- N-35, INTERMEDIATE RANGE, indicates $1x10^{-9}$ AMPERES.
- N-36, INTERMEDIATE RANGE, indicates $1x10^{-9}$ AMPERES.

Subsequently, the following occurs:

- FB2, NI 35 LOSS OF COMPENSATING VOLTAGE, Alarms.

Which one of the following completes the statements below?

As the shutdown continues, N-35, will indicate _(1)_ N-36.

The SRNIs _(2)_ automatically energize when **N-36** reaches the applicable setpoint value.

A. (1) GREATER than

(2) WILL

B. (1) GREATER than

(2) will NOT

C. (1) LESS than

(2) WILL

D. (1) LESS than

(2) will NOT

36. The following conditions exist on Unit 1:

- The Unit is at 18% power.
- AOP-2.0, Steam Generator Tube Leakage, is in progress.
- R-70A indicates 1000 GPD on the IPC.
- Letdown is secured.
- Pressurizer level is stable on program.
- VCT Level is 17% and falling.

Which one of the following completes the statements below per AOP-2.0, Steam Generator Tube Leakage?

The 1A SG tube break flow rate _(1)_ in excess of 100 GPM.

The crew _(2)_ required to trip the reactor.

A. (1) IS

(2) IS

B. (1) IS

(2) is NOT

C. (1) is NOT

(2) IS

D. (1) is NOT

(2) is NOT

37. The following conditions exist on Unit 1:

- A Large Break LOCA has occurred.

Subsequently, the following is observed:

Time	1000	1001	1002	1003
CTMT Press (PSIG)	3	7	20	28

Which one of the following is the earliest time that the use of Steam Dumps has been lost (i.e. the earliest time Steam Dumps will **not** be available)?

A. 1000

B. 1001

C. 1002

D. 1003

38. The following condition exists on Unit 1:

- The Unit is at 100% power.

Subsequently, the following occurs:

- A large Steam Line Rupture occurs.
- The break is a complete shear of the 1A SG MS Supply Header between the restrictor nozzle and the downstream tap for the Steam Flow detector.

Which one of the following completes the statements below?

The crew _(1)_ required to isolate AFW flow to the 1A SG per EEP-0, Reactor Trip or Safety Injection.

Containment Cooler Condensate Leakage Monitoring System standpipe level _(2)_ **rise** as a result of the Steam Line Rupture.

A. (1) IS

(2) will NOT

B. (1) IS

(2) WILL

C. (1) is NOT

(2) will NOT

D. (1) is NOT

(2) WILL

39. The following conditions exist on Unit 1:

- The Unit is at 7% power and starting up after a refueling outage.
- The ROD CONTROL BANK SELECTOR SWITCH is in MANUAL.
- All Narrow Range SG Water Levels are at 65% and stable.
- The FW FLOW valves are in MAN and CLOSED.
- The FW BYP FLOW valves are in MAN and THROTTLED.
- SK-509B, 1A SGFP SPEED CONT, is in MAN.
- SK-509C, 1B SGFP SPEED CONT, is in MAN.
- PK-464, STM HDR PRESS, is in AUTO.
- STM DUMP MODE SEL A-B TRN is in the STM PRESS position.

Subsequently, the following occurs:

- PT-464, STM HDR PRESS, fails to 0 PSIG.

~~Which one of the following completes the statement below without operator action?~~

SG water levels will **initially** (1) .

After the initial response SG water levels will (2) .

A. (1) lower

(2) rise above pre-event levels

B. (1) lower

(2) return to pre-event levels and stabilize

C. (1) rise

(2) lower below pre-event levels

D. (1) rise

(2) return to pre-event levels and stabilize

Which one of the following completes the statements below without operator action?

40. The following conditions exist on Unit 1:

- FRP-H.1, Response to Loss of Secondary Heat Sink is in progress.
- All RCS Hot Leg Temperatures are **560°F and rising**.
- Bleed and Feed is in progress.

Subsequently, the following occurs:

- The crew is ready to restore feed flow.
- All **Wide Range** SG water levels are 10%.

Which one of the following completes the statements below per FRP-H.1?

The SGs should be fed _(1)_.

There _(2)_ a **procedural limit** on the feed flow rate.

A. (1) one SG at a time

(2) is NOT

B. (1) one SG at a time

(2) IS

C. (1) simultaneously

(2) is NOT

D. (1) simultaneously

(2) IS

41. Given the following plant conditions:

At 1000:

- Unit 1 was operating at 100% Power
- A Reactor trip and Safety Injection occurred.
- The 1-2A DG will not start.

At 1005:

- A complete Loss of Offsite Power occurs on both Units.

Which one of the following describes the Unit 1 AFW pump configuration **at 1010 assuming no operator action**?

A. 1B MDAFW Pump and TDAFW Pump **only**.

B. No AFW Pumps are running.

C. 1B MDAFW Pump **only**.

D. TDAFWP **only**.

42. Unit 2 is at 100% power with the following condition:

- LB18, 2B BATTERY SUPPLY BREAKER, is open and Tagged Out for Battery cell replacement.

Subsequently, the following occurs:

- An LOSP occurs.

Which one of the following completes the statements below?

The _(1)_ Diesel Generator can be used supply power to Unit 2 'B' Train ESF busses per AOP-5.0, Loss of Electrical Train A or B.

The Diesel Generator above _(2)_ have an air start solenoid which is powered through a power seeking Automatic Transfer Switch (ATS).

A. (1) 2C

(2) DOES

B. (1) 2C

(2) does NOT

C. (1) 2B

(2) DOES

D. (1) 2B

(2) does NOT

43. The following condition exists on Unit 1:

- The Unit is at 100% power.

Subsequently, the following occurs:

- R-15A, SJAE EXH, indication rises and stabilizes above the HI alarm setpoint.

Which one of the following completes the statements below?

The crew is required to direct Chemistry to sample the _(1)_ per the applicable alarm response procedure.

If SJAE Filtration is placed on service, the R-15A indication will _(2)_.

A. (1) Condenser Hotwells

(2) lower

B. (1) Condenser Hotwells

(2) remain the same

C. (1) Steam Generators

(2) lower

D. (1) Steam Generators

(2) remain the same

44. Unit 1 is in MODE 6 with the following condition:

- Core Offload is in progress.

Subsequently, the following occurs:

- FH1, RMS HI-RAD, is in alarm.
- R-1A, CONTROL ROOM, has failed high.

Which one of the following completes the statements below per FH1?

R-1A _(1)_ a component required by Technical Specifications.

Automatic actions _(2)_ occur due to the conditions above.

A. (1) IS

(2) DO

B. (1) IS

(2) do NOT

C. (1) is NOT

(2) DO

D. (1) is NOT

(2) do NOT

45. The following conditions exist on Unit 1:

- An LOSP occurred.
- ESP-0.1, Reactor Trip Response, has just been entered.
- Pressurizer level is 12% and slowly lowering.
- SG Narrow Range Levels are 40% and slowly rising.
- AFW Total Flow is 600 GPM.
- RCS Temperature is 534°F and slowly lowering.
- RCS Pressure is 2050 psig and slowly lowering.

Which one of the following actions will be performed **first per ESP-0.1**?

A. Reduce AFW flow.

B. Restore Pressurizer level.

C. Close all MSIVs and MSIV Bypass Valves.

D. Manually initiate SI and return to EEP-0.0, Reactor Trip or Safety Injection.

46. Unit 1 is operating at 100% Power when the following conditions are observed:

Time	1000	1005	1010	1015	1020
1A S/G NR LVL (%)	65.00	40.00	30.00	29.00	29.00
1B S/G NR LVL (%)	65.00	42.00	30.00	30.00	26.00
1C S/G NR LVL (%)	65.00	41.00	33.00	33.00	26.00
1A SGFP STATUS	Running	Tripped	Tripped	Tripped	Tripped
1B SGFP STATUS	Running	Running	Running	Tripped	Tripped

Which one of the following is the earliest time when all **MDAFWPs** have received an AUTO START signal?

A. 1005

B. 1010

C. 1015

D. 1020

47. Unit 1 is at 100% Power with the following conditions:

- FNP-0-STP-80.1, Diesel Generator 1-2A Operability Test, is in progress.
- The crew is at the step to Synchronize the 1-2A Diesel.

Which one of the following completes the statement below?

Prior to shutting the 1-2A DG output breaker the operator must verify that:

Generator VOLTAGE is _(1)_ running VOLTAGE.

The Synchroscope speed is SLOW in the _(2)_ DIRECTION.

A. (1) greater than

(2) FAST

B. (1) greater than

(2) SLOW

C. (1) equal to

(2) FAST

D. (1) equal to

(2) SLOW

48. The following condition exists on Unit 1:

- The 1B MDAFW Pump is running for surveillance testing.

Subsequently, the following occurs:

- The 1B 125V DC Bus is de-energized.

Which one of the following completes the statements below?

The 1B MDAFW Pump _(1)_ stop if operators place its MCB Handswitch in the STOP position.

The 1B MDAFW Pump supply breaker _(2)_ automatically load shed if an LOSP occurs.

A. (1) WILL

(2) WILL

B. (1) WILL

(2) will NOT

C. (1) will NOT

(2) WILL

D. (1) will NOT

(2) will NOT

49. Which one of the following provides power to the 1-2A DG **Auto** Fuel Oil Transfer Pump?

A. 208V MCC 1N

B. 208V MCC 1P

C. 208V MCC 1S

D. 208V MCC 1T

50. Unit 1 is operating at 100% power with the following conditions:

- The 'A' Air Receiver for the 1C DG is at atmospheric pressure and cannot be pressurized.
- The 'B' Air Receiver for the 1C DG is pressurized to 250 PSIG.

Which one of the following completes the statements below?

LOCATION 24, **NO. 2 AIR RESERVOIR PRESS. LOW**, _(1)_ in alarm on the 1C DG Local Control Panel.

The 1C DG _(2)_ automatically start if required.

A. (1) IS

(2) WILL

B. (1) is NOT

(2) WILL

C. (1) IS

(2) will NOT

D. (1) is NOT

(2) will NOT

51. A firewatch is assigned to welding inside Containment.

Which one of the following completes the statements below per NMP-ES-035-003, Fleet Hot Work Instruction?

The firewatch _(1)_ allowed to take a dry chemical fire extinguisher into Containment.

When welding is complete the firewatch _(2)_.

A. (1) IS

(2) may be immediately secured

B. (1) IS

(2) must continue for 30 minutes

C. (1) is NOT

(2) may be immediately secured

D. (1) is NOT

(2) must continue for 30 minutes

52. The following condition exists on Unit 1:

- A **gas transfer** to the #8 Waste Gas Decay Tank is in progress per SOP-51.0, Waste Gas System.

Subsequently, the following occurs:

- The #8 Waste Gas Decay Tank relief valve lifts.
- The relief valve fails to reseat.
- FH1, RMS HI-RAD, alarms.

Which one of the following completes the statements below?

_(1)_ detected the relief valve discharge.

Operators _(2)_ required to verify that the Automated Rapid Dose Assessment System (ARDA) starts per FH1.

A. (1) R-13, Waste Gas Monitor

(2) ARE

B. (1) R-13, Waste Gas Monitor

(2) are NOT

C. (1) R-29B, Plant Vent Monitor

(2) ARE

D. (1) R-29B, Plant Vent Monitor

(2) are NOT

53. The following conditions exist on Unit 1:

- Unit 1 is in MODE 5.
- Spent Fuel movement in the SFP area is in progress.

Subsequently, the following occurs:

- R-25A and B indicate HIGH ALARM.
- FH5, SFP AREA R25 A OR B HI RAD, is in alarm.

Which one of the following completes the statements below?

The Penetration Room Filtration Units _(1)_ automatically **start**.

HV-3416, SFP AHU DAMPER, _(2)_ automatically **close**.

A. (1) WILL

(2) WILL

B. (1) WILL

(2) will NOT

C. (1) will NOT

(2) WILL

D. (1) will NOT

(2) will NOT

54. The following conditions exist on Unit 1:

- Control Room Operators are preparing to conduct a Waste Monitor Tank 1 Release to the Environment.
- R-18, LIQUID WASTE DISCHARGE RADIATION MONITOR, pre-release testing is in progress per SOP-50.1, Liquid Waste Processing System Liquid Waste Release from Waste Monitor Tank.
- A new R-18 check source was installed 2 months ago.

Which one of the following completes the statements below?

When the R-18 OPERATION SELECTOR handswitch is placed in the CHECK SOURCE position, the R-18 meter indication _(1)_ RISE.

Prior to the release, operators are required to test RCV-18, Liquid Waste Discharge Valve, by _(2)_.

A. (1) DOES

(2) directing Radiation Protection to insert an R-18 alarm with a portable source

B. (1) DOES

(2) adjusting the R-18 alarm setpoint until a high radiation alarm actuates

C. (1) does NOT

(2) directing Radiation Protection to insert an R-18 alarm with a portable source

D. (1) does NOT

(2) adjusting the R-18 alarm setpoint until a high radiation alarm actuates

55. The following conditions exist on Unit 1:

- The Unit is at 100% power.
- A SG Tube Leak exists in the 1A SG.
- R-23B, SGBD SRG TK DISCH, has failed to a mid-range value such that a radiation level alarm cannot occur.

Which one of the following completes the statements below if a SG Tube Rupture occurs?

FCV-1152, SGBD HX OUTLET AUTO TRIP, _(1)_ able to automatically stop a release to the environment due to the SG Tube Rupture.

RCV-23B, SG BLDN DISCH TO DILUTION, _(2)_ able to automatically stop a release to the environment due to the SG Tube Rupture.

A. (1) IS

(2) IS

B. (1) IS

(2) is NOT

C. (1) is NOT

(2) IS

D. (1) is NOT

(2) is NOT

56. The following conditions exist on Unit 1:

- The Unit is at 100% Power.
- The 1A Air Compressor is running.
- The 1A Condensate Pump is running.

Subsequently, the following occurs:

- A Safety Injection actuation occurs.

Which one of the following completes the statements below?

Operator action _(1)_ required to prevent an excessive temperature rise in the 1A Air Compressor due to loss of cooling water flow.

Operator action _(2)_ required to prevent an excessive temperature rise in the 1A Condensate Pump Motor Oil Cooler due to loss of cooling water flow.

A. (1) IS

(2) IS

B. (1) IS

(2) is NOT

C. (1) is NOT

(2) IS

D. (1) is NOT

(2) is NOT

57. The following conditions exist on Unit 1:

At 1000:

- The Unit is at 100% Power.
- FG5, GFFD SYS TRBL, is in alarm.
- R-50, GFFD, indicates $1.5x10^5$ CPM above normal.

At 1100:

- RCS Samples have determined that RCS activity is due to failed fuel.

Which one of the following completes the statements below per AOP-32.0, High Reactor Coolant Activity?

At 1000, the crew _(1)_ required to reduce reactor power.

At 1100, the crew _(2)_ required to reduce RCS activity by placing the standby mixed bed demineralizer on service.

A. (1) IS

(2) IS

B. (1) IS

(2) is NOT

C. (1) is NOT

(2) IS

D. (1) is NOT

(2) is NOT

58. The following condition exists on Unit 1:

- Containment Cooling Fans are in operation per SOP-12.1, Containment Air Cooling System.

Subsequently, the following occurs:

- R-20A, SW RTN - CTMT CLR, is in HI ALARM.

Which one of the following completes the statements below?

MOV-3441A, SW FROM 1A CTMT CLR, _(1)_ automatically close.

R-20A monitors SW discharge from the _(2)_ Containment Cooler(s).

A. (1) DID

(2) 1A **and** 1B

B. (1) DID

(2) 1A **only**

C. (1) did NOT

(2) 1A **and** 1B

D. (1) did NOT

(2) 1A **only**

59. Which one of the following is the minimum value that completes the statement below?

The Instrument Air System is designed to automatically bypass the Instrument Air Dryers when Instrument Air header pressure is less than or equal to ____.

A. 70 psig

B. 75 psig

C. 80 psig

D. 90 psig

60. The following occurs on Unit 1:

- A large fire occurs in the Service Water Intake Structure.

Which one of the following completes the statements below?

MH4, Fire _(1)_ alarm.

The Siemens Firefinder XLS Network Command Center in the Main Control Room _(2)_ alarm.

A. (1) WILL

(2) WILL

B. (1) WILL

(2) will NOT

C. (1) will NOT

(2) WILL

D. (1) will NOT

(2) will NOT

61. Unit 1 is at 100% power when the following is observed:

At 1000: the following conditions are observed:

- Containment Pressure is (-)0.5 PSIG.
- Containment Average Air Temperature is (+)101°F

At 2200: the following conditions are observed:

- Containment Pressure is (+)1.5 PSIG.
- Containment Average Air Temperature is (+)110°F

Which one of the following completes the statement below **assuming the given trends will continue**?

If no operator actions are taken, _(1)_ would be the first parameter to require entry into a REQUIRED ACTION statement.

At 2200 operators are required to _(2)_ to address the parameter chosen above.

A. (1) Containment Pressure

(2) start Containment Mini-purge

B. (1) Containment Pressure

(2) vent Containment

C. (1) Containment Temperature

(2) Start Containment Dome Recirc Fan on Fast Speed

D. (1) Containment Temperature

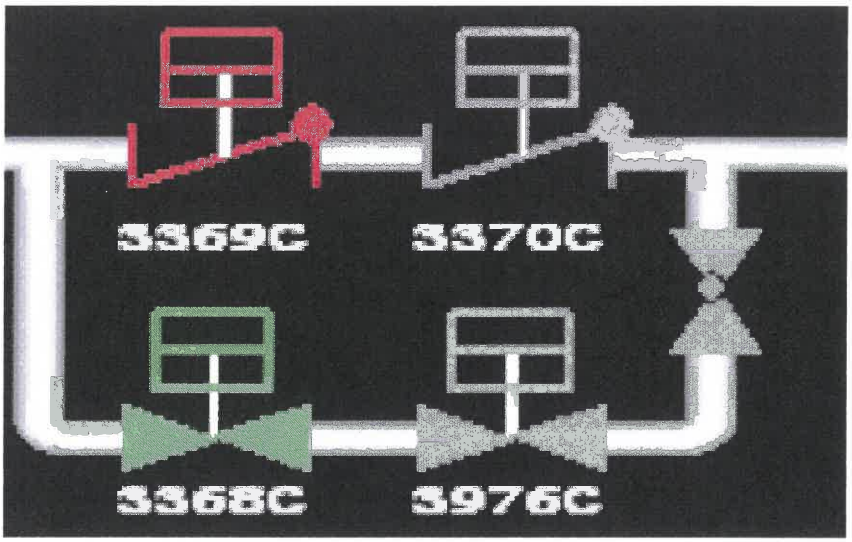
(2) Open the Containment Cooler Emergency SW valves

DELETE

Question 61 deleted from exam due to post-exam contention.

Michael Meeks 08/06/2019

62. Which one of the following describes the indication for HV-3370C per FNP-0-SOP-0.15, Integrated Plant Computer?



REFERENCE PROVIDED

A. The valve is open.

B. The valve is closed.

C. The IPC does not receive valve position indication data for this valve.

D. The IPC receives valve position data for this valve, however, there is currently insufficient data to determine the valve's position.

63. Given the following plant conditions:

- Refueling operations are in progress.
- The Manipulator Crane operator is loading a fuel assembly into the core.

Which one of the following conditions would require fuel loading operations to be stopped immediately per FHP-1.0, Refueling Operations?

A. Communications is lost between the Manipulator Crane Operator and the Control Room refueling station.

B. Communications is lost between the Manipulator Crane Operator and the SFP Crane Operator.

C. The Containment upender operator is needed to assist in the observation of assemblies in the core and must leave his station.

D. Chemistry reports that the refueling cavity boron concentration is 2100 ppm.

64. The following conditions exist on Unit 1:

- A Reactor Startup in accordance with UOP-1.2, Startup of Unit From Hot Standby to Minimum Load, is in progress.
- The operating crew is withdrawing control rods to establish reactor criticality.

Which one of the following completes the statements below per UOP-1.2?

If the Reactor becomes critical with control rods below the rod insertion limit for zero power, an emergency boration _(1)_ required per AOP-27.0, Emergency Boration.

The crew is not allowed to exceed a **sustained** startup rate of _(2)_.

A. (1) is NOT

(2) 1/2 DPM

B. (1) IS

(2) 1/2 DPM

C. (1) is NOT

(2) 1 DPM

D. (1) IS

(2) 1 DPM

65. Both Units are at 100% power with the following conditions in the High Voltage Switch Yard:

- The #1 Auto Bank Transformer is out of service.
- The Snowdoun 500 KV line is out of service.
- The Pinckard 230 KV line is out of service.
- The Webb 230 KV line is out of service.

Which one of the following completes the statements below per TS 3.8.1, AC Sources - Operating?

A REQUIRED ACTION statement entry _(1)_ required for **Unit 1**.

A REQUIRED ACTION statement entry _(2)_ required for **Unit 2**.

REFERENCE PROVIDED

A. (1) IS

(2) IS

B. (1) IS

(2) is NOT

C. (1) is NOT

(2) IS

D. (1) is NOT

(2) is NOT

66. The following condition exists on Unit 1:

- Unit 1 is in MODE 3.

Which one of the following completes the statements below per SL 2.1.2, RCS Pressure Safety Limits?

The maximum allowable RCS pressure is _(1)_.

The maximum time allowed to restore compliance after violating the RCS Pressure Safety Limit is _(2)_.

A. (1) 2735 psig

(2) 5 minutes

B. (1) 2735 psig

(2) 1 hour

C. (1) 2485 psig

(2) 5 minutes

D. (1) 2485 psig

(2) 1 hour

67. The following conditions exist on Unit 1:

- A refueling outage is in progress.
- Two Plant Operators are required to enter a room that is posted as a **Locked High Radiation Area (LHRA)** to perform non-emergency outage work.

Which one of the following completes the statements below?

The minimum radiation level that requires a LHRA posting is _(1)_ per NMP-HP-302, Restricted Area Classification, Postings, and Access Control.

The LHRA key _(2)_ be transferred to one of the Plant Operators per NMP-HP-302-001, Radiological Key Control.

A. (1) 100 mrem/hr

(2) CANNOT

B. (1) 100 mrem/hr

(2) CAN

C. (1) 1000 mrem/hr

(2) CANNOT

D. (1) 1000 mrem/hr

(2) CAN

68. Which one of the following completes the statements below regarding routine access to the Dry Cask Storage Radiation Controlled Area (RCA)?

An operator entering the RCA _(1)_ required to utilize the main RCA Radiation Protection Access Control System (RPACS) terminal to log in and out of the Dry Cask Storage Area RCA per FNP-0-AP-42.0, Radiological Protection Access Control.

An operator exiting the RCA _(2)_ required to be scanned via the main RCA exit whole body monitor after exiting the Dry Cask Storage Area RCA per NMP-HP-302, Restricted Area Classification, Postings, and Access Control.

A. (1) IS

(2) IS

B. (1) IS

(2) is NOT

C. (1) is NOT

(2) IS

D. (1) is NOT

(2) is NOT

69. Which one of the following completes the statement below per FNP-0-M-1.0, Health Physics Manual?

A pregnant employee who is a fully documented radiation worker and **does not** declare the pregnancy has an annual **FNP Administrative** TEDE limit of ____.

A. 450 mrem

B. 500 mrem

C. 2000 mrem

D. 4000 mrem

70. An ALERT has been declared on Unit 1.

Which one of the following personnel can grant permission to enter the AT THE CONTROLS AREA (red carpet area) per NMP-AD-021, Control Room Access and Decorum?

A. Shift Manager **only**.

B. Shift Supervisor **only**.

C. Unit Operator or Operator At The Controls **only**.

D. Shift Supervisor **and** Unit Operator or Operator at the Controls.

71. Unit 1 is in MODE 6 with the following conditions:

- 1B RHR pump is Tagged Out.
- SG WR levels are 77%.
- 1A SG Hot Leg and Cold Leg nozzle dams are installed.
- All SG primary manways are removed.
- 1A RHR pump is running in the cooldown lineup.

Subsequently the following occurs:

- The 1A RHR pump trips and cannot be restarted.
- RCS temperature is 205°F and rising.
- RCS level is 121'.

Which one of the following is the required method of establishing core cooling per AOP-12.0, Residual Heat Removal System Malfunction?

A. Feed and Bleed using both PZR PORV's and normal charging to maintain core cooling.

B. Feed and Spill by locally controlling the injection flow rate to maintain core cooling.

C. Opening the atmospheric relief valves to prevent SG pressurization and to remove heat generated.

D. Establish SGBD from available SGs and maintain SG wide range level using AFW.

72. Which one of the following completes the statements below for a LOCA Outside Containment?

The _(1)_ are (is) the first potential source of the LOCA checked per ECP-1.2, LOCA Outside Containment.

Isolation valves associated with the system above _(2)_ have isolated the LOCA automatically.

A. (1) RHR loop suctions

(2) SHOULD

B. (1) RHR loop suctions

(2) should NOT

C. (1) RCP Seal water return

(2) SHOULD

D. (1) RCP Seal water return

(2) should NOT

73. Given the following plant conditions:

- A Unit 1 Reactor Trip with an SI has occurred.
- EEP-0, Reactor Trip or Safety Injection, has just been exited.
- The maximum available AFW flow is 450 GPM.

Subsequently, the following is observed:

- Operators lower AFW flow rate to 200 GPM.
- SG narrow range levels are:
  - 1A SG: Offscale low
  - 1B SG: 28%
  - 1C SC: 29%

Which one of the following completes the statements below?

A RED path _(1)_ exist on HEAT SINK per CSF-0.3, HEAT SINK.

The actions of FRP-H.1, Response to Loss of Secondary Heat Sink, _(2)_ required to be performed.

A. (1) does NOT

   (2) are NOT

B. (1) DOES

   (2) are NOT

C. (1) does NOT

   (2) ARE

D. (1) DOES

   (2) ARE

74. Unit 2 is at 100% power when the following occurs:

- A Loss of Off-Site Power occurs.

AT 1000:

- Offsite Power is restored.
- The crew enters ESP-0.3, Natural Circulation Cooldown with Allowance for Reactor Vessel Head Steam Voiding (With RVLIS).

AT 1010:

- Subcooling Margin is 24°F and slowly lowering.
- Pressurizer level is 14% and slowly lowering.

Which one of the following completes the statements below per ESP-0.3?

At 1000, the **first** Major Action is to _(1)_.

At 1010, a manual Safety Injection _(2)_ required.

A. (1) establish RCP support conditions to attempt to start a RCP

(2) is NOT

B. (1) initiate an RCS cooldown

(2) is NOT

C. (1) establish RCP support conditions to attempt to start a RCP

(2) IS

D. (1) initiate an RCS cooldown

(2) IS

75. Given the following plant conditions:

- Unit 1 has experienced a Large Break LOCA.

Subsequently, ECP-1.1, Loss of Emergency Coolant Recirculation, has been entered and the following indications are observed:

- Only **one** Containment Cooler is running.
- RWST level is 8.0 ft and slowly lowering.
- Containment pressure is 28 PSIG and slowly lowering.
- The operating crew is at the step to evaluate Containment Spray requirements.

Which one of the following completes the statement below per ECP-1.1?

__(1)__ Containment Spray pump(s) are required to be running.

Containment Spray __(2)__ be aligned for recirculation mode, **assuming the appropriate conditions are met**.

REFERENCE PROVIDED

A. (1) TWO

(2) CAN

B. (1) TWO

(2) CANNOT

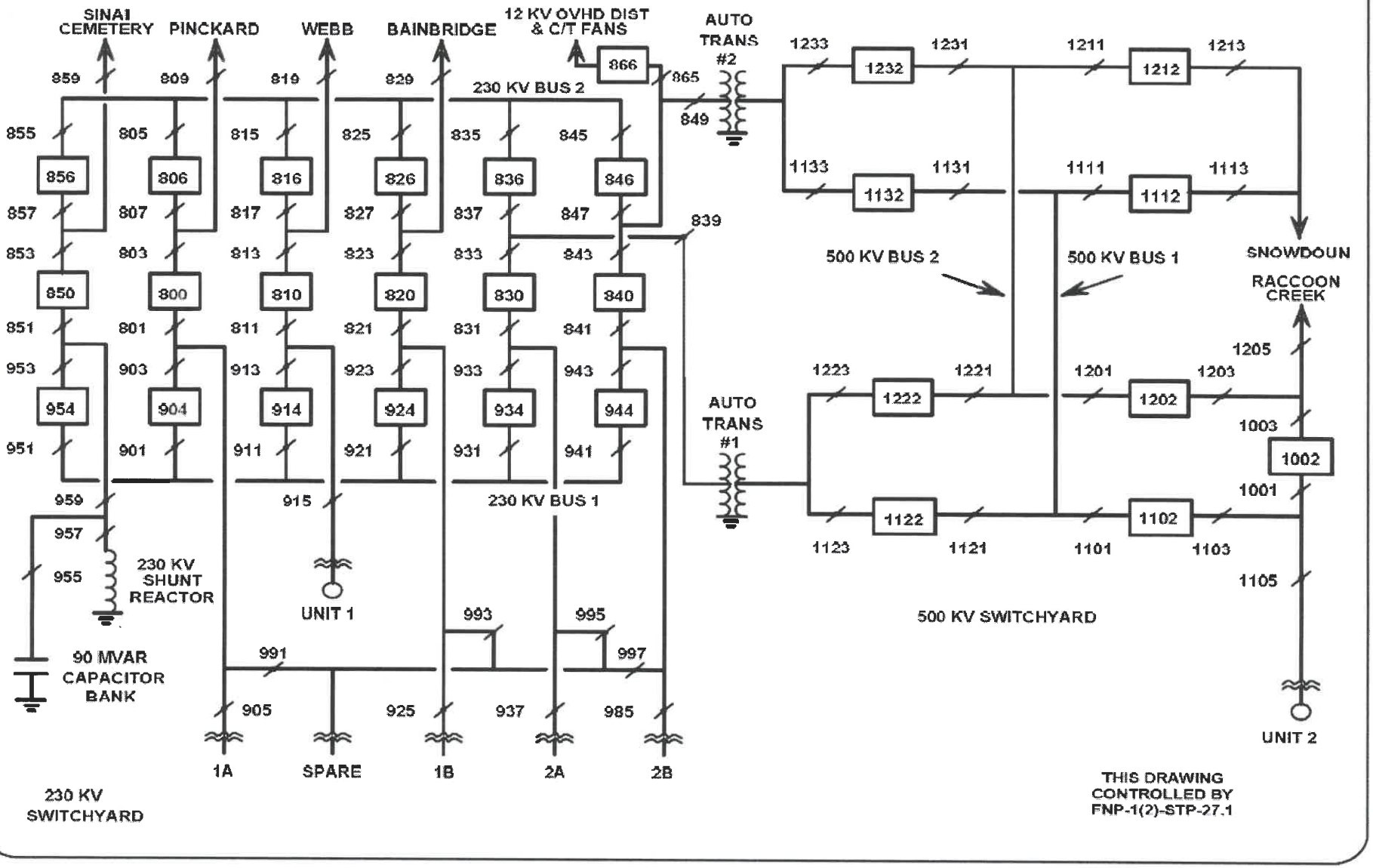
C. (1) **only** ONE

(2) CAN

D. (1) **only** ONE

(2) CANNOT

SWITCHYARD BKR LAYOUT



Step	Action/Expected Response	Response NOT Obtained
___10	**Evaluate containment spray requirements.**	
	10.1 Check containment spray pumps - ALIGNED TO RWST. RWST TO 1A(1B) CS PUMP [] Q1E13MOV8817A open [] Q1E13MOV8817B open	10.1 IF containment spray pumps aligned to the the containment sump, THEN proceed to Step 12.
	10.2 Determine number of containment spray pumps required based on the Table below.	

RWST LEVEL	CONTAINMENT PRESSURE	FAN COOLERS RUNNING IN EMERGENCY MODE	SPRAY PUMPS REQUIRED
GREATER THAN 12.5 FT	GREATER THAN 54 PSIG	--	2
	BETWEEN 27 PSIG AND 54 PSIG	0, 1	2
		2, 3	1
		4	0
	LESS THAN 27 PSIG	--	0
BETWEEN 4.5 FT and 12.5 FT	GREATER THAN 54 PSIG	--	2
	BETWEEN 27 PSIG and 54 PSIG	1, 2	1
		3, 4	0
	LESS THAN 27 PSIG	--	0
LESS THAN 4.5 FT	--	--	0

	10.3 Establish required number of running containment spray pumps.	

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#	ID	Answers 0
1	001K2.01 1	D
2	003K3.02 2	A
3	003K4.03 3	C
4	004A4.13 4	C
5	004K1.15 5	D
6	005A2.04 6	B
7	005AA1.01 7	B
8	006A4.10 8	D
9	006K6.01 9	A
10	007A3.01 10	A
11	007EK3.01 11	B
12	008AG2.4.47 12	C
13	008K1.02 13	B
14	009EK1.02 14	D
15	010A2.01 15	B
16	011EA1.17 16	C
17	011K6.05 17	A
18	012K5.02 18	A
19	013G2.1.19 19	A
20	015AA1.21 20	B
21	015K3.06 21	A
22	017A1.01 22	C
23	022A3.01 23	B
24	022AK3.05 24	A
25	022G2.4.8 25	B
26	025AA2.01 26	C
27	026AA2.02 27	D
28	026K2.02 28	A
29	027AK1.02 29	D
30	028AK3.03 30	D
31	028K5.04 31	A
32	029A4.04 32	D
33	029EK2.06 33	B
34	032AG2.4.50 34	A
35	033AK1.01 35	B
36	038EA2.13 36	A
37	039K3.06 37	C
38	040AK2.02 38	B
39	041K1.02 39	A
40	054AK1.02 40	A
41	056AA1.10 41	A
42	058AK3.01 42	A
43	060AA1.01 43	D
44	061AK3.02 44	D
45	061K5.01 45	A
46	061K6.02 46	C
47	062A4.07 47	C

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#	ID	Answers 0
48	063K4.04 48	D
49	064K2.02 49	C
50	064K6.07 50	B
51	067AA2.15 51	D
52	071A2.09 52	C
53	072A3.01 53	A
54	073A1.01 54	B
55	073K3.01 55	B
56	076A1.02 56	C
57	076AG2.1.23 57	B
58	076K1.09 58	C
59	078A3.01 59	A
60	086K4.03 60	A
~~61~~	~~103A1.01 61~~	~~B~~
62	G2.1.19 62	C
63	G2.1.40 63	A
64	G2.2.1 64	D
65	G2.2.36 65	D
66	G2.2.38 66	A
67	G2.3.12 67	C
68	G2.3.13 68	A
69	G2.3.4 69	C
70	G2.4.37 70	C
71	G2.4.9 71	B
72	WE04EG2.1.28 72	B
73	WE05EG2.4.1 73	B
74	WE10EK2.1 74	A
75	WE11EK2.2 75	C
SECTION 1 (75 items)		**75.00**
76	001A2.17 76	D
77	005G2.1.32 77	C
78	007EG2.4.18 78	A
79	008G2.4.50 79	B
80	009EG2.4.21 80	C
81	011EG2.4.41 81	A
82	026A2.03 82	B
83	026AA2.03 83	A
84	056AA2.14 84	D
85	062A2.09 85	C
86	062AA2.05 86	A
87	064A2.21 87	B
88	072A2.03 88	D
89	074EA2.07 89	A
90	076AG2.2.38 90	B
91	086G2.4.31 91	C

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#	ID	Answers 0
92	G2.1.13 92	D
93	G2.1.36 93	B
94	G2.2.13 94	D
95	G2.2.18 95	C
96	G2.3.14 96	B
97	G2.4.4 97	C
98	G2.4.50 98	C
99	WE03EA2.1 99	D
100	WE08EG2.4.18 100	A
SECTION BREAK (25 items)		**25.00**

KEY