2016 NRC SRO Written Exam

1. Given the following plant conditions:
   - Offsite Power has been lost
   - The crew is performing EOP-ES-0.1, Reactor Trip Response

   In accordance with EOP-ES-0.1 which ONE of the following identifies (1) the temperature indications required to be used per Table 1, RCS Temperature Control Guidelines to control and stabilize temperature AND (2) the reason why?

   A. (1) T_{avg}

      (2) To ensure adequate RCS heat removal is occurring.

   B. (1) T_{avg}

      (2) To ensure SG Safety Relief valves do not lift.

   C. (1) T_{cold}

      (2) To ensure adequate RCS heat removal is occurring.

   D. (1) T_{cold}

      (2) To ensure SG Safety Relief valves do not lift.

2. Given the following plant conditions:
   - A Reactor Trip and Safety Injection have occurred
   - Containment pressure is 2.5 psig and rising
   - RCS pressure is 900 psig and lowering
   - T_{avg} is 550°F and lowering slowly
   - PRZ level is 85% and rising

   Which ONE of the following identifies the cause of this event?

   A. Small break on an RCS hot leg

   B. Large break on an RCS cold leg

   C. A stuck open PRZ PORV

   D. A stuck open PRZ Spray Valve

3. Given the following plant conditions:
   - The crew is implementing EOP-ES-1.2, Post LOCA Cooldown And Depressurization

   Subquently the following plant conditions exist:
   - Containment pressure is 3.4 psig and lowering
   - PRZ level is 35% and lowering slowly
   - RCS pressure is 1325 psig and stable
   - RCS Loop T_{HOT} is 555°F in all 3 loops and lowering
   - Highest CET indicates 568°F and lowering slowly

   Which ONE of the following completes the statements below?

   For the current plant conditions, SI Re-Initiation is ___(1)___ , AND RCS cooldown will be maintained by the ___(2)___ .

   A. (1) required

      (2) SG PORVs

   B. (1) required

      (2) condenser steam dumps

   C. (1) NOT required

      (2) SG PORVs

   D. (1) NOT required

      (2) condenser steam dumps

4. Given the following plant conditions:
   - ALB-001-4-1, Containment Spray Actuation has alarmed
   - 1A-SA Containment Spray pump has tripped on over current
   - 1B-SB Containment Spray pump is operating

   35 minutes later the following alarm annunciates:
   - ALB-004-2-4, Refueling Water Storage Tank 2/4 Low Low Level

   Which ONE of the following completes the statement below?

   Based on the conditions above, ___(1)___ Containment Sump Recirculation valve(s) automatically open(s) due to a ___(2)___ event occurring.

   A. (1) ONLY the 1B CT pump

      (2) Main Steamline Break

   B. (1) ONLY the 1B CT pump

      (2) Large Break LOCA

   C. (1) BOTH 1A and 1B CT pumps

      (2) Main Steamline Break

   D. (1) BOTH 1A and 1B CT pumps

      (2) Large Break LOCA

5. Given the following plant conditions:
   - The plant is operating at 55% power when 'A' CSIP trips
   - The crew is implementing AOP-018, Reactor Coolant Pump Abnormal Conditions

   Which ONE of the following completes the statements below?

   In accordance with AOP-018, __(1)__ are required to be shut AND the reason for these actions are to __(2)__ .

   Valve Noun Name:
   1CS-1, Letdown Isolation LCV-460
   1CS-2, Letdown Isolation LCV-459
   1CS-7, 45 GPM Letdown Orifice A
   1CS-8, 60 GPM Letdown Orifice B
   1CS-9, 60 GPM Letdown Orifice C

   A. (1) 1CS-1 AND 1CS-2

      (2) minimize the potential for flashing in the Regenerative HX

   B. (1) 1CS-1 AND 1CS-2

      (2) prevent lifting of the low pressure Letdown relief valve

   C. (1) 1CS-7, 1CS-8 AND 1CS-9

      (2) minimize the potential for flashing in the Regenerative HX

   D. (1) 1CS-7, 1CS-8 AND 1CS-9

      (2) prevent lifting of the low pressure Letdown relief valve

6. Given the following plant conditions:
   - Large-break LOCA occurred
   - RWST level 18%
   - CNMT Wide Range Sump level 138.2 inches

   Which ONE of the following describes the significance of the indicated CNMT wide range sump level as operators take action to transfer to cold leg recirculation?

   A. Sump Boron may be inadequate to maintain the Reactor shutdown.

   B. RHR pump NPSH may be inadequate to maintain recirculation.

   C. Sump pH may be higher than required for post accident limits.

   D. Safety related equipment in the Containment may be flooded.

7. Given the following plant conditions:
   - The plant is operating at 100% power

   Subsequently PK-444A, PRZ Pressure Master Controller malfunctions
   - The crew enters AOP-019, Malfunction of RCS Pressure Control
   - PK-444A, PRZ Pressure Master Controller, is placed in MANUAL
   - PRZ Pressure is 2050 psig and stable

   Which ONE of the following describes the action required to return pressure to 2235 psig using PK-444A?

   A. Lower the output

   B. Lower the setpoint

   C. Raise the output

   D. Raise the setpoint

8. Given the following plant conditions:
   - The Reactor was operating at 100% power when an ATWS occurred
   - All Turbine throttle valves are NOT shut

   Which ONE of the following is the preferred method to trip the Main Turbine in accordance with EOP-FR-S.1, Response to Abnormal Nuclear Power Generation?

   A. Trip the Turbine from the MCB.

   B. Shut all MSIVs and bypass valves.

   C. Trip the Turbine locally at the front standard.

   D. Manually runback the Turbine using fast action.

9. Which ONE of the following identifies the REASON why it is desirable to terminate SI flow in EOP-E-3, Steam Generator Tube Rupture, after a rapid cooldown and depressurization of the RCS has been completed?

(SI Termination Critieria is satisfied)

A. To prevent SG overfill.

B. To prevent RWST depletion.

C. To prevent cycling the PRZ PORVs.

D. To prevent an excessive RCS cooldown.

10. Given the following plant conditions:
    - EOP-FR-H.1, Response to a Loss of Secondary Heat Sink, is being implemented
    - RCS bleed and feed has been initiated

    Subsequently the following conditions exists:
    - All SGs are completely dry and depressurized
    - Auxiliary Feedwater capability is restored

    Which ONE of the following describes the STRATEGY used to re-establish Feedwater AND why?

    A. Feed ONLY one (1) SG to ensure RCS cooldown rates are established within Technical Specification limits.

    B. Feed ONLY one (1) SG to ensure a failure due to excessive thermal stresses is limited to one SG.

    C. Feed ALL SGs to establish subcooled conditions in the RCS as soon as possible.

    D. Feed ALL SGs to allow termination of RCS bleed and feed as soon as possible.

11. Given the following plant conditions:
    - The crew has just finished the immediate actions of EOP-ECA-0.0, Loss Of All AC Power
    - Narrow Range S/G levels are ALL 20%
    - Total FW Flow to the S/G's is 350 KPPH

    Which ONE of the following completes the statements below?

    CSFST's ___(1)___ being monitored for "INFORMATION ONLY".

    AND

    A RED path ___(2)___ exist on CSF-3, HEAT SINK.

    A. (1) are

       (2) does

    B. (1) are

       (2) does NOT

    C. (1) are NOT

       (2) does

    D. (1) are NOT

       (2) does NOT

12. Given the following plant conditions:
    - A Reactor Trip occurred due to a Loss of Offsite Power
    - The crew is performing actions of EOP-ES-0.1, Reactor Trip Response

    Which ONE of the following identifies the status of (1) 1AH-15A SA, Control Room Cooling Unit Normal Supply Fan AND (2) the selected AH-2 A-SA, Containment Fan Cooler?

    A. (1) Running

       (2) LO-SPD

    B. (1) Running

       (2) HI-SPD

    C. (1) NOT Running

       (2) LO-SPD

    D. (1) NOT Running

       (2) HI-SPD

13. Given the following plant conditions:
    - The plant is operating at 100% power
    - Instrument Bus SI has de-energized
    - The crew is implementing AOP-024, Loss Of Uninterruptible Power Supply

    Which ONE of the following completes the statements below?

    Placing the ROD STOP BYPASS switch on the Miscellaneous Control and Indication Panel to the "Bypass PR 41" position will bypass the ___(1)___ overpower rod stop signal from N-41.

    This action will change the coincidence for the overpower rod stop to ___(2)___ remaining channels.

	(1)	(2)
A.	103%	1 of 3
B.	103%	2 of 3
C.	108%	1 of 3
D.	108%	2 of 3

14. With the DSDG is under clearance the following sequence of events occur:
    1455 a Loss of the DP-1A-SA occurs
    1500 a Loss of All AC Power occurs
    1700 power is restored to buses 1A-SA and 1B-SB
    1725 repairs to DP-1A-SA are complete
    1730 Battery chargers 1A-SA and 1B-SB are restored and are charging their respective batteries

    Which ONE of the following completes the statement below?

    The battery chargers will be _____ .

    A. unable to carry steady state normal or emergency loads until its associated battery has been fully charged

    B. unable to carry steady state normal or emergency loads until its associated battery is charged for at least 2 hours

    C. immediately able to carry steady state normal or emergency loads while its associated battery is being charged

    D. immediately able to carry emergency loads but unable to carry steady state normal loads until its associated battery has been fully charged

15. Given the following plant conditions:
    - Reactor Trip and Safety Injection have occurred from 100% power
    - PRZ level is off scale low
    - The crew is implementing EOP-ECA-1.2, LOCA Outside Containment
    - The leak has been isolated by shutting 1SI-340, Low Head SI Train 'A' to Cold Leg Valve

    Which ONE of the following describes (1) the parameter used to determine that the break was isolated AND (2) which RHR pump(s) must now be secured in accordance with EOP-ECA-1.2?

    A. (1) RCS Pressure rising

       (2) ONLY 'A' RHR Pump

    B. (1) RCS Pressure rising

       (2) 'A' and 'B' RHR Pumps

    C. (1) RCS Subcooling rising

       (2) ONLY 'A' RHR Pump

    D. (1) RCS Subcooling rising

       (2) 'A' and 'B' RHR Pumps

16. Given the following plant conditions:
    - The plant is operating at 100%
    - The TDAFW pump is under clearance for electrical work on the Trip and Throttle Valve solenoid

    Subsequently the following occurs:
    - The crew manually trips the Reactor due to a loss of the 'B' CBP
    - The 'B' SUT Lockout trips during the fast bus transfer
    - 'B' Emergency Diesel Generator fails to start
    - ALB-017-5-4, Aux Feedwater Pump A Trip Or Close Ckt Trouble, alarms
    - Narrow Range SG level indications are as follows:
        - 'A' SG 13% and lowering
        - 'B' SG 15% and lowering
        - 'C' SG 11% and lowering

    Which ONE of the following identifies (1) the required number of OPERABLE Auxiliary Feedwater pumps in accordance with the LCO for Technical Specification 3.7.1.2 Plant Systems - Auxiliary Feedwater AND (2) the preferred AVAILABLE source of feedwater for restoration of heat sink in accordance with EOP-FR-H.1, Response To Loss Of Heat Sink?

    A. (1) Two

       (2) 'A' Main Feedwater Pump

    B. (1) Two

       (2) 'A' MDAFW Pump

    C. (1) Three

       (2) 'A' Main Feedwater Pump

    D. (1) Three

       (2) 'A' MDAFW Pump

17. Given the following plant conditions:
    - The unit is operating at 100% power
    - A loss of CCW has occurred
    - The crew is attempting to restore CCW flow in accordance with AOP-014, Loss of Component Cooling Water
    - BOTH trains of CCW flow indicate 0 gpm
    - All RCP temperatures are currently below their alarm setpoints and slowly rising
    - RCP Seal Injection flow to each RCP is approximately 9 gpm

    Which ONE of the following identifies (1) the MAXIMUM time allowed to trip the RCPs in accordance with AOP-014 AND (2) the components that may be damaged if the RCPs are not tripped?

    A. (1) 5 minutes

       (2) RCP motor bearings

    B. (1) 5 minutes

       (2) RCP pump bearings

    C. (1) 10 minutes

       (2) RCP motor bearings

    D. (1) 10 minutes

       (2) RCP pump bearings

18. In accordance with EOP-ECA-2.1, Uncontrolled Depressurization of All Steam Generators, which ONE of the following is the required AFW flow rate if RCS cooldown rate is 120°F per hour?

    A. 210 KPPH to EACH SG

    B. 210 KPPH total to ALL SGs

    C. 12.5 KPPH to EACH SG

    D. 12.5 KPPH total to ALL SGs

19. In accordance with AOP-001, Malfunction of Rod Control and Indication System, which ONE of the following is indicative of an inoperable/stuck control rod that is misaligned?

    A. A QPTR calculation indicates a QPTR of 1.03

    B. PR instruments differ by 1.75% between the highest and lowest indicator

    C. Delta Flux (AFD) indicators differ by 1.75% between the highest and lowest indicator

    D. Symmetric core outlet thermocouples (TCs) indicate a 9°F difference from the affected core outlet TC.

20. Given the following plant conditions:
    - A start up is in progress in accordance with GP-004, Reactor Startup
    - Rx Power is being raised from 8.6×10^{3} cps to achieve the required Source to Intermediate Range overlap
    - Intermediate Range NI's currently indicate 3.9×10^{-11} amps

    Subsequently NI-31, Source Range NI, control power fuses blow

    Which ONE of the following completes the statements below?

    Based on the conditions above, a trip of the Reactor ___(1)___ occur.

    The Technical Specification 3.3.1, RPS Instrumentation bases of the Source Range Reactor Trip Function is to provide protection during Reactor startup to mitigate the consequences of ___(2)___ .

    A. (1) will

       (2) a single or multiple control rod drop accident

    B. (1) will

       (2) an uncontrolled rod cluster control assembly bank withdrawal

    C. (1) will NOT

       (2) a single or multiple control rod drop accident

    D. (1) will NOT

       (2) an uncontrolled rod cluster control assembly bank withdrawal

21. Given the following plant conditions:
    - The compensating voltage on Intermediate Range (IR) channel NI-35 is set too HIGH
    - A plant shutdown is in progress in accordance with GP-006, Normal Plant Shutdown From Power Operation To Hot Standby (Mode 1 To Mode 3)

    Which ONE of the following describes (1) the effect on SR NI operation as power is reduced into the Source Range AND (2) the effect on NI-35 indication?

    A. (1) BOTH SR NIs must be manually energized

       (2) NI-35 will indicate HIGHER than NI-36

    B. (1) BOTH SR NIs must be manually energized

       (2) NI-35 will indicate LOWER than NI-36

    C. (1) BOTH SR NIs will automatically energize

       (2) NI-35 will indicate HIGHER than NI-36

    D. (1) BOTH SR NIs will automatically energize

       (2) NI-35 will indicate LOWER than NI-36

22. Given the following plant conditions:
    - The Control Room South Intake outside air intake (OAI) high airborne radiation monitors RC-1CZ-3505A1-SA and RC-1CZ-3505B1-SB are in ALARM
    - The crew is implementing AOP-005, Radiation Monitoring System
    - The Shift Manager has determined the crew will remain in the MCR

    Which ONE of the following identifies the reason(s) why the alarm setting must be re-adjusted in accordance with AOP-005, if an emergency OAI must be opened with the associated monitor in alarm?

    A. Allows opening the associated dampers.

    B. Clears the alarm in order to minimize MCR distractions.

    C. Ensures the dampers will remain open on rising radiation levels.

    D. Ensures alarm and auto-closure occur again on rising radiation levels.

23. Given the following plant conditions:
    - The crew is implementing EOP-FR-C.1, Response To Inadequate Core Cooling
    - IA and N_2 have been restored to Containment
    - The crew is checking for RCS vent paths
    - RCS pressure rises to 2345 psig

    Which ONE of the following identifies (1) the expected PRZ PORV response to the above conditions AND (2) the reason why this response is desired?

    A. (1) PRZ PORVs are OPEN.

       (2) Preclude the use of the PRZ Safety valves.

    B. (1) PRZ PORVs are OPEN.

       (2) Preclude the use of the Reactor Vessel vent valves.

    C. (1) PRZ PORVs are SHUT.

       (2) Prevent primary plant depressurization.

    D. (1) PRZ PORVs are SHUT.

       (2) To maintain RCP seal ΔP for continued RCP operation.

24. Which ONE of the following identifies a Major Action category for EOP-ES-0.0, Rediagnosis?

    A. Check if there is a SGTR.

    B. Check if a Heat Sink is required.

    C. Check if a Small Break LOCA is in progress.

    D. Check if a LOCA has occurred outside Containment.

25. Given the following plant conditions:
    - A LOCA has occurred
    - RCS pressure is 1350 psig and stable
    - Containment pressure is 2.5 psig and slowly rising

    In accordance with EOP-ES-1.2, Post LOCA Cooldown and Depressurization, which ONE of the following completes the statements below?

    The TDAFW pump ___(1)___ be used to supplement performance of an RCS cooldown.

    AND

    The RCS cooldown should be performed at ___(2)___ .

    A. (1) should

       (2) less than 100°F per hour

    B. (1) should

       (2) the maximum achievable rate

    C. (1) should NOT

       (2) less than 100°F per hour

    D. (1) should NOT

       (2) the maximum achievable rate

26. During implementation of EOP-FR-Z.1, Response to Containment High Pressure, which ONE of the following is the major concern if ESW Booster pumps are not running and Containment pressure is 35 psig?

    A. Potential damage to the ESW pumps.

    B. Radioactivity release to the environment.

    C. Reduced Containment cooling capability.

    D. Reduced Margin to Containment design limits.

27. Given the following plant conditions:
    - 'A' SG is ruptured and faulted inside Containment
    - SI termination criteria are NOT met
    - The crew is currently implementing EOP-ECA-3.1, SGTR with Loss of Reactor Coolant: Subcooled Recovery

    Subsequently the following conditions exists:
    - RWST level is 24.2% and slowly lowering
    - Containment Flooding is a valid ORANGE path
    - There are no other RED or ORANGE paths

    Based on the current plant conditions, which ONE of the following completes the statements below?

    The crew will transition to ___(1)___

    The reason Chemistry samples of the Containment sump are collected for the selected procedure is to determine the ___(2)___ .

    Procedure Titles:
    EOP-ES-1.3, Transfer to Cold Leg Recirculation
    EOP-FR-Z.2, Response to Containment Flooding

    A. (1) EOP-ES-1.3

       (2) activity level in the water

    B. (1) EOP-ES-1.3

       (2) pH level of the water

    C. (1) EOP-FR-Z.2

       (2) activity level in the water

    D. (1) EOP-FR-Z.2

       (2) pH level of the water

28. Given the following plant conditions:
    - The unit is operating at 100% power
    - Total #1 seal flow for the 'B' RCP is 7.4 gpm

    'B' RCP Seal water inlet and radial bearing temperatures are as follows:

Time	Seal water inlet temps	RCP radial bearing temps
0100	150 °F	155 °F
0115	155 °F	160 °F
0130	159 °F	164 °F
0145	163 °F	168 °F
0200	166 °F	171 °F
0215	168 °F	173 °F

    Which ONE of the following describes the condition of the 'B' RCP #1 seal?

    (Reference provided)

    A. Failed

    B. Degraded

    C. Blocked

    D. Responding to a #2 seal failure

29. Given the following plant conditions:
    - The unit is operating at 100% power
    - RCS boron concentration is 1192 ppm

    Subsequently the following occurs:
    - A new CVCS Cation Bed Demineralizer is to be placed in service and is to be flushed to the Recycle Holdup Tank for sampling
    - 1CS-120, Letdown To VCT/ Holdup Tank LCV-115A is placed in the RHT position BUT fails to reposition and was NOT noticed by the operator
    - The Cation Bed Demineralizer flush is initiated

    Which ONE of the following will occur?

    A. RCS T_{avg} will rise

    B. RCS pressure lowers

    C. Letdown flow rises above 60 gpm

    D. RCS lithium and cesium concentrations rise

30. Given the following plant conditions:
    - 'A' Boric Acid Pump is under clearance
    - An Emergency Boration per AOP-002, Emergency Boration must be performed
    - 'B' Boric Acid Pump fails to start
    - VCT level is 21% and slowly lowering

    In accordance with AOP-002, which ONE of the following identifies (1) the valve alignment that would be attempted AND (2) the purpose of this flowpath?

    Valve Noun Name:
    1CS-283, Boric Acid to Boric Acid Blender FCV-113A
    1CS-155, Make Up to VCT FCV-114A
    1CS-165, VCT Oulet LCV-115C
    1CS-166, VCT Oulet LCV-115E
    1CS-291, Suction from RWST LCV-115B
    1CS-292, Suction from RWST LCV-115D

    A. (1) OPEN 1CS-283 and 1CS-155

       (2) To prevent gas binding of the CSIPs.

    B. (1) OPEN 1CS-283 and 1CS-155

       (2) To provide an alternate source of borated water to the CSIPs.

    C. (1) OPEN 1CS-291 and 1CS-292 THEN SHUT 1CS-165 and 1CS-166

       (2) To prevent gas binding of the CSIPs.

    D. (1) OPEN 1CS-291 and 1CS-292 THEN SHUT 1CS-165 and 1CS-166

       (2) To provide an alternate source of borated water to the CSIPs.

31. Given the following plant conditions:
    - The RCS is in solid plant operation
    - 'A' CSIP is in service
    - 'A' train RHR is in service providing both core cooling and low pressure letdown
    - Letdown Line Pressure Control valve PCV-145, (1CS-38) is in AUTO
    - Charging Flow Control valve FCV-122 is being operated with its controller in MANUAL with demand set at 20%

    Which ONE of the following will raise RCS pressure?

    A. 'A' RHR Pump trips

    B. 1CC-146, RHR HX Outlet Throttle valve is opened

    C. Loss of Instrument Air to Letdown Pressure Control Valve, (1CS-38)

    D. FK-122.1, Charging Flow Controller (1CS-231), is adjusted towards 0% demand

32. Which ONE of the following windows on ALB-004 annunciation will coincide with the automatic operation of 1SI-301, Containment Sump to RHR Pump Suction Valve?

A. Window 2-2, Refueling Water Storage Tank LOW Level.

B. Window 2-3, Refueling Water Storage Tank LOW-LOW Level ALERT.

C. Window 2-4, Refueling Water Storage Tank 2/4 LOW-LOW Level.

D. Window 2-5, Refueling Water Storage Tank EMPTY.

33. Given the following plant conditions:
    - The unit is operating at 100% power
    - The crew is responding to a leaking PRZ Safety valve

Time	PRT Temp	Safety Tailpipe Temp
1000	95°F	145°F
1005	115°F	255°F
1010	122°F	275°F
1015	146°F	403°F

Which ONE of the following is the first time that annunciator ALB-009-8-1, PRT High-Low Level Press or Temp, will alarm?

A. 1000

B. 1005

C. 1010

D. 1015

34. Given the following plant conditions:
    - The plant is operating at 100%
    - The TDAFW pump is under clearance for a bearing replacement

    Subsequently the following occurs:
    - Off-site Power is lost
    - The 1B-SB sequencer starts, however the 'B' MDAFW pump sequencer start relay fails, resulting in failure of the 'B' MDAFW pump to start
    - The 1A-SA Diesel fails to start

    Which ONE of the following describes the method for restoration of feedwater?

    The 'B' MDAFW pump _____ .

    A. must be started by the operator

    B. cannot be started until the sequencer is reset

    C. will start when at least 2 SG levels are less than 25%

    D. will start in Load Block 9 due to loss of both Main Feed pumps

35. Given the following plant conditions:
    - The unit is operating at 100% power
    - The Instrument Air line on 1CC-337, TK-144 LTDN Temperature, breaks

    Which ONE of the following completes the statements below?

    The failed position of 1CC-337 is ___(1)___ .

    In accordance with AD-OP-ALL-0203, Reactivity Management the crew will ___(2)___ once control of 1CC-337 is re-established.

    A. (1) SHUT

       (2) reduce Reactor power below 100%

    B. (1) SHUT

       (2) maintain current Reactor power

    C. (1) OPEN

       (2) reduce Reactor power below 100%

    D. (1) OPEN

       (2) maintain current Reactor power

36. The plant is establishing a bubble in the PRZ per GP-002, Normal Plant Heatup From Cold Solid To Hot Subcritical Mode 5 To Mode 3

Which ONE of the following describes why 1CS-38, PK-145.1 LTDN Pressure modulates open in Automatic?

A. CCW heat load lowers

B. Thermal expansion of liquid in the PRZ

C. PRZ spray valves are shut while drawing a bubble

D. Switchover of letdown to orifices from RHR-CVCS cross-connect

37. Given the following plant conditions:
    - The unit is operating at 100% power
    - PT-444, PRZ Pressure, develops a leak from its sensing line

    Which ONE of the following completes the statement below?

    PRZ PT-444 ___(1)___ inputs to the protective functions of RPS. The associated PRZ LT-461 indicated level will be ___(2)___ as a result of this leak.

    (Reference provided)

    A. (1) provides

       (2) higher

    B. (1) provides

       (2) lower

    C. (1) does NOT provide

       (2) higher

    D. (1) does NOT provide

       (2) lower

38. Given the following plant conditions:
    - The unit is operating at 38% power
    - Breaker 109, 6.9KV Aux Bus 1C trips open

    Which ONE of the following completes the statement below?

    Based on the conditions above, the Reactor Trip Breaker ___(1)___ lights will be illuminated. Additionally, the P-8, Single Loop Low Flow Trip Blocked light ___(2)___ be illuminated on the Bypass Light Permissive Panel.

    A. (1) red

       (2) will

    B. (1) red

       (2) will NOT

    C. (1) green

       (2) will

    D. (1) green

       (2) will NOT

39. Which ONE of the following completes the statement below?

Instrument Buses ___(1)___ AND ___(2)___ provide power to the ESFAS Slave Relays.

A. (1) SI

(2) SII

B. (1) SI

(2) SIV

C. (1) SII

(2) SIII

D. (1) SIII

(2) SIV

40. Given the following plant conditions:
    - The plant is operating at 100% power
    - Instrument Bus SIII is de-energized and actions are being taken in accordance with AOP-024, Loss of Uninterruptible Power Supply
    - PT-953, Containment Pressure Channel IV, then fails high

    Which ONE of the following describes the effect on the Safety Injection (SI) AND Containment Spray Actuation Signal (CSAS) systems?

	SI	CSAS
A.	Not actuated	Not actuated
B.	Actuated	Not actuated
C.	Not actuated	Actuated
D.	Actuated	Actuated

41. Which ONE of the following identifies the power supply to the fan motors for Containment Fan Cooler AH-1?

    A. Aux Bus 1D1

    B. Aux Bus 1E1

    C. MCC 1A34-SA

    D. MCC 1B22-SB

42. Which ONE of the following identifies the MINIMUM required logic for MANUAL actuation of the Containment Spray System using the MCB Containment Spray activation switches?

A. ANY one of the four switches.

B. ANY two of the four switches.

C. EITHER the LEFT two switches OR the RIGHT two switches.

D. EITHER the INSIDE two switches OR the OUTSIDE two switches.

43. Which ONE of the following is the REASON why Containment Spray is operated in accordance with the guidance from EOP-ECA-1.1, Loss of Emergency Coolant Recirculation, while implementing EOP-FR-Z.1, Response to High Containment Pressure?

    A. Actions required by ECA's normally have priority over those in FR's.

    B. Containment pressure is expected to be below the HI-3 reset setpoint.

    C. Conservation of RWST inventory is required to ensure availability of core cooling.

    D. There is no available suction source for the pumps if the recirc sump is unavailable.

44. Given the following plant conditions:
    - The unit is operating at 100% power
    - A Main Steam line rupture in the Turbine building has occurred
    - The crew has manually tripped the Reactor

    Which ONE of the following completes the statement below?

    The Turbine Ventilating valves 1GS-97, 1GS-98 are expected to ___(1)___ AND the MSR Non-Return valves 1HD-2, 1HD-3, 1HD-302, 1HD-303 are expected to ___(2)___ .

    Valve Noun Name:

    Turbine Ventilating valves
    1GS-97, HP Turbine Vent to Cond (FCV-01TA-0415B)
    1GS-98, HP Turbine Vent to Cond (FCV-01TA-0415A)

    MSR Non-Return valves
    1HD-2, MSR 1A-NNS Outlet to MSDT 1A-NNS
    1HD-3, MSRDT 1A-NNS Outlet to 5-1A-NNS
    1HD-302, MSR 1B-NNS Outlet to MSDT 1B-NNS
    1HD-303, MSRDT 1B-NNS Outlet to 5-1B-NNS

    A. (1) open
       (2) open

    B. (1) open
       (2) shut

    C. (1) shut
       (2) open

    D. (1) shut
       (2) shut

45. Given the following plant conditions:
- A Reactor Trip and Safety Injection have actuated
- A MSLI has actuated
- Current Steam Generator parameters are the following values:

SG	NR Level	Pressure
A	32%	870 psig
B	12%	420 psig
C	34%	830 psig

Which ONE of the following identifies the expected position of the following valves?

(1) 1AF-143, STM TURB AUX FW B Isolation

(2) 1MS-70, B SG to AFW Turbine

(NO operator actions have been taken)

A. (1) OPEN

(2) OPEN

B. (1) OPEN

(2) CLOSED

C. (1) CLOSED

(2) CLOSED

D. (1) CLOSED

(2) OPEN

46. Given the following plant conditions:
    - A plant startup is in progress
    - The 'A' Condensate pump will be the first Condensate pump started in accordace with OP-134, Condensate System

    Which ONE of the following completes the statements below?

    The discharge valve for the 'A' Condensate pump must be ___(1)___ before the pump motor will energize.

    Once the Main Feed pump suction header is pressurized to normal operating pressure, the discharge valve for ___(2)___ Condensate pump(s) fully open(s).

    A. (1) 10% - 13% open

       (2) ONLY A

    B. (1) 10% - 13% open

       (2) BOTH

    C. (1) closed

       (2) ONLY A

    D. (1) closed

       (2) BOTH

47. Given the following plant conditions:
- The unit is operating at 98% power
- The TDAFW Pump is running

Subsequently the following occurs:
- ALB-017-7-3, Aux Feedwater Pump Turbine Gov Control Power Failure, alarms
- ALB-017-7-4, Aux Feedwater Pump Turbine Trip, alarms 30 seconds later

Which ONE of the following completes the statement below?

In accordance with APP-ALB-017:

The TDAFW pump governor valve will fail ___(1)___ . Performing a corrective action of shutting BOTH 1MS-70 SA and 1MS-72 SB ___(2)___ be required.

Valve Titles:
1MS-70 SA, Main Steam B To Aux FW Turbine
1MS-72 SB, Main Steam C To Aux FW Turbine

A. (1) shut

(2) will

B. (1) shut

(2) will NOT

C. (1) open

(2) will

D. (1) open

(2) will NOT

48. Given the following plant conditions:
    - The 1A-SA EDG started automatically due to an undervoltage condition on 6.9-kV Bus 1A-SA.

    Subsequently a 1A-SA Emerg Bus Differential and a Low Lube Oil Pressure signal occur.

    Based on the conditions above, which ONE of the following identifies the signal(s), if any, that would result in a trip of the 1A-SA EDG?

    A. NEITHER Emerg Bus Differential NOR Low Lube Oil Pressure

    B. BOTH Emerg Bus Differential AND Low Lube Oil Pressure

    C. Low Lube Oil Pressure ONLY

    D. Emerg Bus Differential ONLY

49. At 0800 Maintenance started a discharge test of the 125 VDC battery 1B-SB with an initial test load of 292 amps. The test will be terminated when any cell voltage reaches 2.14 Volts, which is expected to occur at 1200.

    Subsequently at 0815 additional load was added to the battery, bringing total DC load to 365 amps.

    Considering the additional load on the battery, which ONE of the following identifies the time that the battery will reach the termination criteria?

    A. Prior to 1115

    B. At 1115

    C. After 1115, but before 1200

    D. At 1200

50. Which ONE of the following completes the statement below?

When placing the 1A-SA battery charger in service, the DC output breaker must be closed before energizing the charger from an AC source to _____ .

A. prevent a possible undervoltage battery charger trip

B. check for DC bus grounds before energizing the charger

C. warmup the charger internals before placing it in service

D. allow the charger output filter capacitors to charge from the battery

51. Post Maintenance Testing is in progress on the 1A-SA EDG. It has been started in accordance with OP-155, Diesel Generator Emergency Power System

The following problems are occurring on the EDG during the test:
- A Jacket Water leak is lowering the Jacket Water Standpipe level
- A Fuel Oil leak in the Day Tank room is lowering Day Tank level
- The EDG crankcase pressure is rising
- The EDG lube oil filter ΔP is rising

Which ONE of the following would cause an automatic trip of the EDG?

A. Low Low Day Tank level

B. High Crankcase Pressure

C. Low Jacket Water level

D. High Lube Oil Filter ΔP

52. Given the following plant conditions:
    - The unit is operating at 100% power
    - ALB-010-4-5, Rad Monitor System Trouble, alarms

    Which ONE of the following completes the statement below?

    In accordance with APP-ALB-010, the ___(1)___ radiation monitoring panel is used to confirm the alarm AND the display/control key push button will ___(2)___ to indicate the channel in alarm.

    A. (1) RM-11

       (2) blink

    B. (1) RM-11

       (2) be solid

    C. (1) RM-23

       (2) blink

    D. (1) RM-23

       (2) be solid

53. Given the following plant conditions:
- The unit is in Mode 4, performing a cooldown on RHR
- Both trains of CCW are in service
- NSW Pump 'A' is operating
- NSW Pump 'B' is in standby
- Both ESW Pumps are available, but are NOT running

Subsequently the following occurs:
- NSW Pump 'A' experiences a sheared shaft

Which ONE of the following completes the statement below?

ESW automatically aligns on a low ___(1)___ signal to cool ___(2)___ train(s) of CCW.

A. (1) flow

(2) BOTH

B. (1) flow

(2) ONLY 'A'

C. (1) pressure

(2) BOTH

D. (1) pressure

(2) ONLY 'A'

54. Given the following plant conditions:
    - The plant is operating at 100% power
    - The Compressed Air System (CAS) Control Panel is in Sequence 1
    - A loss of Auxiliary Bus 1D has occurred
    - 'A' EDG is carrying Bus 1A-SA
    - A leak is in progress on the Instrument Air system that is causing pressure to lower
    - The crew enters AOP-017, Loss of Instrument Air

    Which ONE of the following completes the statement below?

    'A' Air Compressor ___(1)___ AND ___(2)___ will be controlling the air compressor after it is restored.

    A. (1) will start automatically

       (2) CAS Sequence 1

    B. (1) will start automatically

       (2) the local pressure switch

    C. (1) must be locally reset to start

       (2) CAS Sequence 1

    D. (1) must be locally reset to start

       (2) the local pressure switch

55. Which ONE of the following completes the statement below?

The Containment Personnel Airlock (PAL) doors ___(1)___ AND have ___(2)___ interlock to prevent simultaneous operation of both doors in the automatic mode.

A. (1) operate on a common shaft

(2) an electrical

B. (1) operate on a common shaft

(2) a mechanical

C. (1) have separate operating stations

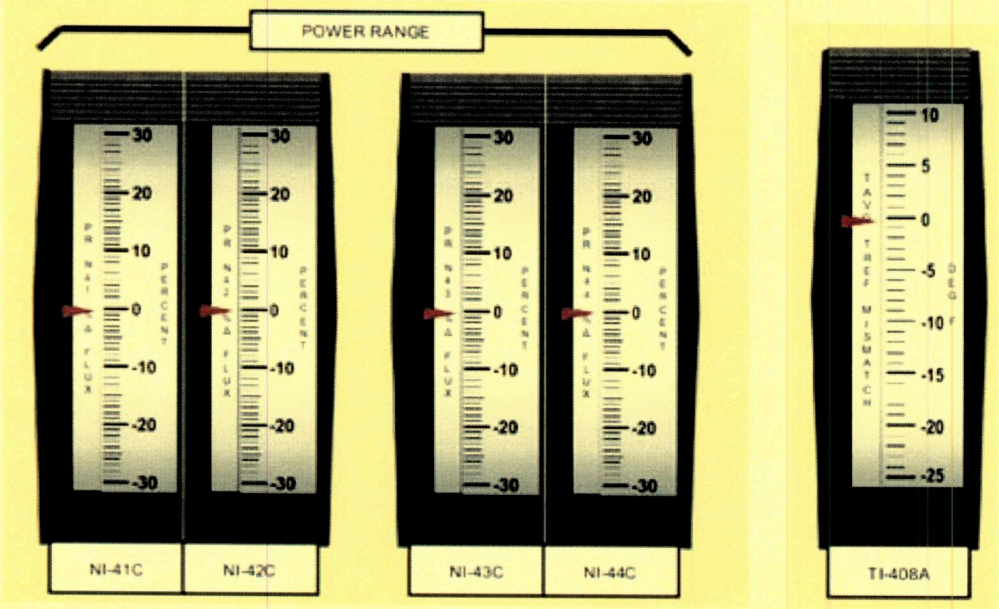
(2) an electrical

D. (1) have separate operating stations

(2) a mechanical

56. Given the following plant conditions:
    - The unit is operating at 90% power after a reduction from 100% one hour ago

    The following indications exist for Power Range % Δ Flux (AFD) and TI-408A, T_{avg} / T_{ref} mismatch meters.



    Subsequently, the OATC manually withdraws Control Bank 'D' four steps for T_{avg} control.

    Which ONE of the following completes the statement below describing the effects that the rod motion had on the indications for AFD and TI-408A?

    The AFD indications became more ___(1)___ AND the T_{avg} / T_{ref} mismatch indication became more ___(2)___ .

    A. (1) positive
       (2) negative

    B. (1) positive
       (2) positive

    C. (1) negative
       (2) positive

    D. (1) negative
       (2) negative

57. Given the following plant conditions:
    - A Reactor startup was in progress when the Reactor tripped on Source Range High Flux

    The following conditions existed at the time of the Reactor trip:
    - The crew was verifying proper overlap and preparing to block the SR High Flux Trip
    - IR Channel N-35 indicated 4×10^{-11} amps
    - IR Channel N-36 indicated 7×10^{-11} amps

    Which ONE of the following could be the cause of the Reactor trip?

    A. IR N-35 failed low causing the trip when P-6 cleared.

    B. IR N-36 was overcompensated and caused the trip prior to P-6 being satisfied.

    C. SR N-31 pulse height discrimination circuit failed causing an artificially high indication.

    D. SR N-32 failed low causing the negative rate bistable to trip.

58. Given the following plant conditions:
    - The unit is operating at 100% power
    - S-2 1A-SA, Primary Shield Cooling Fan is in operation

    Subsequently ALB-027-5-5, Reactor Primary Shield Clg Fans S2 Low-Flow-O/L alarms
    - The S-2 1A-SA control switch indications are as follows:
      - Red light OFF
      - Green light ON
      - White light OFF

    Which ONE of the following completes the statements below?

    In accordance with APP-ALB-027, S-2 1A-SA indicates the alarm actuated due to a failure of the ___(1)___ AND S-2 1B-SB, Primary Shield Cooling Fan ___(2)___ .

    A. (1) thermal overload device

       (2) will start automatically

    B. (1) thermal overload device

       (2) must be manually started

    C. (1) low flow switch

       (2) will start automatically

    D. (1) low flow switch

       (2) must be manually started

59. Which ONE of the following is the power supply for S-1A , Containment Airborne Radioactivity Removal (ARR) Fan?

A. MCC 1A21-SA

B. 480V Bus 1A1

C. MCC 1D11

D. 480V Bus 1E2

60. Given the following plant conditions:
    - The Post Accident Hydrogen Monitoring System is in standby mode
    - A LOCA develops inside Containment
    - Containment hydrogen concentration is 0.5%

    Subsequently the following conditions exist:
    - Safety Injection system is aligned for Cold Leg Recirculation
    - Containment hydrogen concentration is 5%
    - Containment pressure is 1.8 psig

    Which ONE of the following completes the statements below in accordance with OP-125, Hydrogen Monitoring System (HMS)?

    To obtain manual readings the Hydrogen Monitoring System is initially required to be aligned ___(1)___ .

    AND

    The Hydrogen Purge System ___(2)___ designed to be placed in service, based on the exsiting conditions.

    A. (1) in the continuous sample mode

       (2) is

    B. (1) in the continuous sample mode

       (2) is NOT

    C. (1) for remote dilution panel operations

       (2) is

    D. (1) for remote dilution panel operations

       (2) is NOT

61. Which ONE of the following completes the statement below?

The design purpose of the Steam Dump System includes ___(1)___ as well as ___(2)___ .

A. (1) removing residual heat from the primary following a Turbine trip

(2) eliminating the need for rod movement during a secondary load rejection

B. (1) removing residual heat from the primary following a Turbine trip

(2) maintaining the plant in Hot Standby condition

C. (1) preventing overpressurization of the Steam Generators if one or more MSIVs shut while at power

(2) eliminating the need for rod movement during a secondary load rejection

D. (1) preventing overpressurization of the Steam Generators if one or more MSIVs shut while at power

(2) maintaining the plant in Hot Standby condition

62. In accordance with AOP-005, Radiation Monitoring System, which ONE of the following identifies the response to a HIGH radiation (RED) alarm on the WPB Stack 5 PIG monitor (REM-*1WV-3546)?

A. Alarm only (no auto actions)

B. WG Decay Tanks E & F to Plant Vent valve (3WG-229) will shut, IF open

C. WPB Control Room HVAC System swaps to recirculation mode

D. Normal WPB supply fans (S-61's & 62's) and WPB nonfiltered exhaust fans (E-59 & 83) trip. Emergency filtration exhaust fans (E-45, 46, 47, & 49) start

63. Given the following plant conditions:
    - Control Room Ventilation is in a normal lineup with 'A' Train fans in operation
    - Power is lost to the 'B' Train North MCR Emergency Outside Air Intake (OAI) Radiation Monitor, RM-3505B2SB

    Which ONE of the following completes the statements below?

    A Control Room Isolation Signal ___(1)___ occurred.

    The required action in accordance with Technical Specification 3.3.3.1, Radiation Monitoring For Plant Operations is to ___(2)___ .

    A. (1) has

       (2) within 1 hour isolate the 'B' Train North Emergency OAI

    B. (1) has

       (2) place MCR Ventilation in recirculation with ALL OAIs isolated

    C. (1) has NOT

       (2) within 1 hour isolate the 'B' Train North Emergency OAI

    D. (1) has NOT

       (2) place MCR Ventilation in recirculation with ALL OAIs isolated

64. Given the following plant conditions:
- The plant is operating at 75% power

Subsequently the following occurs:
- Circ Water Pump 'C' breaker trips on an overcurrent condition
- Condenser vacuum is 5.5 inches Hg and degrading
- The crew enters AOP-012, Partial Loss of Condenser Vacuum

Given the conditons above, which ONE of the following direction is the FIRST required in accordance with AOP-012?

A. Verify that the Turbine has Tripped.

B. Verify that the 'C' Circ Water Pump discharge valve 1CW-12 shuts.

C. Verify that the 'C' Circ Water Pump Bearing/Seal Water Pump starts.

D. Dispatch the Outside AO to shut 'C' Circ Water Pump discharge valve 1CW-12.

65. Given the following plant conditions:
    - Fire header pressure was 123 psig when a fire occurred on site
    - Fire header pressure lowered to 88 psig

    Which ONE of the following completes the statements below?

    The Motor Driven Fire Pump will be ___(1)___ .

    The Diesel Driven Fire Pump will be ___(2)___ .

    (NO operator actions have been taken)

    A. (1) Off

       (2) Off

    B. (1) Running

       (2) Off

    C. (1) Off

       (2) Running

    D. (1) Running

       (2) Running

66. Which ONE of the following completes the statements below?

In accordance with AD-OP-ALL-1000, Conduct Of Operations, prior to closing a breaker with a MINIMUM voltage of ___(1)___ a plant announcement is required AND at MINIMUM the announcement will direct plant personnel to stand clear of the associated ___(2)___ .

A. (1) 480V

(2) electrical switchgear ONLY

B. (1) 480V

(2) piece of equipment AND electrical switchgear

C. (1) 6.9kV

(2) electrical switchgear ONLY

D. (1) 6.9kV

(2) piece of equipment AND electrical switchgear

67. Given the following conditions:
    - ESOMS is NOT functioning
    - The OATC is maintaining a manual narrative log

    The following log entries have been made:
    - 0956 B-SB CSIP trip
    - 1005 Started A-SA CSIP per AOP-018
    - 1011 Established normal letdown

    Subsequently: At 1030, the OATC realizes he forgot to make a 0957 entry that letdown had been isolated.

    Which ONE of the following identifies a proper entry in accordance with OMM-016, Operator Logs?

    A. Δ 0957 Isolated normal letdown

    B. L.E. 0957 Isolated normal letdown

    C. Δ 1030 Isolated normal letdown (0957)

    D. L.E. 1030 Isolated normal letdown (0957)

68. Given the following plant conditions:
    - The plant is in Mode 6
    - Fuel Handlers are waiting for an assembly to be placed in the upender on the Reactor side prior to transferring the assembly to the 'A' Fuel Pool
    - A leak in the Spent Fuel Pool is causing Cavity and Spent Fuel Pool levels to lower
    - The crew entered and are implementing AOP-031, Loss of Refueling Cavity Integrity

    Which ONE of the following completes the statements below concerning coordinated activities directed by the Operators in the control room for this event?

    Once all fuel assemblies are safely stored, then direct the Fuel Handlers to ___(1)___ .

    AND

    This will be followed by ___(2)___ .

    A. (1) move the Fuel Transfer Cart to the Fuel Handling Building side

       (2) dispatching an Operator to shut 1PP-427, Fuel Transfer Tube Gate Valve

    B. (1) move the Fuel Transfer Cart to the Fuel Handling Building side

       (2) directing Maintenance to install and inflate Fuel Pool gates to the Unit 1&4 Transfer Canal

    C. (1) maintain the Fuel Transfer Cart on the Reactor side

       (2) dispatching an Operator to shut 1PP-427, Fuel Transfer Tube Gate Valve

    D. (1) maintain the Fuel Transfer Cart on the Reactor side

       (2) directing Maintenance to install and inflate Fuel Pool gates to the Unit 1&4 Transfer Canal

69. A safety related motor operated valve (MOV) is manually backseated using its handwheel to allow packing replacement.

Which ONE of the following completes the statement below in accordance with AD-OP-ALL-1000, Conduct of Operations?

The MOV ___(1)___ for backseating AND ___(2)___ required to be manually removed from its backseat prior to performing post-maintenance stroke testing.

A. (1) can remain energized

(2) is

B. (1) can remain energized

(2) is NOT

C. (1) must be de-energized

(2) is

D. (1) must be de-energized

(2) is NOT

70. Given the following plant conditions:
    - An RCS heatup is in progress
    - RCS temperature is 358°F
    - 1B-SB EDG is declared INOPERABLE due to failure of the shutdown relay

    Which ONE of the following identifies (1) the current plant OPERATIONAL MODE and (2) the Technical Specification requirements regarding Mode changes?

    A. (1) Mode 3

       (2) Change to Mode 2 may be performed provided the TS 3.8.1, AC Sources - Operating, Action Statements for 1B-SB EDG inoperability are satisfied.

    B. (1) Mode 3

       (2) Change to Mode 2 may NOT performed.

    C. (1) Mode 4

       (2) Change to Mode 3 may be performed provided the TS 3.8.1, AC Sources - Operating, Action Statements for 1B-SB EDG inoperability are satisfied.

    D. (1) Mode 4

       (2) Change to Mode 3 may NOT performed.

71. Which ONE of the following completes the statements below?

The ASI pump will automatically start ___(1)___ after seal injection flow is lost to the RCPs.

Based on CAR-2166-B-401 Sheet 0210, with the 2-3/210A Control Relay contacts CLOSED the ASI pump will continue to run once the CS-210.1, ASI Pump is returned to the AUTO position from the START position because the ___(2)___ relay is energized.

(Reference provided)

A. (1) 2 minutes and 30 seconds

(2) 49/MR

B. (1) 2 minutes and 30 seconds

(2) 42X

C. (1) 2 minutes and 45 seconds

(2) 49/MR

D. (1) 2 minutes and 45 seconds

(2) 42X

72. Which ONE of the following is a condition that would result in excessive radiation exposure rates in the Containment (Keyway) Sump Area during a refueling outage?

A. Movement of irradiated fuel in the reactor vessel.

B. Withdrawal of the Incore Detectors from the core.

C. Draining the RCS to mid-loop prior to core off load.

D. A leak in the Auxiliary Building results in lowering Reactor Cavity level.

73. The following radiation monitors are in service:
    - REM-3502A, Containment RCS Leak Detection
    - REM-3502B, Containment Pre-Entry Purge

    Subsequently a Containment Isolation Phase 'A' actuation occurs.

    Which ONE of the following describes the effect on these monitors?

	REM-3502A	REM-3502B
A.	remains in service	remains in service
B.	remains in service	is isolated
C.	is isolated	remains in service
D.	is isolated	is isolated

74. While conducting a cooldown during the implemention of the EOPs due to a small break LOCA the following trends are observed:

Time	RCS Temperature (°F)	RCS Pressure (psig)
1400	435	462
1402	433	460
1404	431	458
1406	429	456

Subsequently the CRS has asked if "RCS pressure is stable or lowering".

Which ONE of the following identifies the correct response in accordance with the EOP User's Guide?

A. STABLE because RCS subcooling is rising

B. STABLE because the crew is controlling the RCS pressure reduction

C. LOWERING even though RCS subcooling is rising

D. LOWERING because the crew cannot control the RCS pressure reduction

75. Given the following plant conditions:
    - The plant is in Mode 6 with a fuel shuffle is in progress in the Spent Fuel Pool
    - ALB-23-4-17, Spent FP HI/LO Level, has been received
    - The RAB AO reports that Spent Fuel Pool Level is 23 feet, 3 inches and has lowered approximately 2 inches in the last hour

    Which ONE of the following correctly completes the statement?

    The Spent Fuel Pool level is ___(1)___ the minimum required by Technical Specifications 3.9.11, Water Level - New and Spent Fuel Pools AND in accordance with APP-ALB-023 the Spent Fuel Pool ___(2)___ System is are used to restore Spent Fuel Level to clear the alarm.

    A. (1) below

       (2) Cooling

    B. (1) below

       (2) Purification

    C. (1) above

       (2) Cooling

    D. (1) above

       (2) Purification

76. Given the following plant conditions:
- At time 0704, the plant is operating at 100% power
- 'A' RHR pump is under clearance

Time	
0706	PRZ level lowers rapidly, Containment pressure and radiation readings are rapidly rising
0707	The OATC attempts to manually trip the Reactor but neither Reactor Trip switch opens the Reactor Trip breakers
0710	Containment pressure is 26 psig and rising
0715	The Turbine Building AO manually opened the 'A' and 'B' MG Set Output Breakers and all rods insert into the Reactor
0728	The CRS transitions to EOP-E-1, Loss of Reactor or Secondary Coolant
0733	RHR Pump 'B' trips on overcurrent
0736	The CRS transitions to EOP-ECA-1.1, Loss of Emergency Coolant Recirculation
0744	The CRS is at step 19.c, determine minimum SI flow from Attachment 1 to establish the minimum SI flow needed.

Which ONE of the following (1) represents the minimum SI flow REQUIRED in EOP-ECA-1.1 Attachment 1 AND (2) the reason for calculating this minimum SI Flow?

(Reference Provided)

A. (1) 400 gpm

(2) to ensure the existence of an adequate Reactor Vessel inventory such that core cooling is ensured

B. (1) 400 gpm

(2) to match decay heat in order to further decrease SI pump flow and delay RWST depletion.

C. (1) 425 gpm

(2) to ensure the existence of an adequate Reactor Vessel inventory such that core cooling is ensured.

D. (1) 425 gpm

(2) to match decay heat in order to further decrease SI pump flow and delay RWST depletion.

77. Given the following plant conditions:
- Plant is in Mode 6
- Refueling Cavity Level is at 23' 6"
- Both trains of RHR are in service for Shutdown Cooling
- 'B' EDG is under clearance for scheduled maintenance

Subsequently:
- A Loss of Offsite Power occurs
- 'A' EDG starts and the 'A' Sequencer reaches Load Block 9

Which ONE of the following completes the statements below?

The MINIMUM action required to comply with Technical Specification 3.9.8.1 - Refueling Operations: Residual Heat Removal And Coolant Circulation - High Water Level is to start the 'A' RHR pump ___(1)___ .

The basis of the LCO is to ensure that sufficient cooling capacity is available to maintain the RCS below ___(2)___ .

A. (1) ONLY

(2) 140°F

B. (1) ONLY

(2) 200°F

C. (1) AND restore power to the 'B' RHR Pump

(2) 140°F

D. (1) AND restore power to the 'B' RHR Pump

(2) 200°F

78. Given the following plant conditions:
    - The unit is operating at 95% power beginning of life
    - RCS boron concentration is 1391 ppm
    - T_{avg} is 585.5°F
    - 'A' RHR Pump is being run for quarterly surveillance test on recirc to the RWST

    Subsequently:
    - T_{avg} is 586.1°F
    - An automatic diversion of the VCT to the RHT is in progress
    - CCW Surge Tank level is 15% and lowering
    - 1DW-15, CCW Makeup, is open in accordance with AOP-014, Loss of Component Cooling Water

    Which ONE of the following identifies (1) the location of the leak AND (2) the procedure direction(s) required to for this event?

    A. (1) 'A' RHR Heat Exchanger

       (2) Check RAB/Containment Sumps for rising level

    B. (1) 'A' RHR Heat Exchanger

       (2) Direct Chemistry to sample the 'A' RHR Heat Exchanger for corrosion inhibitors

    C. (1) Seal Water Return Heat Exchanger

       (2) Locally isolate the CCW side of the Seal Water Return Heat Exchanger

    D. (1) Seal Water Return Heat Exchanger

       (2) Locally bypass and isolate the Seal Water side of the Seal Water Return Heat Exchanger

79. Given the following conditions:
- The unit is operating at 100% power
- 'A' Reactor Water Makeup Pump is in operation

Subsequently a loss of Offsite Power occurs
- RCS cooldown to < 200°F will be required

Which ONE of the following completes the statements below concerning the operation of the Reactor Water Makeup Pumps?

The 'A' RW Makeup Pump ___(1)___ .

To prevent an inadvertant RCS dilution event the standby Reactor Makeup Water Pump breaker must be opened and placed under clearance in accordance with ___(2)___ prior to reducing RCS temperature below 200°F.

A. (1) re-starts automatically during sequencer operation

(2) EOP-ES-0.2, Natural Circulation Cooldown

B. (1) re-starts automatically during sequencer operation

(2) GP-007, Normal Plant Cooldown Mode 3 to Mode 5

C. (1) must be manually re-started

(2) EOP-ES-0.2, Natural Circulation Cooldown

D. (1) must be manually re-started

(2) GP-007, Normal Plant Cooldown Mode 3 to Mode 5

80. Given the following plant conditions:
    - The plant is operating at 100% power
    - At 1015, ALB-002-8-1, Instrument Air Low Pressure, alarms and the crew enters AOP-017, Loss of Instrument Air

    Subsequently the following indications are observed:

Time	IA Pressure	SG Levels
1016	73 psig	57%
1017	65 psig	54%
1018	58 psig	41%
1019	37 psig	28%

Which ONE of the following identifies (1) the FIRST time the Reactor is REQUIRED to be tripped in accordance with AOP-017 AND (2) the appropriate plant procedure(s) to be implemented?

Procedure Titles:
EOP-E-0, Reactor Trip Or Safety Injection
AOP-017, Loss Of Instrument Air

A. (1) 1018

   (2) ONLY EOP-E-0

B. (1) 1018

   (2) EOP-E-0 AND AOP-017

C. (1) 1019

   (2) ONLY EOP-E-0

D. (1) 1019

   (2) EOP-E-0 AND AOP-017

81. Given the following plant conditions:
    - A loss of offsite power occurs concurrent with a valid Safety Injection
    - EOP-E-0, Reactor Trip Or Safety Injection, is being implemented
    - 'A' EDG failed to start

    The current conditions are as follows:
    - SI has been reset
    - RCS Pressure is 1250 psig and slowly rising
    - PRZ level is 8% and lowering
    - Containment pressure 0.2 psig and stable
    - RM-1RR-3597, RHR Pump 1B, is in HIGH alarm
    - HP has restricted access to the RCA while suveys are in progress
    - MLB-4A-SA-6-3 and MLB-4B-SB-6-3, RAB Equip C/D Sump Alert Lvl, status lights are lit
    - MLB-4A-SA-6-4 and MLB-4B-SB-6-4, CNMT Bldg Sump Alert Lvl, status lights are NOT lit

    Which ONE of the following identifies the correct procedure flowpath to be implemented when exiting EOP-E-0?

    Procedure Titles:
    EOP-ES-1.1, SI Termination
    EOP-ECA-1.2, LOCA Outside Containment
    EOP-E-1, Loss of Reactor Or Secondary Coolant
    EOP-ES-1.2, Post LOCA Cooldown And Depressurization

    A. EOP-E-1; then EOP-ES-1.1

    B. EOP-ECA-1.2; then EOP-E-1

    C. EOP-E-1; then EOP-ECA-1.2

    D. EOP-ECA-1.2; then EOP-ES-1.2

82. Given the following plant conditions:
    - At 0800
      A unit startup is in progress in accordance with GP-005, Power Operation (Mode 2 to Mode 1)

    - At 0900
      The OATC is placing Rod Control into Automatic in accordance with GP-005
      PRZ level transmitter LT-459A fails high

    Which ONE of the following identifies (1) the actions required, IF any, in accordance with Technical Specification 3.3.1, RPS Instrumentation AND (2) the basis for this Functional Unit?

    (Reference provided)

    A. (1) Action per T.S. 3.3.1 is NOT required since 2 channels are still OPERABLE
       (2) Protects downstream piping against water damage due to PRZ flooding.

    B. (1) Action per T.S. 3.3.1 is NOT required since 2 channels are still OPERABLE
       (2) Prevent water relief of liquid coolant through the PRZ safety valves.

    C. (1) The inoperable channel must be placed in the tripped condition prior to 1500
       (2) Protects downstream piping against water damage due to PRZ flooding.

    D. (1) The inoperable channel must be placed in the tripped condition prior to 1500.
       (2) Prevent water relief of liquid coolant through the PRZ safety valves.

83. Given the following plant conditions:
    - The unit has experienced a loss of Control Room habitability and control has been established at the ACP
    - Normal operating No-Load temperature and pressure has been established

    Subsequently the following trends are noted:
    - RCS pressure is 2255 psig and slowly rising
    - RCS temperature is 557°F and stable
    - PRZ level is 26% and stable

    As CRS at the ACP which ONE of the following actions would you direct to control the RCS pressure rise?

    Procedure Titles:
    AOP-004, Remote Shutdown
    AOP-019, Malfunction of RCS Pressure Control

    A. OPEN one PRZ PORV to manually control pressure in accordance with AOP-004.

    B. OPEN PRZ spray valves to manually restore pressure in accordance with AOP-019.

    C. Dispatch an operator to open the breakers for 'C' and 'D' PRZ heater groups to control pressure in accordance with AOP-004.

    D. Dispatch an operator to open the breakers for 'A' and 'B' PRZ heater groups and restore pressure in accordance with AOP-019.

84. Given the following plant conditions:
- The plant tripped from 100% power and is now stable

Post trip Chemistry RCS Dose Equivalent I-131 sample results are as follows:

TIME	ACTIVITY (µCi/gm)
0900	0.5
0915	0.8
0930	1.1
0945	1.3
1000	1.6

Which ONE of the following completes the statements below?

The FIRST time that Technical Specification 3.4.8, Reactor Coolant System: Specific Activity, action statement is required to be entered is at ___(1)___ .

The basis of Technical Specification LCO 3.4.8 action to reduce RCS T_{avg} below 500°F is to ___(2)___ .

A. (1) 0930

(2) ensure that the 1-hour dose at the SITE BOUNDARY will not exceed a small fraction of the 10 CFR Part 100 dose guideline limits in the event of a SGTR

B. (1) 0930

(2) prevent a release of activity should a SGTR occur by preventing the SG atmospheric reliefs from automatically lifting

C. (1) 1000

(2) ensure that the 1-hour dose at the SITE BOUNDARY will not exceed a small fraction of the 10 CFR Part 100 dose guideline limits in the event of a SGTR

D. (1) 1000

(2) prevent a release of activity should a SGTR occur by preventing the SG atmospheric reliefs from automatically lifting

85. Given the following plant conditions:
    - Natural circulation cooldown and depressurization is in progress in accordance with EOP-ES-0.2, Natural Circulation Cooldown

    The following conditions exist:
    - An estimated leak rate from 'A' RCP #1 seal is 20 gpm and rising slowly
    - RCS Pressure is 825 psig and lowering
    - T_{hot} is 495°F and lowering
    - PRZ level is 20% and lowering slowly
    - RVLIS Upper Range level is 92% and lowering

    The Plant Staff determines that cooldown and depressurization must CONTINUE.

    Which ONE of the following action(s) is correct?

    A. Actuate SI and go to EOP-E-0, Reactor Trip or Safety Injection.

    B. Transition to EOP-FR-I.2, Response To Low Pressurizer Level and restore PRZ level.

    C. Raise RCS subcooling to collapse voids and remain in EOP-ES-0.2, Natural Circulation Cooldown.

    D. Transition to EOP-ES-0.3, Natural Circulation Cooldown With Steam Void in Vessel With RVLIS, and continue the RCS cooldown.

86. Given the following plant conditions:
- A large break LOCA occurs with a loss of Off-site power
- EOP-E-1, Loss of Reactor Or Secondary Coolant, is in progress

Subsequently the following occurs:
- A fire is reported from MCC 1B31-SB
- The crew is evaluating if cold leg recirculation capability exists

Which ONE of the following completes the statement below?

Based on the conditions above AND the indications in the reference provided, the 1A-SA Safety Bus has __(1)__ AND the CRS will transition to __(2)__ .

(Reference provided)

A. (1) energized

(2) EOP-ES-1.3, Transfer To Cold Leg Recirculation

B. (1) energized

(2) EOP-ECA-1.1, Loss Of Emergency Coolant Recirculation

C. (1) failed to energize

(2) EOP-ES-1.3, Transfer To Cold Leg Recirculation

D. (1) failed to energize

(2) EOP-ECA-1.1, Loss Of Emergency Coolant Recirculation

87. Given the following plant conditions:
- A plant heat up is in progress on July 19th
- RCS temperature is 175°F and rising slowly
- The RCS is in a solid plant condition with both RHR Trains in service

Subsequently the following occurs:
- At 0830, 1RH-30, RHR HX Outlet Isolation Valve fails closed
- ALB-010-5-1, RC Overpress, alarms
- The first PORV to operate, LTOPS PORV 445A, cycles open at 480 psig and shuts
- LTOPS PORV 445B remains shut during this event

Which ONE of the following identifies (1) the operability status of the LTOPS PORV's AND (2) the required Technical Specification action(s), IF any, for the LTOPS?

(Reference Provided)

A. (1) ONE inoperable PORV

(2) Plant heat up to draw a bubble may continue.

B. (1) ONE inoperable PORV

(2) Prepare and submit a special report to the Commision by August 20th.

C. (1) TWO inoperable PORVs

(2) Restore the inoperable PORV to operable by 0830 on July 20th.

D. (1) TWO inoperable PORVs

(2) Depressurize and vent the RCS via a 2.9 square inch vent by 1630 on July 19th.

88. Given the following plant conditions:
- The unit is operating at 100% power
- 'A' Train equipment is in service
- CCW indications on the MCB are as follows:

(See Reference Photo 1)

Subsequently on July 18, 2016 at 1100, multiple CCW low flow and both 'A' and 'B' low pressure annunciators alarmed on ALB-005.
- BOTH 'A' and 'B' CCW pumps have red running lights illuminated
- CCW indications are now as follows:

(See Reference Photo 2)

Which ONE of the following completes the statement below?

Based on the conditions above AND the indications provided in the reference, the 'A' CCW pump has a ___(1)___ . If the CCW system is not restored, in accordance with Technical Specification 3.7.3, Plant Systems: Component Cooling Water System the unit must be in COLD SHUTDOWN no later than ___(2)___ on July 22, 2016.

(Reference provided)

A. (1) shaft shear

(2) 1700

B. (1) shaft shear

(2) 2300

C. (1) leak upstream of flow transmitter FI-652.1 CCW HTX A Outlet Flow

(2) 1700

D. (1) leak upstream of flow transmitter FI-652.1 CCW HTX A Outlet Flow

(2) 2300

89. Given the following plant conditions:
    - The unit is at 20% power with a startup is in progress in accordance with GP-005, Power Operation (Mode 2 to Mode 1)
    - Backup Heater Groups A, B, and D are ON

    Subsequently the following conditions exist:
    - ALB-009-7-5, Pressurizer Heater Overload Trip, is in alarm
    - An AO reports PRZ Heater Group B is de-energized due to overcurrent
    - PRZ Pressure indicates 2215 psig and lowering slowly

    Which ONE of the following completes the statements below?

    Based on the indications above, the PRZ Heater Group B breaker must be racked out because ___(1)___ .

    In accordance with Technical Specification 3.4.3, Reactor Coolant System: Pressurizer an LCO action statement ___(2)___ required to be entered.

    A. (1) there is no mechanical lockout to prevent reclosure

       (2) is

    B. (1) there is no mechanical lockout to prevent reclosure

       (2) is NOT

    C. (1) subsequent closure of the breaker may render the Diesel Generator inoperable

       (2) is

    D. (1) subsequent closure of the breaker may render the Diesel Generator inoperable

       (2) is NOT

90. Given the following plant conditions:
- A LOCA occurred 45 minutes ago
- The crew is performing actions in accordance with EOP-ES-1.3, Transfer to Cold Leg Recirculation
- The OATC is in the process of performing the valve alignment

During the valve alignment the following alarms are received:
- ALB-001-2-2, SPRAY PUMP A DISCHARGE LOW PRESS
- ALB-001-2-5, SPRAY PUMP A SUCTION LOW PRESS

Both alarms are received and clear intermittently over the course of about 1 minute
- "A" RHR pump amps and discharge pressure are beginning to oscillate
- The CRS has determined that Train 'A' recirculation sump performance is degraded

Which ONE of the following identifies (1) the procedure implementation strategy AND (2) the mitigating actions based on the determination that the recirculation sump is degraded?

A. (1) Remain in EOP-ES-1.3

(2) Stop 'A' Containment Spray Pump

B. (1) Remain in EOP-ES-1.3

(2) Throttle CSIP flow to be slightly greater than the minimum flow requirements

C. (1) Go to EOP-ECA-1.1, Loss of Emergency Coolant Recirculation

(2) Stop 'A' Containment Spray Pump

D. (1) Go to EOP-ECA-1.1, Loss of Emergency Coolant Recirculation

(2) Throttle CSIP flow to be slightly greater than the minimum flow requirements

91. Given the following plant conditions:
    - A load reduction was initiated in accordance with GP-006, Normal Plant Shutdown From Power Operation To Hot Standby (Mode 1 To Mode 3)

    The following indications are observed as load is reduced:

Time	Power	Control Bank C	Control Bank D
0600	75%	228 steps	155 steps
0630	70%	228 steps	125 steps
0700	65%	228 steps	110 steps
0730	60%	223 steps	95 steps
0800	55%	213 steps	85 steps

    Which ONE of the following identifies (1) the EARLIEST time that the action statement is required to be entered for Technical Specification 3.1.3.6, Control Rod Insertion Limits AND (2) the action(s) required to safisfy the LCO at that time?

    (Reference Provided)

    A. (1) 0630

       (2) Restore control banks to within the insertion limit specified by 0830.

    B. (1) 0630

       (2) Reduce Thermal Power to less than 67% by no later than 1030.

    C. (1) 0730

       (2) Restore control banks to within the insertion limit specified by 0930.

    D. (1) 0730

       (2) Reduce Thermal Power to less than 51% by no later than 1130.

92. Given the following plant conditions:
    - The unit is in Mode 6 with defueling in progress
    - NI-31 is selected for audible count rate

    At 0935, power is lost to NI-32 due to failure of the instrument power fuse

    Which ONE of the following statements describes (1) the requirements as a result of this failure in accordance with Technical Specification 3.9.2, Refueling Operations - Instrumentation AND (2) the basis for the requirements?

    A. (1) Verify the Wide Range Neutron Flux Monitor on the opposite side of the core from NI-31 is operable and refueling operations may continue.

       (2) Ensures that redundant NEUTRON monitoring capability is available.

    B. (1) Verify the Wide Range Neutron Flux Monitor on the opposite side of the core from NI-31 is operable and refueling operations may continue.

       (2) Ensures that redundant AUDIBLE monitoring capability is available.

    C. (1) Immediately suspend refueling operations.

       (2) Minimizes reactivity changes during a REDUCED neutron flux monitoring capability event.

    D. (1) Immediately suspend refueling operations.

       (2) Minimizes reactivity changes due to the DELAYED neutron flux monitoring response time from N-31.

93. Which ONE of the following completes the statements below?

In accordance with Technical Specification 3.11.2.5, Radioactive Effluents/Explosive Gas Mixture, the oxygen limit downstream of the Hydrogen Recombiners in the Gaseous Radwaste Treatment System is required to be less than or equal to a MAXIMUM of ___(1)___ when the hydrogen concentration exceeds 4% by volume.

The bases for this restriction is to ___(2)___ .

Procedure Title:
10 CFR Part 50, Domestic Licensing Of Production And Utilization Facilities

A. (1) 2% oxygen

(2) prevent an explosive mixture that has the likelihood of damaging equipment needed for safe shutdown capability

B. (1) 2% oxygen

(2) provide assurance that the release of radioactive materials will be controlled within 10 CFR Part 50 requirements

C. (1) 4% oxygen

(2) prevent an explosive mixture that has the likelihood of damaging equipment needed for safe shutdown capability

D. (1) 4% oxygen

(2) provide assurance that the release of radioactive materials will be controlled within 10 CFR Part 50 requirements

94. The Main Control Room has been notified that the OATC has been selected for Fitness for Duty screening and must leave the Control Room for approximately 1.5 hours, another operator will relieve the OATC.

    In accordance with OMM-002, Shift Turnover Package, which ONE of the following identifies the MINIMUM position(s) responsible for approval of this unscheduled shift relief?

    A. Shift Manager OR Shift Technical Advisor

    B. Control Room Supervisor OR Shift Manager

    C. Control Room Supervisor OR Shift Technical Advisor

    D. Control Room Supervisor AND Shift Technical Advisor

95. The crew is implementing EOP-E-3, Steam Generator Tube Rupture. The CRS is at the step to isolate flow from the ruptured SG.

Which ONE of the following completes the statements below?

The CRS should direct the OATC to set the ruptured SG PORV controller setpoint to ___(1)___

The basis for setting the controller to the new setpoint is to ___(2)___ .

A. (1) 1135 psig (87%)

(2) prevent lifting the SG code safety valves

B. (1) 1135 psig (87%)

(2) minimize RCS to ruptured SG ΔP

C. (1) 1145 psig (88%)

(2) prevent lifting the SG code safety valves

D. (1) 1145 psig (88%)

(2) minimize RCS to ruptured SG ΔP

96. Given the following plant conditions:
    - A Reactor startup is in progress in accordance with GP-004, Reactor Startup (Mode 3 To Mode 2)
    - Reactor power will be held below 3% until EST-923, Initial Criticality And Low Power Physics Testing is completed

    Which ONE of the following completes the statement below?

    In accordance with AD-OP-ALL-0203, Reactivity Management, this is an ___(1)___ category planned reactivity evolution AND a DEDICATED SRO (Reactivity Manager) ___(2)___ expected to provide oversight during the implementation this evolution.

    A. (1) R1

       (2) is

    B. (1) R1

       (2) is NOT

    C. (1) R2

       (2) is

    D. (1) R2

       (2) is NOT

97. Given the following clearance for the 'B' CSIP which ONE of the following completes the statement below?

In accordance with AD-OP-ALL-0200, Clearance and Tagging, the required isolation boundary ___(1)___ satisfied AND the SRO approver can approve the clearance ___(2)___ .

(Reference provided)

A. (1) is

(2) as written, this is NOT an "Exceptional Clearance"

B. (1) is

(2) when an "Exceptional Clearance" is documented

C. (1) is NOT

(2) as written, this is NOT an "Exceptional Clearance"

D. (1) is NOT

(2) when an "Exceptional Clearance" is documented

98. Given the following plant conditions:
    - A LOCA has occurred
    - The TSC and EOF have been fully staffed and activated
    - An individual is needed for activities in a 45 Rem/hr field to protect a large population
    - 20 Rem of TEDE exposure is expected to be received during these activities

    Which ONE of the following completes the statement below?

    The individual ___(1)___ required to be a volunteer AND the ___(2)___ is required to authorize the exposure.

    A. (1) is NOT

       (2) Site Emergency Coordinator

    B. (1) is NOT

       (2) Emergency Response Manager

    C. (1) is

       (2) Site Emergency Coordinator

    D. (1) is

       (2) Emergency Response Manager

99. With the unit at power, which ONE of the following Operations tasks (1) would require utilization of a Specific RWP AND (2) the individual required to concur with the RP Manager to approve entry into the applicable area?

A. (1) Entry into Containment to inspect for RCS leakage in the PRZ cubicle.

(2) Shift Manager

B. (1) Entry into Containment to inspect for RCS leakage in the PRZ cubicle.

(2) Assistant Operations Manager - Shift

C. (1) Entry into a High Radiation Area on the 261' RAB to inspect a CVCS leak.

(2) Shift Manager

D. (1) Entry into a High Radiation Area on the 261' RAB to inspect a CVCS leak.

(2) Assistant Operations Manager - Shift

100. Given the following plant conditions:
- An Inadvertent Safety Injection has occurred from 100% Reactor Power

The following conditions exist:
- The crew is terminating Safety Injection
- The OATC has SHUT 1SI-4, BIT Outlet Valve
- 1SI-3, BIT Outlet Valve, will NOT SHUT from the MCB

Which ONE of the following identifies (1) the procedure that is being implemented at the time Safety Injection flow is terminated AND (2) the preferred procedural action(s) required for 1SI-3 in accordance with the EOP-User's Guide?

Valve Noun Name:
1SI-1, BIT Inlet Valve
1SI-2, BIT Inlet Valve
1SI-3, BIT Outlet Valve

A. (1) EOP-ES-1.1, SI Termination

(2) Locally SHUT 1SI-3

B. (1) EOP-ES-1.1, SI Termination

(2) Locally SHUT 1SI-1 and 1SI-2

C. (1) EOP-E-0, Reactor Trip Or Safety Injection

(2) Locally SHUT 1SI-3

D. (1) EOP-E-0, Reactor Trip Or Safety Injection

(2) Locally SHUT 1SI-1 and 1SI-2

ANSWER KEY REPORT

for 2016 NRC SRO Written Exam Test Form: 0

#	ID	Answers 0
1	2016 NRC RO 1	C
2	2016 NRC RO 2	C
3	2016 NRC RO 3	A
4	2016 NRC RO 4	B
5	2016 NRC RO 5	C
6	2016 NRC RO 6	B
7	2016 NRC RO 7	A
8	2016 NRC RO 8	A
9	2016 NRC RO 9	A
10	2016 NRC RO 10	B
11	2016 NRC RO 11	B
12	2016 NRC RO 12	B
13	2016 NRC RO 13	A
14	2016 NRC RO 14	C
15	2016 NRC RO 15	A
16	2016 NRC RO 16	C
17	2016 NRC RO 17	C
18	2016 NRC RO 18	C
19	2016 NRC RO 19	A
20	2016 NRC RO 20	B
21	2016 NRC RO 21	D
22	2016 NRC RO 22	D
23	2016 NRC RO 23	A
24	2016 NRC RO 24	A
25	2016 NRC RO 25	C
26	2016 NRC RO 26	B
27	2016 NRC RO 27	C
28	2016 NRC RO 28	B
29	2016 NRC RO 29	A
30	2016 NRC RO 30	D
31	2016 NRC RO 31	A
32	2016 NRC RO 32	C
33	2016 NRC RO 33	C
34	2016 NRC RO 34	A
35	2016 NRC RO 35	C
36	2016 NRC RO 36	B
37	2016 NRC RO 37	C
38	2016 NRC RO 38	A
39	2016 NRC RO 39	B
40	2016 NRC RO 40	B
41	2016 NRC RO 41	D
42	2016 NRC RO 42	C
43	2016 NRC RO 43	C
44	2016 NRC RO 44	B
45	2016 NRC RO 45	C
46	2016 NRC RO 46	B
47	2016 NRC RO 47	C

ANSWER KEY REPORT

for 2016 NRC SRO Written Exam Test Form: 0

#	ID	Answers 0
48	2016 NRC RO 48	D
49	2016 NRC RO 49	A
50	2016 NRC RO 50	D
51	2016 NRC RO 51	B
52	2016 NRC RO 52	C
53	2016 NRC RO 53	C
54	2016 NRC RO 54	D
55	2016 NRC RO 55	C
56	2016 NRC RO 56	B
57	2016 NRC RO 57	C
58	2016 NRC RO 58	D
59	2016 NRC RO 59	C
60	2016 NRC RO 60	B
61	2016 NRC RO 61	B
62	2016 NRC RO 62	B
63	2016 NRC RO 63	A
64	2016 NRC RO 64	B
65	2016 NRC RO 65	B
66	2016 NRC RO 66	D
67	2016 NRC RO 67	B
68	2016 NRC RO 68	A
69	2016 NRC RO 69	C
70	2016 NRC RO 70	B
71	2016 NRC RO 71	D
72	2016 NRC RO 72	B
73	2016 NRC RO 73	C
74	2016 NRC RO 74	A
75	2016 NRC RO 75	D
76	2016 NRC SRO 1	D
77	2016 NRC SRO 2	A
78	2016 NRC SRO 3	D
79	2016 NRC SRO 4	C
80	2016 NRC SRO 5	B
81	2016 NRC SRO 6	B
82	2016 NRC SRO 7	D
83	2016 NRC SRO 8	C
84	2016 NRC SRO 9	B
85	2016 NRC SRO 10	D
86	2016 NRC SRO 11	D
87	2016 NRC SRO 12	D
88	2016 NRC SRO 13	B
89	2016 NRC SRO 14	A
90	2016 NRC SRO 15	A
91	2016 NRC SRO 16	A
92	2016 NRC SRO 17	A
93	2016 NRC SRO 18	B
94	2016 NRC SRO 19	B

ANSWER KEY REPORT

for 2016 NRC SRO Written Exam Test Form: 0

#	ID	Answers 0
95	2016 NRC SRO 20	C
96	2016 NRC SRO 21	A
97	2016 NRC SRO 22	B
98	2016 NRC SRO 23	A
99	2016 NRC SRO 24	A
100	2016 NRC SRO 25	C