Palisades 2012 NRC RO EXAM

Name: _____

1. B
2. A
3. D
4. B or C
5. C
6. C
7. D
8. B
9. D
10. D
11. B
12. C
13. A
~~14. A~~ DELETE
15. C
16. C
17. D
18. D
19. C
20. A
21. C
22. A
23. A
24. B
25. B
26. C
27. C
28. A
29. B
30. A
31. A
32. C
33. A
34. D
35. B
36. C
37. D
38. B
39. B
40. A
41. D
42. D
43. C
44. A
45. D
46. A
47. B
48. B
49. D
50. D
51. B
52. C
53. D
54. D
55. A
56. A
57. C
58. C
59. B
60. A
61. A
62. D
63. A
64. B
65. C
66. B
67. C
68. A
69. C
70. B
71. C
72. A
73. D
74. B
75. D

EXAM KEY

Given the following:

- The Plant is manually tripped in response to a loss of coolant accident
- A Safety Injection Actuation Signal is received
- EOP-1.0, "Standard Post Trip Actions," are in progress
- RIA-1805/1806/1807/1808, Containment Area Monitors, indicate $2 \times 10^1$ R/Hr
- Containment pressure is 3.3 psig and slowly rising
- Alarm EK-1126, CIS INITIATED, is <u>not</u> alarming

Which one of the following actions is <u>required</u> to be performed based on the above conditions?

a. Ensure operating all available Containment Air Cooler 'A' fans.

b. Push left or right High Radiation Initiate pushbuttons.

c. Close both Steam Generator Main Steam Isolation Valves.

d. Ensure open all Containment Air Cooler inlet and outlet valves.

Given the following:

- A Reactor trip occurs due to a loss of all off-site power
- During the transient, RV-1039, Pressurizer Relief Valve, opens but does not re-seat
- Pressurizer pressure is 2000 psia and lowering rapidly
- Quench Tank pressure is off-scale low; the Control Room team determines that the pressure indication has failed
- RV-1039 downstream tailpipe temperature is 240°F

If RV-1039 does not re-seat, which one of the following indicates that RUD-1041, Quench Tank Rupture Disk, has actuated?

a. RV-1039 downstream tailpipe temperature lowers.

b. RV-1039 downstream tailpipe temperature rises.

c. Pressurizer level begins to lower.

d. Pressurizer level begins to rise.

For a small break loss of coolant accident event, which one of the following heat removal methods is relied upon to ensure adequate heat removal from the core? (Assume no other events are in progress)

a. High Pressure Safety Injection (HPSI) flow only.

b. HPSI flow and Low Pressure Safety Injection flow.

c. Primary Coolant flow out of the break.

d. Steam Generators.

Which one of the following correctly completes the statement below?

Per EOP-4.0, “Loss of Coolant Accident Recovery,” the indication that the Control Room team uses to determine when to trip the last two Primary Coolant Pumps (PCPs) is _____(1)_____ and the reason for tripping all PCPs under these conditions is to _____(2)_____.

a. (1) Primary Coolant System (PCS) subcooling less than 25°F
   (2) prevent damaging a PCP

b. (1) PCS subcooling less than 25°F
   (2) minimize PCS inventory loss

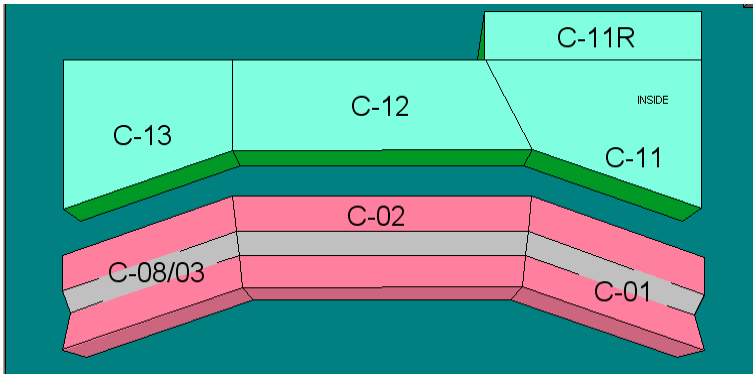
c. (1) Pressurizer (PZR) pressure less than minimum for PCP operation
   (2) prevent damaging a PCP

d. (1) PZR pressure less than minimum for PCP operation
   (2) minimize PCS inventory loss

Given the following with the Plant at full power:

- Alarm EK-0913, PRI COOLANT PUMP VIB ALERT/MON TROUBLE, annunciates
- Primary Coolant Pump, P-50A, vibration indicates 17 mils on VIA-0131A, P-50A Vibration Monitor

Using the diagram of the Control Room panel layout below, which one of the following lists an alternate location where P-50A vibration may be monitored?




a. Panel C-02.

b. Panel C-12.

c. Panel C-11.

d. Panel C-11R.

Given the following with the Plant at full power:

- EK-0709, VOLUME CONTROL TANK HI-LO LEVEL, annunciates
- EK-0740, CHARGING PUMPS DISCHARGE LO PRESS, annunciates
- Pressurizer level is lowering slowly
- Charging flow has risen to 140 gpm
- Letdown flow is stable at 40 gpm
- TI-0212, Charging Line Temperature Indicator, has lowered from 380°F to 250°F
- TICA-0201, Regenerative Heat Exchanger Outlet Temperature Indicator, has lowered from 240°F to 110°F

Which one of the following describes the event that is occurring based on the above conditions?

a. Letdown line leak downstream of the Letdown Heat Exchanger.

b. Letdown line leak upstream of the Letdown Heat Exchanger.

c. Charging line leak downstream of the Regenerative Heat Exchanger.

d. Charging line leak upstream of the Regenerative Heat Exchanger.

Which one of the following is an immediate action of ONP-17, “Loss of Shutdown Cooling?”

a. Suspend all operations involving a reduction of Primary Coolant System boron concentration.

b. Stop the operating Low Pressure Safety Injection Pump if Shutdown Cooling flow is less than 170 gpm.

c. Secure the Primary Coolant System Clean-up System.

d. Stop all Refueling Operations.

CV-0945 and CV-0946, Component Cooling Water (CCW) Heat Exchanger Inlet Valves, receive an open signal during emergency conditions.

Which one of the following describes (1) the condition that generates the open signal and (2) the reason?

a. (1) Safety Injection Signal (SIS).
   (2) Ensures 100% cooling is available post SIS.

b. (1) Recirculation Actuation Signal (RAS).
   (2) Ensures 100% cooling is available post RAS.

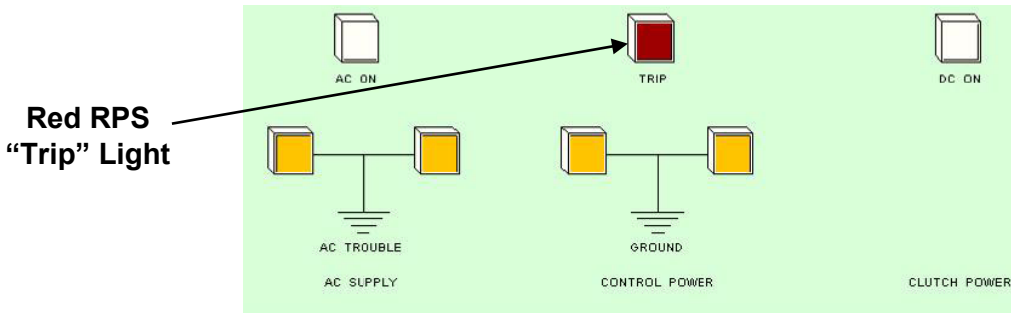
c. (1) SIS.
   (2) Provides minimum flow protection for CCW pumps.

d. (1) RAS.
   (2) Provides minimum flow protection for CCW pumps.

Given the following with the Plant operating at full power:

- The Main Turbine trips due to a Condenser low vacuum condition
- The Reactor remains at full power
- The Reactor Operator attempts to trip the Reactor using the pushbutton on Panel C-02, but is <u>not</u> successful
- The Reactor Operator then successfully trips the Reactor using the pushbutton on Panel C-06

Based on the above conditions, which one of the following describes the expected status of (1) Reactor Trip Breakers, 42-1RPS and 42-2RPS, and (2) the Red RPS "Trip" Light on the CRDM Clutch Power Supplies on Panel C-06? (See picture of Clutch Power Supply below)




a. (1) CLOSED
   (2) OFF

b. (1) CLOSED
   (2) LIT

c. (1) TRIPPED
   (2) OFF

d. (1) TRIPPED
   (2) LIT

Given the following:

- The Plant has been tripped from full power due to a Steam Generator (S/G) tube rupture in the 'B' S/G
- A loss of all offsite power occurred following the trip
- EOP-5.0, "Steam Generator Tube Rupture Recovery," has been implemented
- The highest Loop Hot Leg ($T_H$) temperature is 526°F
- The average Qualified Core Exit Thermocouple (CET) temperature is 532°F
- A cooldown is in progress using the Atmospheric Steam Dump Valves

Which one of the following is the <u>minimum</u> amount, in °F, that the Primary Coolant System needs to be cooled to allow Pressurizer pressure to be lowered to ≤ 940 psia?

a. 2°F by highest Loop $T_H$.

b. 8°F by average of Qualified CETs.

c. 14°F by highest Loop $T_H$.

d. 20°F by average of Qualified CETs.

Given the following:

- The Plant has been manually tripped from 50% power in response to a trip of the only operating Main Feed Pump
- No Auxiliary Feedwater Pump can be started
- After completion of EOP-1.0, "Standard Post Trip Actions," the Control Room team transitions to EOP-7.0, "Loss of All Feedwater Recovery"
- All Primary Coolant Pumps have been secured

Which one of the following describes the indication(s) that the Control Room team will monitor to ensure adequate Primary Coolant System (PCS) Heat Removal via Steam Generators (S/G) in accordance with EOP-7.0?

a. PCS Loop $T_C$ only.

b. PCS Loop $T_C$ and S/G level.

c. PCS Loop $T_H$ and S/G level.

d. Average Core Exit Thermocouple temperature and S/G level.

Given the following with the Plant in MODE 3:

- Diesel Generator (D/G) 1-2 is out of service for maintenance
- A loss of all offsite power occurs
- D/G 1-1 did not automatically start
- The Control Room team implements EOP-3.0, “Station Blackout Recovery”

Assuming it has been five (5) minutes since the loss of offsite power, which one of the following is required to be performed prior to attempting to start and load D/G 1-1?

a. Perform EOP Supplement 24, “SW and CCW Hydraulic Shock Prevention.”

b. Perform EOP Supplement 28, “Supplementary Actions for Loss of Power.”

c. Ensure alarm EK-0532, BUS 1C OR 1D OVERCURRENT LOCKOUT, is clear.

d. Place Remote-Local-Transfer Switch on D/G 1-1 Gage Board in LOCAL.

Given the following with the Plant in MODE 3:

- A loss of all offsite power occurs
- Both Diesel Generators (D/G) start and sequence loads as designed

Which one of the following loads must be manually started after the D/Gs have completed sequencing loads?

a. Instrument Air Compressors.

b. Charging Pumps.

c. Control Room HVAC.

d. Containment Air Cooler Fans.

**THIS QUESTION DELETED FROM THE EXAM**

Given the following with the Plant at full power:

- A manual Reactor trip occurs in response to a Steam Line Break inside Containment
- During the transient, Y40, Preferred AC Bus, de-energizes
- Pressurizer pressure is 1725 psia and lowering slowly
- Containment pressure is 4.2 psig and rising
- The following alarms annunciate:
  - EK-1126, CIS INITIATED
  - EK-1342, SAFETY INJ INITIATED

Which one of the following describes the action(s) required, if any, based on the above conditions for the Right Channel of Containment Spray and Safety Injection?

a. Containment Spray and Safety Injection must be manually initiated.

b. Containment Spray must be manually initiated only.

c. Safety Injection must be manually initiated only.

d. No actions required; Containment Spray and Safety Injection will automatically initiate.

Given the following with the Plant at full power:

- A loss of D21-2, DC Bus, occurs
- The Control Room Supervisor directs a manual Reactor trip per ONP-2.3, “Loss of DC Power”

Which one of the following describes the reason for the manual Reactor trip?

a. CV-0847, Containment Service Water Supply Valve, is closed.

b. Main Steam Isolation Valve Control power is lost.

c. CV-1359, Non-critical Service Water Isolation Valve, is closed.

d. All Control Room annunciators have been lost.

Given the following with the Plant at full power:

- Alarm EK-1347, CONTAINMENT AIR COOLERS SERV WATER LEAK, annunciates
- The Control Room team takes all required Operator Actions of the alarm response procedure to attempt to isolate the leak
- After these actions are complete, it is noted that the alarm has not cleared

Based on the above conditions, which one of the following correctly completes the statement below describing the location and minimum flow rate of the leak?

The leak is ___(1)___ Containment Air Cooler and has a flow rate of at least ___(2)___ gpm. (Assume there is only one leak).

a. (1) not on a
   (2) 700

b. (1) on one
   (2) 300

c. (1) not on a
   (2) 300

d. (1) on one
   (2) 700

Given the following with the Plant at full power:

- Alarm EK-1105, AIR COMPRESSORS STANDBY COMP RUNNING, annunciates
- A few seconds later, the following alarms annunciate:
  - EK-1101, CONTAINMENT INSTR AIR LO PRESS
  - EK-1102, INSTRUMENT AIR LO PRESS
  - EK-1103, SERVICE AIR LO PRESS
- The Control Room team diagnoses a Plant Air System leak and implements ONP-7.1, "Loss of Instrument Air"
- Instrument Air pressure is 83 psig and steady
- EK-1101, EK-1102, and EK-1103 have <u>not</u> cleared

Which one of the following describes (1) the location of the leak and (2) the correct action per ONP-7.1?

a. (1) Service Air System.
   (2) Ensure personnel utilizing breathing air stop work and leave their area.

b. (1) Instrument Air System.
   (2) Supply the Instrument Air System from T-9C, HP Control Air Compressor Tank.

c. (1) Service Air System.
   (2) Isolate Fire Water to the Track Alley Sprinkler system.

d. (1) Instrument Air System.
   (2) Commence isolating major Instrument Air headers to isolate the leak.

Given the following with the Plant at full power:

- A voltage disturbance occurs on the Grid
- Main Generator reactive load changes from zero (0) MVARS to 300 MVARs in
- Alarm EK-0303, VOLTAGE REGULATOR LIMITER OPERATION, annunciates
- The Control Room team determines that the Minimum Excitation Limiter has actuated
- The Main Generator Voltage Regulator is then transferred to Direct Control (DC) in accordance with the associated Alarm Response Procedure

Which one of the following describes the impact of using the DC Regulator to maintain Main Generator terminal voltage?

a. The Generator Loss of Field Relay (340) is blocked from actuating.

b. The Volts/HZ Limiter Relay (395) is blocked from actuating.

c. The Main Generator Capability curves are not valid.

d. Automatic Voltage Regulator limits will not function.

Given the following:

- A Plant trip has occurred due to a Condenser low vacuum condition
- Control Rods #6 and #31 are stuck fully out
- MO-2087, Volume Control Tank Outlet Valve, is open and will not close

Which one of the following emergency boration flow paths must be utilized in accordance with SOP-2A, Attachment 14, “Emergency Manual Boration,” for the above conditions?

a. MO-2169 and MO-2170, Boric Acid Storage Tank Gravity Feed Valves.

b. MO-2160, SIRWT Outlet to Charging Pump Suction.

c. MO-2140, Boric Acid Pumped Feed Isolation Valve.

d. MO-3072, HPSI Train 2 Charging Cross Connect Valve.

Which one of the following correctly completes the statement below?

The guidance of ONP-23.3, "Loss of Refueling Water Accident," requires that the Low Pressure Safety Injection Loop Injection Valves shall be fully ___(1)___ prior to Containment Water level reaching 595' 9" to allow the Reactor Cavity to be re-filled from the _____(2)_____.

(Assume the Fuel Transfer Tube Flange is removed and Door-950, Spent Fuel Pool (SFP) South Tilt Pit Gate, is removed.)

a. (1) open
   (2) Containment Sump

b. (1) open
   (2) SFP Cooling System

c. (1) closed
   (2) Containment Sump

d. (1) closed
   (2) SFP Cooling System

Given the following with the Plant in MODE 3:

- Primary Coolant System temperature is 532°F
- Pressurizer pressure is 2060 psia
- Pressurizer level is 42% and steady
- P-55A, Charging Pump, is in service
- P-55C, Charging Pump, is out of service for maintenance
- Then, a Steam Generator (S/G) tube leak develops

Which one of the following is the minimum S/G tube leak rate value that will cause Pressurizer level indication to continuously lower for the above conditions? (Assume no operator actions occur.)

a. 11 gpm.

b. 15 gpm.

c. 53 gpm.

d. 91 gpm.

Given the following with the Plant operating at full power:

- P-39B, Cooling Tower Pump, trips
- The Control Room team enters ONP-14, “Loss of Condenser Vacuum”
- ONP-14 directs implementation of ONP-26, “Rapid Power Reduction”
- A power reduction of 300% per hour is in progress

Which one of the following alarms, if annunciating, requires a Reactor trip under these conditions in accordance with ONP-26?

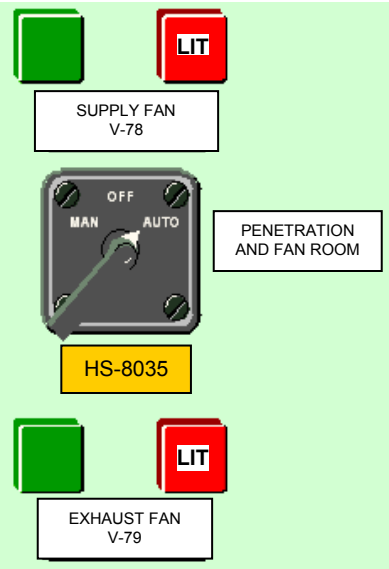
a. EK-0605C, TM/LO PRESSURE CHANNEL PRE-TRIP.

b. EK-0962, STEAM GENERATOR E-50A LO LEVEL.

c. EK-0606A, HIGH POWER RATE PRE-TRIP/ASI.

d. EK-0912, ROD POSITION 8 INCHES DEVIATION.

The Plant is in MODE 5 with V-78, Penetration and Fan Room Supply, and V-79, Penetration and Fan Room Exhaust, aligned per the picture below




Then, EK-1366, PLANT AREA MONITORING HI RADIATION, annunciates due to a high alarm on RIA-5710, Penetration and Fan Room Area Monitor.

Which one of the following lists the expected indication for V-78 and V-79 due to EK-1366?

| | **V-78** | **V-79** |
|---|---|---|
| a. | OFF | OFF |
| b. | ON | OFF |
| c. | OFF | ON |
| d. | ON | ON |

Given the following:

- The Reactor was tripped due to a fire in the Technical Support Center
- The Control Room has been evacuated
- ONP-25.1, "Fire Which Threatens Safety Related Equipment," and ONP-25.2, "Alternate Safe Shutdown Procedure," have been implemented
- EOP-1.0, "Standard Post Trip Actions," are in progress

Which one of the following describes the location(s), if any, available for determining Primary Coolant System subcooling for the above conditions?

a. None.

b. C-150, Auxiliary Hot Shutdown Panel or C-33, Redundant Safety Injection Panel.

c. C-150 only.

d. C-33 only.

While verifying natural circulation in the Primary Coolant System (PCS) during the performance of EOP-8.0, “Loss of Offsite Power/Forced Circulation Recovery,” which one of the following would indicate that natural circulation flow is <u>not</u> present in the PCS?

a. Loop Hot Leg temperatures ($T_H$) are steady.

b. The difference between Average Qualified CETs and $T_H$ is 18°F.

c. Loop Cold Leg temperatures ($T_C$) are steady.

d. The difference between Average Qualified CETs and $T_C$ is 42°F.

Given the following:

- The Plant has been tripped due to a steam line break from the 'A' Steam Generator (S/G)
- The Control Room team is performing actions to isolate the 'A' S/G in accordance with EOP Supplement 17, "'A' S/G ESDE Isolation Checklist"

Which one of the following correctly completes the statement below?

The preferred method of isolating the Atmospheric Steam Dump Valves (ADVs) is by closing the _____(1)_____ because _____(2)_____.

a. (1) Control Air Supply Valve to the ADVs
   (2) the Manual Isolation Valves may not be accessible

b. (1) Control Air Supply Valve to the ADVs
   (2) it allows the valve to be quickly re-opened if necessary

c. (1) ADV Manual Isolation Valves
   (2) the "quick open" feature may actuate due to the valve accumulator not being isolated with the Control Air Supply Valve

d. (1) ADV Manual Isolation Valves
   (2) the "quick open" feature may actuate due to backup Nitrogen not being isolated with the Control Air Supply Valve

Given the following with the Plant at full power:

- P-55A, Charging Pump, is in service
- Then, the Reactor Operator notes the following:
  - Containment sump level is rising
  - Volume Control Tank (VCT) level is 78.0%
  - Pressurizer (PZR) level is 56.9%
- The Control Room team implements ONP-23.1, "Primary Coolant Leak"
- The Control Room Supervisor directs the performance of a Primary Coolant System (PCS) leak rate calculation

After ten (10) minutes which one of the following describes the condition(s) listed in the table below that require the Reactor to be tripped in accordance with ONP-23.1? (consider each condition separately and assume PCS temperature has remained stable)

| Condition | VCT Level (%) | PZR level (%) |
|---|---|---|
| **A** | 73.3 | 57.0 |
| **B** | 74.9 | 56.9 |
| **C** | 76.8 | 56.1 |
| **D** | 74.5 | 57.4 |

a. Conditions A, B, C, and D.

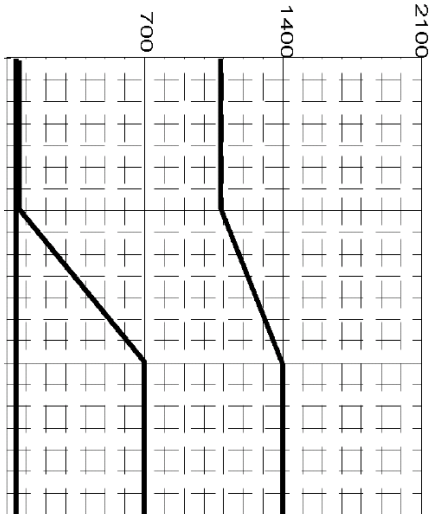
b. Conditions A, B, and C only.

c. Conditions A and B only.

d. Condition A only.

Given the drawing below of PR-0140B, Primary Coolant Pump, P-50D, Seal Pressure Recorder, and the following pump conditions:

- Controlled Bleedoff temperature is 120°F
- Controlled Bleedoff flow is 1 gpm
- Controlled Bleedoff pressure is 90 psig




Which one of the following malfunctions has occurred to the P-50D Seal?

a. The upper seal (3rd stage) has failed.

b. The middle seal (2nd stage) has failed.

c. The lower seal (1st stage) has failed.

d. The upper (3rd stage) pressure breakdown device has plugged.

Given the following with the Plant at full power:

- Pressurizer level is 57% and stable
- P-55A, Charging Pump, is in service
- EK-0701, REGEN HT EX TUBE OUTLET HI TEMP, annunciates on Panel C-12
- TICA-0201, Regenerative Heat Exchanger Outlet Temperature Indicator, is 472°F
- TI-0212, Charging Line Temperature Indicator, is 440°F

Several minutes later during the investigation of EK-0701, the Control Room team notes the following:

- TICA-0201, Regenerative Heat Exchanger Outlet Temperature Indicator, is 460°F
- TI-0212, Charging Line Temperature Indicator, is 410°F

Assuming no Operator action, which one of the following identifies the expected Charging and Letdown flow rates due to the above conditions?

| | **CHARGING FLOW** | **LETDOWN FLOW** |
|---|---|---|
| a. | 0 gpm | 0 gpm |
| b. | 33 gpm | 0 gpm |
| c. | 33 gpm | 40 gpm |
| d. | 44 gpm | 40 gpm |

Given the following with the Plant in MODE 4:

- The Primary Coolant System (PCS) is solid with P-55B, Charging Pump, in service
- P-50A and P-50C, Primary Coolant Pumps, are in service
- PCS pressure is being maintained at 250 psia with PIC-0202, Intermediate Letdown Pressure Controller, in MANUAL
- The Shutdown Cooling System is in service with PCS temperature indicating 230°F
- A PCS cooldown is in progress

Which one of the following correctly completes the statement below?

To maintain PCS pressure at 250 psia as the PCS cooldown continues, Letdown flow must be ____(1)____ by adjusting the output ____(2)____ on PIC-0202.

a. (1) lowered
   (2) lower

b. (1) lowered
   (2) higher

c. (1) raised
   (2) lower

d. (1) raised
   (2) higher

Given the following with the Plant in MODE 6:

- The Reactor Cavity is flooded to 647' 2" elevation
- The Shutdown Cooling System is in service using P-67B, Low Pressure Safety Injection (LPSI) Pump
- The Control Room team has been requested to de-energize 2400V Bus 1D for maintenance

Which one of the following lists two LPSI Loop Injection Valves that <u>will</u> both be able to be operated from the Control Room <u>if</u> Bus 1D is de-energized?

a. MO-3008, LPSI to Reactor Coolant Loop 1A.
   MO-3010, LPSI to Reactor Coolant Loop 1B.

b. MO-3010, LPSI to Reactor Coolant Loop 1B.
   MO-3014, LPSI to Reactor Coolant Loop 2B.

c. MO-3012, LPSI to Reactor Coolant Loop 2A.
   MO-3014, LPSI to Reactor Coolant Loop 2B.

d. MO-3008, LPSI to Reactor Coolant Loop 1A.
   MO-3012, LPSI to Reactor Coolant Loop 2A.

Given the following:

- A loss of coolant accident has occurred
- The Control Room team implements EOP-4.0, "Loss of Coolant Accident"
- Safety Injection and Containment High Pressure (CHP) initiate as designed
- Safety Injection Refueling Water Tank level reaches 2% and a Recirculation Actuation Signal (RAS) occurs
- The Control Room team commences actions of EOP Supplement 42, section 2.0, "Post-RAS Actions"
- The Reactor Operator notes that CV-3030, Containment Sump Outlet Valve to West Safeguards, did <u>not</u> open

Which one of the following describes (1) the effect, if any, on High Pressure Safety Injection (HPSI) flow and (2) the effect on Containment Spray flow upon completion of EOP Supplement 42, section 2.0 for the above conditions?

HPSI flow capacity will be _____(1)_____ and Spray flow capacity will be _____(2)_____.

a. (1) unaffected
   (2) reduced by approximately two-thirds

b. (1) unaffected
   (2) reduced by approximately one-third

c. (1) reduced by approximately one-half
   (2) reduced by approximately two-thirds

d. (1) reduced by approximately one-half
   (2) reduced by approximately one-third

Which one of the following correctly completes the statement below describing the minimum required level and source of makeup water for T-73, Quench Tank?

The Quench Tank is maintained at a minimum water level of ___(1)___ by adding makeup water using _____(2)_____.

a. (1) 70%
   (2) P-90A or P-90B, Primary Makeup Tank Pumps

b. (1) 70%
   (2) P-79A or P-79B, Primary System Makeup Transfer Pumps

c. (1) 40%
   (2) P-90A or P-90B

d. (1) 40%
   (2) P-79A or P-79B

Given the following with the Plant in MODE 4:

- A Plant cooldown is in progress
- The Reactor Operator has just started a second Component Cooling Water (CCW) Pump in preparation for placing the Shutdown Cooling System in service
- The Nuclear Plant Operator reports the following CCW Heat Exchanger differential pressure (dp) indications:
  - E-54A - 14.1 psi
  - E-54B - 12.5 psi

Which one of the following describes the CCW Heat Exchanger dp indication, if any, that is within the guidelines for two pump operation per SOP-16, “Component Cooling Water System?”

a. E-54A only.

b. E-54B only.

c. Neither.

d. Both.

Given the following with the Plant at full power:

- P-52A, Component Cooling Water (CCW) Pump, is in service
- CCW Pump discharge header pressure is 107 psig
- Then, alarm EK-1170, COMPONENT CLG EX E-54A HI-LO TEMP, annunciates
- CCW temperature is 89°F and rising slowly
- CV-0821 and CV-0822, CCW HX E-54A and E-54B Temp. Control Valves, are full open
- Lake Michigan water temperature is 81°F with all three Service Water Pumps in service

Which one of the following describes (1) an impact on the Plant due to the above conditions and (2) the correct action?

a. (1) Rising Letdown temperature.
   (2) Place CV-2023, Demineralizers T-51A/B & T-52 Bypass Valve, to BYPASS.

b. (1) Rising PCP seal temperature.
   (2) Throttle open CV-0823 and CV-0826, CCW HX SW High Capacity Outlets.

c. (1) Rising Letdown temperature.
   (2) Start P-52B or P-52C, CCW Pump.

d. (1) Rising PCP seal temperature.
   (2) Start P-52B or P-52C.

Given the following with the Plant in MODE 4:

- A Primary Coolant System (PCS) heatup is in progress
- Pressurizer (PZR) steam bubble formation is in progress in accordance with SOP-1C, "Primary Coolant System - Heatup"
- PCS temperature is 265°F
- PZR pressure is 273 psia
- PZR temperature is 401°F and rising

Which one of the following describes (1) the lowest temperature which the PZR must be heated to form a steam bubble and (2) an indication that a steam bubble has formed in the PZR?

a. (1) 406°F.
   (2) Letdown flow is greater than charging flow with PZR pressure constant.

b. (1) 409°F.
   (2) Sudden PZR pressure rise when saturation temperature is reached.

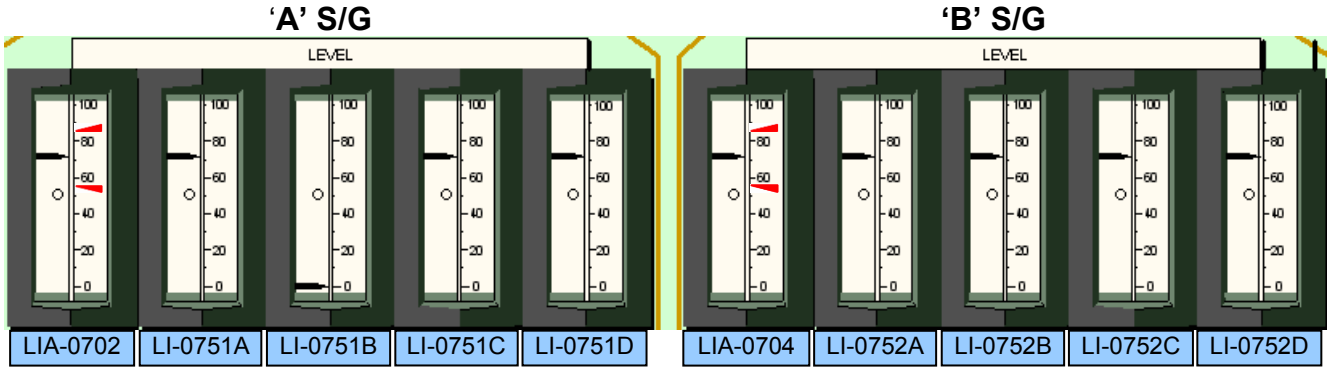
c. (1) 409°F.
   (2) Letdown flow is greater than charging flow with PZR pressure constant.

d. (1) 406°F.
   (2) Sudden PZR pressure rise when saturation temperature is reached.

Given the following with the Plant at full power:

- LI-0751B, Steam Generator (S/G) E-50A Low Level Indicator, has failed low
- RPS Channel 'B' for 'A' Steam Generator Low Level trip is BYPASSED

Which one of the following additional instrument failures will result in an automatic Reactor trip for the above conditions? (refer to the below graphic of S/G level instrumentation)




a. LI-0751A, S/G E-50A Low Level Indicator, fails low.

b. LI-0752B, S/G E-50B Low Level Indicator, fails low.

c. LIA-0702, S/G E-50A Level Alarm Indication, fails low.

d. LIA-0702 fails high.

Given the following:

- The Plant is at 10% power
- A loss of Y20, Preferred AC Bus, occurs
- The Control Room team bypasses all 'B' Channel Reactor Protective System (RPS) trips
- Then, a loss of Y10, Preferred AC Bus, occurs

For the above conditions, which one of the following describes the effect, if any, on the RPS and the reason?

a. A Reactor trip signal will be generated due to a Loss of Load signal caused by a Main Steam Isolation.

b. A Reactor trip signal will be generated due to a loss of power to the 'AB' Matrix Relays.

c. No effect; trip logic is two-out-of-three with 'B' RPS channels bypassed.

d. A Reactor trip signal will be generated due to a high Startup Rate trip signal caused by loss of two Wide Range Nuclear Instruments.

Given the following:

- A loss of coolant accident outside Containment has occurred from full power
- EOP-4.0, "Loss of Coolant Accident Recovery," has been implemented
- Pressurizer pressure is 1410 psia
- The Control Room team is preparing to reset the Safety Injection Signal (SIS)

Which one of the following describes (1) the minimum corrected Pressurizer level associated with Safety Injection throttling criteria that must be met prior to resetting SIS and (2) the minimum action(s) that will reset SIS?

a. (1) 28%.
   (2) Push left and right Safety Injection RESET pushbuttons only.

b. (1) 28%.
   (2) Turn left and right SIAS BLOCK Handswitches to BLOCK and push left and right Safety Injection RESET pushbuttons.

c. (1) 42%.
   (2) Push left and right Safety Injection RESET pushbuttons only.

d. (1) 42%.
   (2) Turn left and right SIAS BLOCK Handswitches to BLOCK and push left and right Safety Injection RESET pushbuttons.

Given the following conditions with the Plant operating at 60% power:

- A Reactor trip occurs due to a loss of all offsite power
- Diesel Generator (D/G) 1-1 starts and sequences loads as designed
- D/G 1-2 will <u>not</u> start
- The following Service Water (SW) alarms are annunciating:
  - EK-1163, CRITICAL SERV WATER HEADER 'B' LO PRESSURE
  - EK-1164, CRITICAL SERV WATER HEADER 'A' LO PRESSURE
  - EK-1165, NON-CRITICAL SERV WATER LO PRESS
- Both Critical SW Header pressures are 31 psig and stable
- Pressurizer pressure is 1900 psia and stable

Which one of the following actions is required to be taken <u>first</u> per EOP-1.0, "Standard Post Trip Actions," to restore Critical SW Header pressures for the above conditions?

a. Close Containment Air Cooler Outlet Valves as necessary to raise SW pressure > 42 psig.

b. Close CV-0847, Containment SW Supply Valve to Containment.

c. Close CV-1359, Non-critical SW Isolation Valve.

d. Start additional SW Pumps as necessary to raise SW pressure > 42 psig.

Given the following with the Plant operating at full power:

- A manual Plant trip is initiated in response to a steam line break from the 'A' Steam Generator
- Containment pressure reaches 6.0 psig

For the components listed below, which one of the following describes the expected configuration due to the above conditions?

- V-4A, Containment Air Cooling (CAC) Recirc Fan
- CV-0869, VHX-4 Containment Air Cooler Inlet Valve
- CV-0867, VHX-4 Containment Air Cooler Outlet Valve

| | **V-4A** | **CV-0869** | **CV-0867** |
|---|---|---|---|
| a. | ON | OPEN | OPEN |
| b. | OFF | CLOSED | OPEN |
| c. | ON | OPEN | CLOSED |
| d. | ON | CLOSED | OPEN |

Given the following:

- A Plant trip has occurred in response to a steam line break inside Containment
- The following alarms are annunciating:
  - EK-0504, 2400V BUS 1D BKR 152-203 TRIP
  - EK-0532, BUS 1C OR 1D OVERCURRENT LOCKOUT
- EOP-6.0, "Excess Steam Demand Event," is implemented
- Containment pressure is 41 psia and lowering slowly
- T-58, Safety Injection Refueling Water Tank, level is 44% and lowering slowly

For the above conditions, which one of the following lists (1) the maximum pressure at which any operating Containment Spray Pump may be secured and (2) the Containment Spray Pump that will be secured?

a. (1) 35 psia.
   (2) P-54A.

b. (1) 35 psia.
   (2) P-54B or P-54C.

c. (1) 28 psia.
   (2) P-54A.

d. (1) 28 psia.
   (2) P-54B or P-54C.

Given the following:

- A Plant trip from full power occurs due to CV-0501 and CV-0510, Steam Generator Main Steam Isolation Valves, closing
- 386AST, Turbine Trip Lockout Relay, does not actuate when the Turbine trips

Which one of the following correctly completes the statement below describing how automatic operation of the Atmospheric Steam Dump Valves (ADVs) will be affected during the Plant trip?

The ADVs __(1)__ operate upon a "Quick Open" signal and __(2)__ operate in the "Modulate" mode.

a. (1) will not
   (2) will

b. (1) will
   (2) will not

c. (1) will not
   (2) will not

d. (1) will
   (2) will

Given the following with the Plant at full power:

- A Plant trip occurs due to steam line rupture inside Containment
- Containment pressure rises to a maximum of 3.1 psig
- 'A' Steam Generator (S/G) Pressure indicates 470 psia
- 'B' S/G Pressure indicates 540 psia

Which one of the following describes the expected response of the Main Steam Isolation Valves (MSIVs) and Feed Regulating Valves (FRVs) to this event?

a. Both 'A' and 'B' S/G MSIVs close.
   Only 'A' S/G FRV closes.

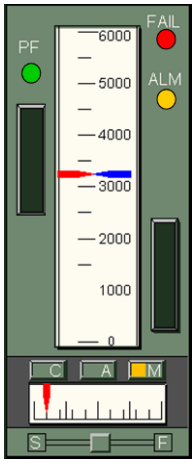
b. Both 'A' and 'B' S/G MSIVs close.
   Both 'A' and 'B' S/G FRVs close.

c. Only 'A' S/G MSIV closes.
   Both 'A' and 'B' S/G FRVs close.

d. Only 'A' S/G MSIV closes.
   Only 'A' S/G FRV closes.

Given the following during a Plant power ascension:

- P-1A, 'A' Main Feed Pump (MFP), is in service with HIC-0526, P-1A Turbine Driver K-7A Speed Controller, in CASCADE
- P-1B, 'B' MFP, is being placed in service with HIC-0529, P-1B Turbine Driver K-7B Speed Controller, in MANUAL with turbine speed at the minimum governor setting




Which one of the following correctly completes the statement below describing the logic necessary to transfer HIC-0529 to CASCADE? (refer to the above picture of HIC-0529)

When the green "PF" light indicates __(1)__, the _____(2)_____ is depressed.

a. OFF
CASCADE ('C') Pushbutton

b. ON (flashing)
CASCADE ('C') Pushbutton

c. OFF
AUTO ('A') Pushbutton

d. ON (flashing)
AUTO ('A') Pushbutton

Given the following with the Plant at full power:

- A manual Reactor trip is initiated due to a loss of P-1A, Main Feed Pump
- The following Auxiliary Feedwater (AFW) flow rates are noted by the Control Room team:
  - 'A' Steam Generator (S/G) - 90 gpm
  - 'B' S/G - 110 gpm

Which one of the following describes whether any additional AFW Pumps will automatically start due to the above conditions?

a. No additional AFW Pumps will start.

b. P-8B, AFW Pump, will automatically start after 30.5 seconds.

c. P-8C, AFW Pump, will automatically start after 30.5 seconds.

d. P-8C will automatically start after 112.5 seconds.

Given the following during a loss of all offsite power event:

- Diesel Generator (D/G) 1-2 is supplying 2400 VAC Bus 1D loads
- D/G 1-2 load is 2890 kW

Which one of the following is the least amount of load that must be removed from D/G 1-2 to be below the two-hour operational load limit?

a. 100 kW.

b. 200 kW.

c. 300 kW.

d. 400 kW.

Given the following with the Plant at 50% power:

- The Chemical Volume Control System is aligned for double charging and letdown with P-55A and P-55B, Charging Pumps, in service
- Then, a ground occurs on the DC Electrical Distribution System and the following alarms annunciate:
  - EK-0547, 125V DC BUS GROUND
  - EK-0548, 125V DC BUS UNDERVOLTAGE/ TROUBLE
  - EK-0765, NO PCS PROTECTION CHANNEL 'B'
- The Control Room team determines that D21-1, DC Bus, Supply Fuse, FUZ/D21-1, has blown

Which one of the following describes (1) an impact on the Plant due to the above conditions and (2) the action required to mitigate the impact?

a. (1) Pressurizer level is rising.
   (2) Place in-service Pressurizer Level Controller in MANUAL and raise letdown flow.

b. (1) Pressurizer level is rising.
   (2) Manually secure P-55A and P-55B by opening supply breakers at LCC-12, 480V Load Control Center.

c. (1) Main Steam Isolation Valves (MSIVs) will <u>not</u> automatically close on Containment Isolation if required.
   (2) Direct an Auxiliary Operator (AO) to verify closed all Turbine Valves if a Containment Isolation signal occurs.

d. (1) MSIVs will <u>not</u> automatically close on Containment Isolation if required.
   (2) Direct an AO to unlatch the MSIV solenoids if a Containment Isolation signal occurs.

Given the following:

- A loss of all offsite power occurs
- Both Diesel Generators (D/G) start due to bus undervoltage

Which one of the following correctly completes the statement below regarding actuation of the Normal Shutdown Sequencer (NSD) for the associated D/G?

_____ is the last event to occur that causes the Normal Shutdown Sequencer to actuate and begin sequencing loads onto the associated D/G.

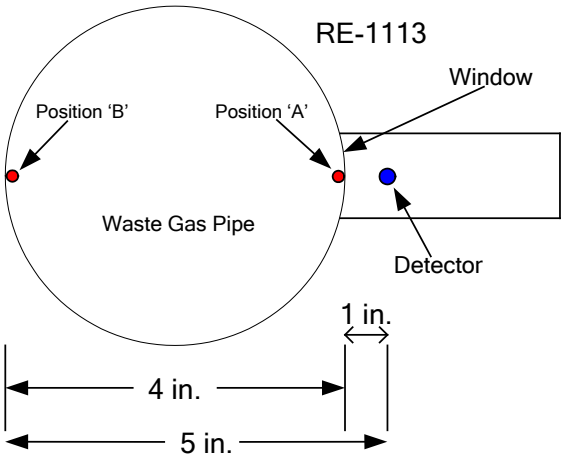
a. D/G jacket water pressure relay actuation.

b. 2400 VAC bus load shed completion.

c. D/G output voltage reaching 2200 volts.

d. D/G output breaker closing.

RE-1113, Waste Gas Process Monitor Radiation Element, consists of a detector mounted on one side of the Waste Gas discharge pipe with a window through the pipe wall, with the pipe four inches in diameter (see below). The detector is a point detector located one-inch from the inner diameter of the pipe.




Which one of the following correctly completes the statement below comparing the difference in radiation readings for a hot particle that passes along the side of the pipe closest to the detector (Position 'A' above) to the same hot particle that passes along the side of the pipe farthest away from the detector (Position 'B' above)?

The reading for Position 'A' will be _____ times greater than the reading for Position 'B'.

a. 4

b. 5

c. 16

d. 25

Which one of the following Service Water (SW) valves does not have controls available in the Control Room for operation?

a. CV-0878, West ESS Room Cooler VHX-27B SW Inlet.

b. CV-0885, Diesel Generator 1-2 SW Inlet.

c. CV-0879, ESS Pump Seal Cooling SW Supply.

d. CV-0826, CCW HX E-54B SW Outlet.

Given the following with the Plant at full power:

- P-7A and P-7B, Service Water (SW) Pumps, are in service
- PS-1318, P-7C, SW Pump, discharge pressure switch, is isolated for maintenance
- P-7C is in STANDBY

Which one of the following correctly completes the statement below describing operation of P-7C for the above conditions?

P-7C will ___(1)___ if P-7A trips and;
P-7C will ___(2)___ if BS-1319, P-7B Discharge Basket Strainer, indicates 10 psig differential pressure.
(consider each of these events separately)

a. (1) not start
   (2) start

b. (1) not start
   (2) not start

c. (1) start
   (2) not start

d. (1) start
   (2) start

Which one of the following correctly completes the statement below describing C-2B, Instrument Air Compressor, cooling?

The cooling medium to C-2B compressor package is ____(1)____ and the cooling medium to E-18B, C-2B Aftercooler, is ____(2)____.

a. (1) Air
   (2) Critical Service Water (SW)

b. (1) Critical SW
   (2) Critical SW

c. (1) Critical SW
   (2) Non-critical SW

d. (1) Air
   (2) Non-critical SW

Given the following:

- P-8C, Auxiliary Feedwater (AFW) Pump, is being used to feed the Steam Generators
- FIC-0736A and FIC-0737A, P-8C AFW Flow Controllers, are in AUTO set for 130 gpm
- Then, a loss of all Instrument Air occurs
- Instrument Air pressure lowers to zero (0) psig

Which one of the following correctly completes the statement below describing how the loss of Instrument Air affects CV-0736A and CV-0737A, P-8C Flow Control Valves, if at all, due to the above conditions?

CV-0736A and CV-0737A will …

a. fail closed.

b. not be affected since they have $N_2$ bottle backup.

c. not be affected since they have air accumulator backup.

d. fail open.

With the Plant at full power, a Containment High Radiation signal is received.

Which one of the following contains valves that would <u>all</u> be expected to automatically close?

a. CV-0770, Steam Generator 'B' Blowdown Isolation
   CV-1064, Clean Waste Receiver Tank Vent
   CV-2009, Letdown Containment Isolation

b. CV-1358, Nitrogen to Containment Isolation
   CV-1007, Primary System Drain Tank Outlet
   CV-0910, Component Cooling Water to Containment Isolation

c. CV-0734, S/G 'B' Bypass Feed Regulating Valve
   CV-1101, Containment Vent Header Isolation
   CV-0770, Steam Generator 'B' Blowdown Isolation

d. CV-1037, Clean Waste Receiver Tanks Recirc Isolation
   CV-0701, Steam Generator 'A' Feed Regulating Valve
   CV-0939, Shield Cooling Surge Tank Fill Isolation

Given the following with the Plant initially at 100% power:

- Preparations are being made to lower Plant power to 50% due to a problem with Steam Generator chemistry
- A 500 gallon continuous boration of the Primary Coolant System is commenced at 7 gpm

Which one of the following correctly completes the statement below describing the expected effect on Moderator Temperature Coefficient (MTC) and Axial Shape Index (ASI) due to the boration?

MTC will be ___(1)___ and ASI will be ___(2)___.

a. (1) Less negative
   (2) More negative (less positive)

b. (1) More negative
   (2) More negative (less positive)

c. (1) Less negative
   (2) More positive (less negative)

d. (1) More negative
   (2) More positive (less negative)

Given the following with the Plant in MODE 3:

- All four Primary Coolant Pumps (PCPs) are in service
- 4160V Bus 1A de-energizes due to a fault

Which one of the following correctly completes the statement below regarding which PCPs are affected and the effect, if any, on Pressurizer spray flow capability due to the above conditions?

PCPs ___(1)___ are affected by the loss of Bus 1A and Pressurizer spray flow capability is _____(2)_____.

a. (1) 'A' and 'B'
   (2) reduced

b. (1) 'A' and 'B'
   (2) <u>not</u> affected

c. (1) 'A' and 'C'
   (2) reduced

d. (1) 'A' and 'C'
   (2) <u>not</u> affected

Given the following:

- The Plant is at 60% power
- LIC-0101B, Pressurizer Level Controller, is in service in the CASCADE mode
- SS-TAVE, Avg Temp Display Select Switch, on Panel C-02 is in the LOOP 2 position
- Then, a malfunction causes the Loop 2 $T_{AVE}$ signal to fail low

Which one of the following correctly completes the statement below describing the effect on LIC-0101B setpoint?

LIC-0101B setpoint will indicate …

a. 100%.

b. 57%.

c. 42%.

d. 0%.

Given the following:

- The Plant is in MODE 6 with Refueling operations in progress
- Reactor Cavity level is 647' 6"
- P-67A, Low Pressure Safety Injection Pump, is in service providing Shutdown Cooling flow
- Then, a loss of Y40, Preferred AC Bus, occurs

Which one of the following describes (1) the impact due to the loss of Y40 and (2) the correct immediate action(s)?

a. (1) Source Range Nuclear Instrumentation is lost.
   (2) Suspend operations involving a reduction in Primary Coolant System (PCS) boron concentration.

b. (1) Source Range Nuclear Instrumentation is lost.
   (2) Suspend core alterations and positive reactivity additions.

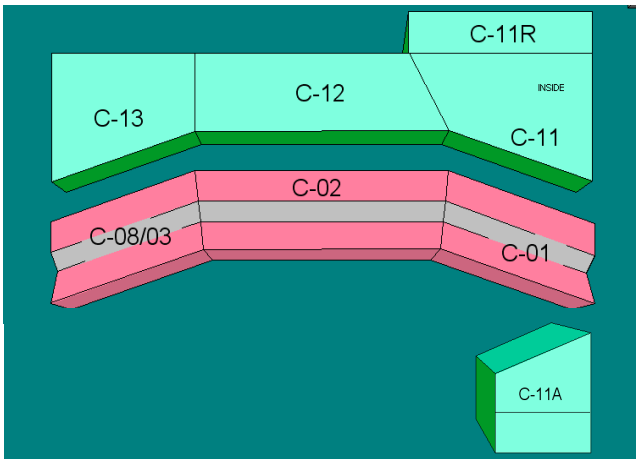
c. (1) Shutdown Cooling flow is lost.
   (2) Suspend core alterations and positive reactivity additions.

d. (1) Shutdown Cooling flow is lost.
   (2) Suspend operations involving a reduction in PCS boron concentration.

Given the following:

- A manual Plant trip occurs in response to a loss of coolant accident inside Containment
- Core Exit Thermocouple (CET) indications are <u>not</u> available on the Plant Process Computer

Using the diagram of the Control Room panel layout below, which one of the following describes the <u>alternate</u> CET indications that are available?




a. <u>Only</u> qualified CET indications are available on Panel C-11A.

b. <u>Only</u> qualified CET indications are available on Panel C-12.

c. <u>Only</u> one CET indication per core quadrant is available on Panel C-11A.

d. <u>All</u> qualified and unqualified CET indications are available on Panel C-11A.

Given the following:

- The Plant is in MODE 5
- The Containment Equipment Hatch is open
- A Containment purge is in progress
- V-6A, Main Exhaust Fan, is in service
- Then, Alarm EK-1126, CIS INITIATED, annunciates

Which one of the following describes an effect on the Plant due to EK-1126 alarming?

a. CV-1805, CV-1806, CV-1807, and CV-1808, Containment Purge Exhaust Valves, close.

b. V-1B, V-2B, V-3B and V-4B, Containment Air Cooler Fans, trip.

c. V-6A, Main Exhaust Fan, trips and associated damper closes.

d. PO-1890, Air Room Purge Damper, closes.

Given the following:

- A Reactor trip has occurred from full power
- $T_{AVE}$ is currently 537°F and lowering slowly
- Main steam pressure is 930 psia and lowering slowly

Which one of the following lists the expected positions of the Turbine Bypass Valve (TBV) and Atmospheric Steam Dump Valves (ADVs) for the above conditions?

| | **TBV** | **ADVs** |
|---|---|---|
| a. | Modulating | Modulating |
| b. | Modulating | Full Open |
| c. | Full Open | Full Open |
| d. | Full Open | Modulating |

Given the following:

- The Plant is in MODE 2
- A startup from a forced outage is in progress

Which one of the following correctly completes the statement below describing when the Loss of Load Reactor Protective System (RPS) trip is enabled during the startup?

The Loss of Load RPS trip is enabled by the Nuclear Instrumentation System at __(1)__ power and is verified enabled by observing ____(2)____ alarm clearing.

a. (1) 15%
   (2) EK-06D2, LOSS OF LOAD TRIP CHANNEL BYPASS

b. (1) 15%
   (2) EK-06D1, ZERO POWER MODE BYPASS

c. (1) $10^{-4}$%
   (2) EK-06D2, LOSS OF LOAD TRIP CHANNEL BYPASS

d. (1) $10^{-4}$%
   (2) EK-06D1, ZERO POWER MODE BYPASS

Given the following conditions:

- Alarm EK-0207, STACK EFF RAD C-169 HIGH, is received in the Control Room during a release of T-101B, Waste Gas Decay Tank
- RIA-2326, Normal Range Noble Gas Stack Monitor, is in alarm

Which one of the following will automatically occur due to the above conditions?

a. V-6A/B, Main Exhaust Fans, trip and their associated dampers close.

b. RIA-2327, High Range Noble Gas Stack Monitor, is placed in service.

c. RIA-2326, Normal Range Noble Gas Stack Monitor, scale transfers from cpm to R/Hr.

d. V-14A/B, Radwaste Area Exhausters, trip and their associated dampers close.

Given the following:

- P-9A, Motor Driven Fire Pump, is out of service for maintenance
- A demand on the Fire Protection System (FPS) causes FPS pressure to lower to 73 psig

Which one of the following lists all Fire Protection System Pumps that are expected to be in service due to the above conditions?

a. P-9B, Diesel Driven Fire Pump, and P-41, Diesel Driven Cooling Tower Fire Pump.

b. P-13, Fire System Jockey Pump, and P-9B, and P-41.

c. P-13 and P-9B.

d. P-9B only.

Which one of the following Control Room operations is not acceptable for two-handed operation per EN-OP-115, “Conduct of Operations?”

a. Performing a manual scram using individual Control Rod clutch toggle switches.

b. Securing Primary Coolant Pumps during performance of an EOP.

c. Opening Safety Injection Loop Injection Valves during performance of an EOP.

d. Closing Main Steam Isolation Valves when directed by a GOP.

Given the following:

- A fire in the Plant has been reported to the Control Room
- The Control Room Operator has sounded the fire alarm

Which one of the following is not an additional responsibility of the Control Room Operator after the fire alarm has been sounded?

a. Maintain communications with the Fire Brigade Leader via radio and/or telephone.

b. Ensure assistance is requested from Van Buren County for Covert and South Haven Fire Departments.

c. Notify the Operations Fire Marshall if the fire affects safety related areas or equipment.

d. Announce the Fire Brigade muster location on the Public Address system.

Which one of the following correctly completes the statement below?

If a parameter on the Plant Process Computer is displayed in yellow text, this signifies that the parameter …

a. has exceeded the warning setpoint only.

b. has exceeded the warning and alarm setpoint.

c. was manually entered.

d. is out of range.

Which one of the following correctly completes the statement below describing the design of the Shutdown and Regulating Control Rod interlocks?

During a Reactor startup, any Regulating Control Rod group is capable of being withdrawn when all Shutdown Control Rods are above a minimum of ___(1)___ inches and during a Reactor shutdown any Shutdown Control Rod group is capable of being inserted when all Regulating Control Rods are below a maximum of ___(2)___ inches.

a. (1) 130
   (2) 6

b. (1) 130
   (2) 4

c. (1) 124
   (2) 6

d. (1) 124
   (2) 4

With the Plant at full power, which one of the following lists the minimum amount by which Pressurizer level would need to rise to exceed the Technical Specification limit?

a. 4%.

b. 6%.

c. 10%.

d. 12%.

Given the following:

- A maintenance activity is planned that will cause an expected alarm in the Control Room for at least two shifts
- The equipment associated with the alarm is normally in service in the current Plant MODE

Which one of the following describes (1) an action that will be taken to identify the alarm associated with the maintenance activity and (2) the location for documenting the alarm in accordance with EN-OP-115-08, “Annunciator Response?”

a. (1) A field deficiency tag will be placed next to the annunciator window.
   (2) Annunciator Log.

b. (1) A field deficiency tag will be placed next to the annunciator window.
   (2) Equipment Status Log.

c. (1) An annunciator flag will be placed on the annunciator window.
   (2) Annunciator Log.

d. (1) An annunciator flag will be placed on the annunciator window.
   (2) Equipment Status Log.

Given the following:

- An Operator is tasked with performing Control Rod coupling on the Reactor Head
- The Operator has received a total dose of 1790 mrem year-to-date
- The Operator is not wearing breathing protection
- The area dose rate is 27 mrem/hour
- The airborne levels are 5 DAC (Derived Air Concentration)
- The task will take exactly 2 hours

Which one of the following correctly completes the statement below?

After this task is completed, the Operator will have exactly _____ remaining until reaching the Entergy routine annual administrative dose limit.

a. 131 mrem

b. 146 mrem

c. 156 mrem

d. 631 mrem

Given the following:

- T-101B, Waste Gas Decay Tank, batch release is in progress
- Then, V-6A, Main Exhaust Fan, trips
- V-6B, Main Exhaust Fan, will not start

Which one of the following describes the correct action to secure the T-101B release from the Control Room?

a. Secure all Auxiliary Building Ventilation.

b. Secure V-14A/B, Radwaste Area Exhausters.

c. Set the function switch on RIA-1113, Waste Gas Discharge Monitor, to '1'.

d. Adjust the trip setpoint for RIA-1113 to below the current reading.

With the Plant at full power, which one of the following is the lowest Primary Coolant System unidentified leak rate which ONP-23.1, “Primary Coolant Leak,” actions are designed to mitigate? Assume the leak rate was calculated in accordance with DWO-1, “Operators Daily/Weekly Items, MODES 1, 2, 3, and 4.”

a. 0.10 gpm.

b. 0.15 gpm.

c. 0.40 gpm.

d. 1.00 gpm.

Which one of the following correctly defines the term “Safety Function” as used in the Emergency Operating Procedures?

a. Any condition or action needed to ensure that irradiated fuel remains covered with coolant for heat removal and radiation shielding requirements.

b. Any condition or action needed to preclude inadvertent dilution, criticality, power excursions, control rod manipulations, or loss of shutdown margin, and to monitor core reactivity behavior.

c. Any function performed by a system or component needed to mitigate a loss of the Primary Coolant System or Containment Barriers.

d. Any condition or action needed to either prevent core damage or to minimize radiation releases to the general public.