

PSL
L-17-1
NRC WRITTEN EXAM

DATE:

12/19/2017

EXAM:

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1.

Given the following conditions:

- Unit 1 is at 100% power

Subsequently:

- PZR PORV, V1402 experiences a MECHANICAL failure which results in V1402 failing OPEN

Which ONE of the following describes where PZR PORV 1402 will discharge to and what will provide the INITIAL indication in the Control Room?

PZR PORV 1402 discharges to the ____ (1) ____ and the INITIAL Control Room indication will be provided by the ____ (2) ____.

- A. (1) Quench Tank
(2) Acoustic Monitoring System LEDs LIT
- B. (1) Quench Tank
(2) PORV V1402 indicating lamp indicating RED
- C. (1) Reactor Drain Tank
(2) Acoustic Monitoring System LEDs LIT
- D. (1) Reactor Drain Tank
(2) PORV V1402 indicating lamp indicating RED

2.

Given the following conditions:

- Unit 2 was manually tripped due to a LOCA
- 2-EOP-01, SPTAs are in progress at Step 6, VERIFY Core Heat Removal

Which ONE of the following completes the statement below?

In accordance with 2-EOP-01, SPTAs, Step 6, RCPs are required to be secured due to inadequate subcooling based on ____ (1) ____ subcooling less than ____ (2) ____.

- A. (1) RCS
(2) 10 °F
- B. (1) RCS
(2) 20 °F
- C. (1) REP CET
(2) 10 °F
- D. (1) REP CET
(2) 20 °F

3.

Which ONE of the following describes the MINIMUM action times to be taken if Component Cooling Water (CCW) to the Reactor Coolant Pumps (RCPs) is lost in accordance with 1-AOP-01.09A1, 1A1 Reactor Coolant Pump?

1-AOP-01.09A1 directs the RCPs to be tripped ____ (1) ____ if CCW is lost AND **ISOLATE** Controlled Bleed Off if CCW is lost for greater than ____ (2) ____ minutes.

- A. (1) Immediately
(2) 10
- B. (1) Immediately
(2) 30
- C. (1) within 10 minutes
(2) 10
- D. (1) within 10 minutes
(2) 30

4.

Given the following conditions:

- Unit 1 is at 50% power and STABLE at time **12:00**
- A RCS leak is in progress
- V2504, RWT to Charging pumps, is CLOSED and breaker is OFF
- Pressurizer Level is 43% and STABLE
- Letdown Flow is 29 gpm
- ALL Charging Pumps are running
- VCT Level is 50% and LOWERING
- RCP 1A1 CBO: 1.4 gpm
- RCP 1B1 CBO: 1.4 gpm
- RCP 1A2 CBO: 1.4 gpm
- RCP 1B2 CBO: 1.3 gpm

Which ONE of the following is the expected time that a LOSS of Charging would occur?

- A. 12:11 - 12:12
- B. 12:13 - 12:14
- C. 12:15 - 12:16
- D. 12:30 - 12:31

5.

Given the following conditions:

- Unit 2 is in Mode 5 entering a refueling outage
- RCS is SOLID
- RCS Pressure is 250 psia
- The 2A and 2B Shutdown Cooling Trains are in service
- 2A S/G NR level is 65%
- 2B S/G NR level is 5% draining in progress

Subsequently:

- The 2B LPSI pump trips

Which ONE of the following describes the Tech Spec compliance for shutdown cooling train?

Tech Spec 3.4.1.4.1, RCS Cold Shutdown – Loops Filled is currently ____ (1) ____ due to ____ (2) ____.

- A. (1) met
(2) S/G water levels being sufficient
- B. (1) met
(2) ONLY ONE train of SDC is required to be operable and in operation
- C. (1) NOT met
(2) S/G water levels being insufficient
- D. (1) NOT met
(2) BOTH Trains of SDC are required to be operable AND in operation

6.

Given the following conditions:

- Unit 2 is at 100% power

Subsequently:

- Annunciator LA-10, CCW Surge Tank Compartment “**A**” Level Low ALARMS
 - LG-14-2A, CCW Surge Tank Level indicates 29 inches and VERY SLOWLY LOWERING
 - LG-14-2B, CCW Surge Tank Level indicates 30 inches and STABLE
 - LCV-14-1, Demin Water to CCW Surge Tank, is CLOSED

Which ONE of the following completes the statements below?

IF V14103, LCV-14-1 Bypass Valve FAILS to OPEN the crew is required to align the _____(1)_____ Header to restore CCW Surge Tank Level in accordance with 2-AOP-14.01, Component Cooling Water Abnormal Operations.

_____ (2) _____ “N” Header Isolation Valves have AUTOMATICALLY CLOSED.

- A. (1) Fire Water
 (2) TWO
- B. (1) Fire Water
 (2) FOUR
- C. (1) Service Water
 (2) TWO
- D. (1) Service Water
 (2) FOUR

7.

Given the following conditions:

- Unit 1 is at 100% power
- PIC-1110X, Pressurizer Pressure Controller is selected
- Pressurizer pressure is being maintained at 2250 psia with Pressurizer Backup Heaters B1, B2 and B5 ON with a 10% output to the Pressurizer Proportional Heaters

Subsequently:

- PIC-1110X, Pressurizer Pressure controller OUTPUT slowly drifts HIGH due to a PT-1110X malfunction

Which ONE of the following describes the response of the OUTPUT on HIC-1100, Main Spray controller AND the effect on ACTUAL Pressurizer pressure?

HIC-1100, Main Spray Controller OUTPUT ____ (1) ____.

ACTUAL Pressurizer pressure ____ (2) ____.

- A. (1) RISES
(2) RISES
- B. (1) RISES
(2) LOWERS
- C. (1) LOWERS
(2) LOWERS
- D. (1) LOWERS
(2) RISES

8.

Given the following conditions:

- Unit 2 is at 100% power

Subsequently:

- The 2A Main Feedwater Pump TRIPS

Which ONE of the following completes the statements below?

In accordance with 2-AOP-09.04, Feedwater, Condensate, and Heater Drain Pump Abnormal Operations, the crew is required to trip the Reactor at a S/G Narrow Range level of ____ (1) ____.

If the MANUAL trip buttons failed to trip the Reactor and the Reactor did not AUTOMATICALLY trip, the crew is required to ____ (2) ____ in accordance with 2-EOP-01, SPTAs.

- A. (1) 35%
(2) LOCALLY OPEN TCB-1 through TCB-8
- B. (1) 50%
(2) LOCALLY OPEN TCB-1 through TCB-8
- C. (1) 35%
(2) DEENERGIZE LC 2A2 and LC 2B2 from RTGB-201
- D. (1) 50%
(2) DEENERGIZE LC 2A2 and LC 2B2 from RTGB-201

9.

Given the following conditions:

- Unit 2 Reactor has been tripped
- SGTR has occurred on the 2B Steam Generator
- 2-EOP-04, Steam Generator Tube Rupture is in progress at Step 10, Initiate lowering the RCS temperature to less than 510 °F
- RCS cooldown is in progress using SBCS

The following annunciators are in alarm:

- P-8, MSIS Channel A Actuation Blocked
- P-20, MSIS Channel B Actuation Block Permissive

Which ONE of the following completes the statements below?

MSIS will actuate at ____ (1) ____.

If NO operator action is taken and the MSIS setpoint is reached, the 2A MSIV ____ (2) ____ CLOSE.

- A. (1) 600 psia
(2) will
- B. (1) 600 psia
(2) will NOT
- C. (1) 626 psia
(2) will
- D. (1) 626 psia
(2) will NOT

10.

Given the following timeline:

00:00:00	Unit 1 tripped from 100% power due to a loss of BOTH MFPs
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S/G Narrow Range (NR) Levels are:

TIME:	00:01:00	00:03:00	00:06:00	00:07:00
S/G A:	23%	17%	15%	14%
S/G B:	28%	23%	19%	18%

Which ONE of the following is the expected status of AFW at time 00:07:00?

The 'B' AFW header flow control valve(s) are ____ (1) ____.

The 'C' AFW pump Steam Supply will be from ____ (2) ____ S/G(s).

- A. (1) OPEN
(2) ONLY the A
- B. (1) OPEN
(2) BOTH the A and B
- C. (1) CLOSED
(2) ONLY the A
- D. (1) CLOSED
(2) BOTH the A and B

11.

Given the following conditions:

- Unit 1 tripped due to a Loss of Off-Site Power
- 1-EOP-09, LOOP/LOFC is in progress at Step 26, Cooldown the RCS
- RCS Pressure is 1825 psia
- T_{hot} is 550 °F
- T_{cold} is 510 °F
- Rep CET is 560 °F

Which ONE of the following completes the statements below?

Current RCS Subcooling is ____ (1) ____.

IF RCS Pressure is maintained at 1825 psia, the RCS can be cooled down to an MINIMUM indicated RCS temperature of ____ (2) ____ in accordance with the provided reference.

(REFERENCE PROVIDED)

- A. (1) 63 °F
 (2) ~ 430 °F
- B. (1) 63 °F
 (2) ~ 450 °F
- C. (1) 73 °F
 (2) ~ 430 °F
- D. (1) 73 °F
 (2) ~ 450 °F

12.

Given the following conditions:

- Unit 1 is at 100% power
- 1MC Instrument Bus is being supplied by its associated alternate source
- 1C Instrument Inverter Maintenance is complete and available

Subsequently:

- The 1MA Instrument Bus is lost
- The US has directed placing the 1MA Instrument Bus on its associated alternate source in accordance with 1-AOP-49.02, 120V Instrument AC System (CLASS 1E)

Which ONE of the following describes the sequence required to restore the 1MA Instrument Bus?

The 1MC Instrument Bus must be removed from the ____ (1) ____ bus prior to restoring power to the 1MA Instrument Bus due to a(n) ____ (2) ____ interlock.

- A. (1) Isolimiter
(2) Electrical
- B. (1) Isolimiter
(2) Mechanical
- C. (1) Maintenance Bypass
(2) Electrical
- D. (1) Maintenance Bypass
(2) Mechanical

13.

Given the following conditions:

- Unit 1 is at 100% power
- The 1B and 1BB Battery Chargers are BOTH in service

Subsequently:

- A Loss of Off Site Power occurs
- The 1B EDG output breaker fails to auto CLOSE

Which ONE of the following completes the statements below?

When the 1B EDG output breaker is CLOSED, restoration of the 1B and 1BB Battery Chargers ____ (1) ____ AUTOMATICALLY return to service on the 1B DC Bus.

IF the 1B EDG output breaker is NOT closed, TS 3.8.2.3, D.C. Distribution – Operating, ____ (2) ____ require action within 1 hour.

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

14.

Given the following conditions:

- Unit 2 experienced a SGTR
- RCS Pressure is 1650 psia

Which ONE of the following describes the response of MV-21-2 and MV-21-3, (Intake Cooling Water Header to Turbine Cooling Water Heat Exchangers (HXs) AND the reason for the response?

MV-21-2 and MV-21-3 will _____.

- A. CLOSE; to ensure sufficient cooling flow to the CCW HXs
- B. CLOSE; to ensure the Intake Cooling Water Pumps will NOT be at runout flow
- C. remain OPEN; to ensure cooling flow to the Open Blowdown Cooling System HXs to support S/G sampling
- D. remain OPEN; to ensure cooling flow to the Open Blowdown Cooling System HXs to maintain isolated S/G level in band

15.

Given the following conditions:

- Unit 1 has tripped due to a Loss of Offsite Power
- Instrument Air was restored in accordance with 1-EOP-99, Appendix H, Operation of the 1A and 1B Instrument Air Compressors

Subsequently:

- A Small Break LOCA occurs
- RCS Pressure is 1200 psia and STABLE
- Containment Pressure is 5.3 psig and STABLE
- Pressurizer Level is 35% and SLOWLY RISING

Which ONE of the following describes the response of the 1A and 1B Instrument Air Compressors and the reason Instrument Air is restored in the EOPs?

1A and 1B Instrument Air Compressors will STOP and must be RESET ____ (1) ____ to RESTORE ____ (2) ____.

- A. (1) locally
(2) Letdown
- B. (1) locally
(2) the ADVs
- C. (1) from the Control Room
(2) Letdown
- D. (1) from the Control Room
(2) the ADVs

16.

Given the following conditions:

- BOTH Units are at 100% power
- Turnpike Line is out of service for scheduled maintenance
- Severe Weather Preparations are in progress

Subsequently:

- Midway Line 1 and Midway Line 2 are LOST

Which ONE of the following describes the required operator action(s) in accordance with 0-AOP-53.04, Reduced Offsite Transmission Capacity?

Trip ____ (1) ____ within a MAXIMUM of ____ (2) ____ minutes

- A. (1) BOTH Units
(2) 4
- B. (1) BOTH Units
(2) 15
- C. (1) selected Unit ONLY
(2) 4
- D. (1) selected Unit ONLY
(2) 15

17.

Given the following conditions:

- Unit 2 tripped
- The "B" side 4.16Kv and 6.9Kv busses did not transfer to the startup transformer post trip
- The 2B EDG is supplying 2B3 4.16Kv vital bus
- 2-EOP-01, SPTAs is complete
- 2-EOP-02, Reactor Trip Recovery has been entered

Which ONE of the following describes the appropriate Pressurizer Pressure to maintain in accordance with 2-EOP-02?

Maintain Pressurizer Pressure between _____ psia.

- A. 1800 and 1850
- B. 1800 and 2300
- C. 1850 and 2250
- D. 2225 and 2275

18.

Given the following conditions:

- Unit 2 has experienced an ESDE inside containment
- 2A S/G pressure is 740 psia
- 2B S/G pressure is 850 psia
- Containment pressure is 3.1 psig

Which ONE of the following completes the statements below?

The Reactor AUTOMATICALLY tripped ON ____ (1) ____.

In accordance with 2-EOP-01, SPTAs, RCS Heat Removal, S/G Pressure ____ (2) ____ reached the value requiring manual closure of the MSIVs.

- A. (1) TM/LP
(2) HAS
- B. (1) TM/LP
(2) HAS NOT
- C. (1) Containment pressure
(2) HAS
- D. (1) Containment pressure
(2) HAS NOT

19.

Given the following conditions:

- Unit 2 is at 20% power
- Reg Group 5 CEAs are at 101 inches withdrawn

Subsequently:

- Reg Group 5 CEA # 8 slips to 87 inches withdrawn
- The Crew has entered 2-AOP-66.01, Dropped or Misaligned CEA Abnormal Operations
- Att. 5, CEA Functional Test and Operability Determination is being performed
- The BRCO is directed to withdraw CEA # 8, Three (3) inches

Which ONE of the following completes the statements below?

Based on the current CEA position, a Control Motion Inhibit (CMI)____(1)____ be present.

IF CEA # 8 had DROPPED to the bottom of the core, for the same 3 inch rod withdrawal to test operability of the CEA, the reactivity change for the DROPPED CEA will be ____ (2) ____ the reactivity change for the SLIPPED CEA 3 inch CEA withdrawal.

- A. (1) will
(2) the SAME
- B. (1) will
(2) LESS THAN
- C. (1) will NOT
(2) the SAME
- D. (1) will NOT
(2) LESS THAN

20.

Given the following conditions:

- Unit 2 tripped from 100% power two (2) minutes ago due to a Loss of Offsite Power
- The 2A EDG failed to start
- The 2B Charging Pump is running
- CEA 40 is stuck at 5 inches withdrawn
- 2-EOP-01, SPTAs, Step 1, VERIFY reactor trip is in progress

Which ONE of the following completes the statements below?

In accordance with 2-EOP-01, SPTAs, Emergency Boration ____ (1) ____ required; ____ (2) ____.

- A. (1) is NOT
(2) CEA portion of 2-EOP-01, Step 1 is complete
- B. (1) is
(2) Emergency Borate via the Gravity Feed valve V2508
- C. (1) is
(2) Emergency Borate via the 'B' Boric Acid Makeup pump to the Boron Load Control valve V2525
- D. (1) is
(2) Emergency Borate via the 'B' Boric Acid Makeup pump to the Emergency Borate valve V2514

21.

Given the following conditions:

- Unit 1 experienced a Reactor Trip due to an ESDE on the 1A S/G
- 1-EOP-01, SPTAs are in progress at Step 7.D, RCS Heat Removal, VERIFY RCS T_{AVG}

Which ONE of the following completes the statements below?

In accordance with 1-EOP-01, Step 7.D, Emergency Boration is required when RCS T_{COLD} is less than ____ (1) ____.

In accordance Tech Spec 3.1.1.1, Shutdown Margin, the MINIMUM required boration flow rate is ____ (2) ____?

- A. (1) 500 °F
(2) 40 gpm
- B. (1) 500 °F
(2) 44 gpm
- C. (1) 515 °F
(2) 40 gpm
- D. (1) 515 °F
(2) 44 gpm

22.

Given the following conditions:

- Unit 2 is performing a Reactor Startup in accordance with 2-GOP-302, Reactor Plant Startup – Mode 3 to Mode 2 at Step 4.5.2, Critical Approach
- 2-GOP-302, Attachment 4, Reactor Precritical Checklist has been completed

Which ONE of the following completes the statements below?

The SU Channels will AUTOMATICALLY secure at ____ (1) ____.

IF a SU Channel FAILS to secure at the required setpoint, the crew is required to ____ (2) ____ in accordance with 2-GOP-302.

- A. (1) 1×10^4 cps
(2) NOTIFY I&C to de-energize the respective startup channel
- B. (1) 1×10^4 cps
(2) PLACE the respective SU Channel High Volts Removal switch to OFF
- C. (1) 1×10^5 cps
(2) NOTIFY I&C to de-energize the respective startup channel
- D. (1) 1×10^5 cps
(2) PLACE the respective SU Channel High Volts Removal switch to OFF

23.

Given the following conditions:

- Unit 2 has experienced a Steam Generator Tube Leak

Which ONE of the following completes the statements below?

In accordance with TS 3.4.6.2, Reactor Coolant System Leakage, the allowed leakage limit is ____ (1) ____ gallons per day primary-to-secondary leakage through ____ (2) ____.

- A. (1) 100
(2) any ONE S/G
- B. (1) 100
(2) BOTH S/Gs combined
- C. (1) 150
(2) any ONE S/G
- D. (1) 150
(2) BOTH S/Gs combined

24.

Given the following conditions:

- A Unit 2 spent fuel assembly has been dropped in the Fuel Handling Building
- Fuel Handling Radiation Monitors indicate on the RMCS:

SA		SB	
GAG-007	RED	GAG-008	RED
GAG-009	YELLOW	GAG-010	YELLOW
GAG-011	YELLOW	GAG-012	RED

Which ONE of the following describes the status of the Fuel Handling Building Ventilation System?

The Fuel Handling Building Normal ventilation _____.

- A. remains in its normal configuration
- B. ISOLATES, but the Spent Fuel Pool exhaust does NOT transfer to the Shield Building Ventilation System
- C. ISOLATES, and the Spent Fuel Pool exhaust transfers to BOTH trains of the Shield Building Ventilation System
- D. ISOLATES, and the Spent Fuel Pool exhaust transfers to ONLY one train of the Shield Building Ventilation System

25.

Which ONE of the following describes the INSTALLED firefighting capabilities for the Reactor Containment Building?

Unit 1 ____ (1) ____ have hose stations inside containment.

Unit 2 ____ (2) ____ have hose stations inside containment.

A. (1) does

(2) does

B. (1) does

(2) does NOT

C. (1) does NOT

(2) does

D. (1) does NOT

(2) does NOT

26.

Given the following conditions:

- Unit 2 Control Room has been evacuated due to a Fire
- 2-ONP-100.02, Control Room Inaccessibility is in progress
- ALL Immediate Actions in the Control Room are complete
- RCS Pressure is 1700 psia
- RCS Tcold is 548 °F
- Pressurizer Level is 38%

Which ONE of the following describes the Unit 2 subcooling value that is required to be used in accordance with 2-ONP-100.02 and the required action in accordance with 2-ONP-100.02?

Subcooling value is ____ (1) _____. The Crew is required to ____ (2) _____ RCS Pressure.

(REFERENCE PROVIDED)

- A. (1) 15 °F
(2) RAISE
- B. (1) 15 °F
(2) MAINTAIN
- C. (1) 65 °F
(2) RAISE
- D. (1) 65 °F
(2) MAINTAIN

27.

Given the following conditions:

- Unit 2 is performing 2-EOP-15, Functional Recovery
- RCS Pressure Control Safety Function is NOT met
- Containment Isolation Safety Function is NOT met

Which ONE of the following describes the operator that SHOULD be responsible for recovering the following Safety Functions in accordance with ADM-11.16, Transient Procedure Use and Adherence?

ADM-11.16, states that RCS Pressure Control actions should be the responsibility of the ____ (1) ____ RCO.

ADM-11.16, states that Containment Isolation actions should be the responsibility of the ____ (2) ____ RCO.

- A. (1) DESK
(2) DESK
- B. (1) DESK
(2) BOARD
- C. (1) BOARD
(2) DESK
- D. (1) BOARD
(2) BOARD

28.

Given the following conditions:

- Unit 1 is in Mode 2 performing a Reactor Startup
- Critical Rod Height Data is being taken
- Reactor Power is $5 \times 10^{-4}\%$
- The Board RCO notes:
 - RCP 1A1 amps are 160
 - RCP 1A2 amps are 425
 - RCP 1B1 amps are 415
 - RCP 1B2 amps are 420

Which ONE of the following completes the statements below?

The Reactor ____ (1) ____ AUTOMATICALLY TRIP.

In accordance with ADM-11.16, Transient Procedure Use and Adherence, IF the Reactor DOES trip, the crew is required to FIRST ____ (2) ____.

- A. (1) will
(2) trip the RCP
- B. (1) will NOT
(2) trip the RCP
- C. (1) will
(2) VERIFY the Reactor Trip
- D. (1) will NOT
(2) VERIFY the Reactor Trip

29.

Which ONE of the following describes the design feature that limits the amount of Controlled Bleed Off (CBO) flow from an RCP?

CBO is limited to ____ (1) ____ gpm by a Flow Limiting ____ (2) ____.

- A. (1) 4
(2) Orifice
- B. (1) 4
(2) Check Valve
- C. (1) 10
(2) Orifice
- D. (1) 10
(2) Check Valve

30.

Given the following conditions:

- Unit 2 is at 100% power

Subsequently:

- LT-2227, Volume Control Tank (VCT) Level Transmitter fails LOW

Which ONE of the following completes the statements below?

Charging Pump suction will be aligned to the ____ (1) ____.

LT-2227 provides VCT Level indication on ____ (2) ____.

- A. (1) VCT
(2) DCS ONLY
- B. (1) VCT
(2) RTGB-205 and DCS
- C. (1) Refueling Water Tank
(2) DCS ONLY
- D. (1) Refueling Water Tank
(2) RTGB-205 and DCS

31.

On **Unit 2**, which ONE of the following describes the interlocks associated with Shutdown Cooling (SDC) and the Hot Leg Suction Valves?

RCS Pressure must be less than a MAXIMUM of ____ (1) ____ psia to OPEN.

IF RCS Pressure RISES above a MINIMUM of ____ (2) ____ psia they will auto CLOSE.

A. (1) 267

(2) 350

B. (1) 267

(2) 500

C. (1) 276

(2) 350

D. (1) 276

(2) 500

32.

Given the following conditions:

- Unit 2 is at 100% power
- The feeder breaker to MCC-2B5 (2-40520) trips OPEN

Which ONE of the following describes the number of HPSI and LPSI Cold Leg Injection Valves that have been DE-ENERGIZED?

	<u>HPSI VALVES</u>	<u>LPSI VALVES</u>
A.	1	1
B.	1	2
C.	2	1
D.	2	2

33.

Given the following conditions:

- Unit 2 is at 100% power
- The 2A CCW Essential Header has been removed from service for emergent maintenance

Which ONE of the following ECCS pumps is impacted by the 2A CCW Essential Header being removed from service?

The ____ (1) ____ pumps are impacted.

In accordance with 2-EOP-03, LOCA, during an emergency the HPSI Pump ____ (2) ____ be operated for a finite period of time.

- A. (1) CS and HPSI ONLY
(2) can
- B. (1) CS, HPSI and LPSI
(2) can
- C. (1) CS and HPSI ONLY
(2) can NOT
- D. (1) CS, HPSI and LPSI
(2) can NOT

34.

Given the following conditions:

- Unit 1 has just completed drawing a bubble from a solid plant condition
- Pressurizer pressure is 200 psia
- RCS temperature is 190°F
- A PORV is passing fluid to a downstream pressure of 1.0 psig

Which ONE of the following describes the:

(1) expected PORV tailpipe temperature AND

(2) Technical Specification Limiting Condition for Operation leakage limit for this type of leakage?

A. (1) ~310°F

(2) 1 gpm

B. (1) ~310°F

(2) 10 gpm

C. (1) ~380°F

(2) 1 gpm

D. (1) ~380°F

(2) 10 gpm

35.

Given the following conditions:

- Unit 2 has experienced a SGTR resulting in a SIAS
- The crew has directed performance of 2-EOP-99, Appendix J, Restoration of CCW and CBO to the RCPs

Which ONE of the following describes the operation of the CCW “N” Header Isolation Valves?

Restore “N” Header flow from ____ (1) ____ CCW train(s).

When SIAS is RESET, the “N” Header valves that were previously OPENED will ____ (2) ____.

- A. (1) ONE
(2) REMAIN OPEN
- B. (1) ONE
(2) AUTOMATICALLY CLOSE
- C. (1) BOTH
(2) REMAIN OPEN
- D. (1) BOTH
(2) AUTOMATICALLY CLOSE

36.

Given the following conditions:

- Unit 2 tripped from 100% power due to a ESDE inside containment
- 2-EOP-05, ESDE is in progress at step 28, Verify Letdown in service
- RCS Pressure is 2200 psia and being controlled by aux spray
- Pressurizer Level is 80% and slowly RISING
- Pressurizer Water Temp on TIA-1101 is 570 °F
- SIAS has been RESET per 2-EOP-99 Appendix P, Restoration of Components Actuated by ESFAS

Which ONE of the following completes the statement below?

IF letdown is established and Pressurizer Level is lowered to 65%, RCS pressure _____.

- A. can be controlled at its current value by controlling aux spray
- B. can be controlled at its current value by the operation of PZR heaters
- C. will drop uncontrollably to < 1300 psia and SIAS will automatically actuate
- D. will drop uncontrollably to < 1300 psia but SIAS will NOT automatically actuate

37.

Given the following conditions:

- Unit 1 is at 100% power

Subsequently:

- A loss of the MA 120 VAC Instrument Bus occurs
- The Crew has just entered 1-AOP-49.02, 120V Instrument AC System (Class 1E)

Which ONE of the following failures would result in a Reactor Trip?

- A. Channel B Tcold fails LOW
- B. Channel D Thot fails HIGH
- C. Channel C WRNI fails HIGH
- D. Channel B CCW flow transmitter fails LOW

38.

Given the following conditions:

- Unit 1 is at 100% power
- 1A Steam Generator (SG) Pressure Channel "A" has failed LOW

Subsequently:

- The 1B SG Pressure Channel "B" fails LOW

Which ONE of the following describes the expected Main Steam Isolation (MSIS) AND Reactor Protection System (RPS) response?

MSIS ____ (1) ____ actuate and RPS ____ (2) ____ trip the Reactor.

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

39.

Given the following conditions:

- Unit 2 is at 100% power
- Containment Fan Coolers (CFC) B, C and D are running in FAST speed

Subsequently:

- Unit 2 trips due to a Loss of Offsite Power(LOOP)
- The 2A CCW Pump trips upon bus being energized from the 2A EDG

Which ONE of the following describes the status of the CFCs and their cooling water flow?

ALL CFCs are running in ____ (1) ____ speed AND ONLY the ____ (2) ____ CFCs have CCW flow.

- A. (1) SLOW
(2) B and D
- B. (1) FAST
(2) B and D
- C. (1) SLOW
(2) C and D
- D. (1) FAST
(2) C and D

40.

Given the following conditions:

- Unit 2 is at 100% power
- HVE-21A, CEDM Cooling Fan is running
- Containment Air Temperature is 92 °F

Subsequently:

- Annunciator X-8, CEDM COOLING HVE-21A FLOW LOW/OVRLD/TRIP alarms
- HVE-21A Ammeter indicates 0 amps

Which ONE of the following describes the response of HVE-21B, CEDM Cooling Fan and the operational requirements?

HVE-21B ____ (1) ____ AUTOMATICALLY start.

IF CEDM Fan Cooling is NOT restored within 45 minutes of being lost, a ____ (2) ____ is required in accordance with 2-AOP-25.01, Loss of RCB Cooling Fans.

- A. (1) will
(2) Reactor Trip
- B. (1) will
(2) Normal Shutdown
- C. (1) will NOT
(2) Reactor Trip
- D. (1) will NOT
(2) Normal Shutdown

41.

Given the following conditions:

00:00:00	Unit 2 tripped due to a LOCA SIAS has actuated			
00:01:00	CNTMT PRESS A	CNTMT PRESS B	CNTMT PRESS C	CNTMT PRESS D
	5.6 psig	5.0 psig	5.5 psig	5.1 psig
01:00:00	Containment Pressure peaked at 15 psig			
03:00:00	2-EOP-03, LOCA, Step 43, Check if Containment Spray can be terminated, is in progress			

At time 00:01:00 Containment Spray ____ (1) ____ actuated.

At time 03:00:00, in accordance with 2-EOP-03, Step 43, Containment Pressure MUST be less than a MAXIMUM of ____ (2) ____ for Containment Spray to be TERMINATED

- A. (1) has
(2) 3.5 psig
- B. (1) has
(2) 5.0 psig
- C. (1) has NOT
(2) 3.5 psig
- D. (1) has NOT
(2) 5.0 psig

42.

Given the following conditions:

- Unit 1 is at 100% power
- A Loss of Load Event occurs
- S/G A Pressure peaked at 950 psig
- S/G B Pressure peaked at 1050 psig

Which ONE of the following describes the TOTAL number of MSSVs that are OPEN?

- A. 4
- B. 8
- C. 12
- D. 16

43.

Given the following conditions:

- Unit 2 is performing a Turbine startup in accordance with 2-GOP-201, Reactor Plant Startup - Mode 2 to Mode 1
- The Reactor is at 11% and STABLE
- The Turbine is at 520 rpm and RISING
- The Crew is ready to go to the NEXT Turbine Roll Up HOLD point

Which ONE of the following describes the Turbine Speed the crew will STOP at NEXT and the means by which turbine speed is being controlled?

In accordance with 2-GOP-201, turbine speed will be INCREASED to a MAXIMUM of ____ (1) ____ RPM, utilizing the ____ (2) ____ valves.

- A. (1) 1750
 (2) throttle
- B. (1) 1750
 (2) governor
- C. (1) 1800
 (2) throttle
- D. (1) 1800
 (2) governor

44.

Given the following conditions:

- Unit 1 is at 45% power
- The 1B MFW Pump is being restored following maintenance

Subsequently:

- The 1A MFW Pump trips resulting in a Reactor Trip
- ALL AFW pumps have failed
- SPTAs are complete
- 1A S/G WR level = 15%
- 1B S/G WR level = 17%
- The 1B MFW pump is available
- 1-EOP-06, Total Loss of Feed has been entered

Which ONE of the following describes the appropriate actions required and feed rate to the S/G(s) when restoring MFW?

In accordance with 1-EOP-06, the crew will use the 1B MFW pump to feed at a rate ____ (1) ____.

1-EOP-06, allows flow to be raised after ____ (2) ____.

- A. (1) as low as possible
(2) feeding for 5 minutes
- B. (1) as low as possible
(2) rising S/G level is observed
- C. (1) limited to 150 gpm
(2) feeding for 5 minutes
- D. (1) limited to 150 gpm
(2) rising S/G level is observed

45.

Given the following conditions:

- Unit 1 is at 2% power
- S/G water level is being maintained with the Motor Driven AFW pumps

Subsequently:

- The 1A Auxiliary Feedwater pump trips

Which ONE of the following describes the expected plant response BEFORE the automatic Reactor and Turbine Trip on Low Steam Generator (S/G) Level?

Reactor Coolant System (RCS) Pressure will _____.

- A. RISE, because the RCS delta T power RISES
- B. RISE, because the RCS temperature RISES due to increased S/G temperatures
- C. LOWER, because the increased boiling rate in the S/G tube bundle region LOWERS T_{avg}
- D. LOWER, because the S/G level initially RISES, causing a contraction of the RCS inventory

46.

Which ONE of the following describes the indications of an ELECTRICAL overspeed trip on the 2C AFW Pump?

When Annunciator G-46, 2C AFW Pump Turbine Failure/Trip/SS Isol, alarm is acknowledged and RESET, the Alarm window will ____ (1) ____ and the indication for MV-08-3, Trip and Throttle valve will show ____ (2) ____.

- A. (1) CLEAR
(2) GREEN light ONLY
- B. (1) CLEAR
(2) BOTH RED and GREEN lights
- C. (1) remain LOCKED IN
(2) GREEN light ONLY
- D. (1) remain LOCKED IN
(2) BOTH RED and GREEN lights

47.

Given the following conditions:

- Unit 1 is at 100% power
- The 1A2 to 1A3 tie breaker opened
- The 1A EDG automatically loaded onto the 1A3 bus
- The crew is in the process of restoring off-site supply to the 1A3 bus
- 1-AOP-47.01A, Loss of A Safety Related AC Bus - Train A, Att. 7 Restoration of Offsite Power with EDG 1A in Operation, is in progress

Which ONE of the following completes the statements below in accordance with 1-AOP-47.01A?

When paralleling with off-site power, the synchroscope is required to be rotating in the ____ (1) ____ direction.

When the 4.16 KV Bus Tie 1A3 -1A2 (3-2 Tie) breaker is CLOSED, the operator will place the DG Governor to ____ (2) ____.

- A. (1) clockwise
(2) RAISE
- B. (1) clockwise
(2) LOWER
- C. (1) counter-clockwise
(2) RAISE
- D. (1) counter-clockwise
(2) LOWER

48.

Given the following conditions:

- Unit 1 is at 100% power
- The 1AA Battery Charger is out of service
- Annunciator B-20, 125V DC Bus/ 1A Batt Chgr/ Batt Rm Fan Trouble, has just alarmed
- The SNPO has been dispatched to verify the status of the 1A battery charger

Which ONE of the following describes a Main Control Room indication that can be used to determine that the 1A vital DC bus is powered from the associated battery and not from the associated battery charger?

- A. A white light above the 1A DC Bus voltmeter on RTGB 101 is lit
- B. The 1A DC Bus ammeter on RTGB 101 indicates a discharge rate ONLY
- C. The 1A DC Bus voltmeter on RTGB 101 indicates 130VDC slowly lowering ONLY
- D. Both an ammeter on RTGB 101 indicates a discharge rate AND the voltmeter on RTGB 101 indicates 130VDC slowly lowering

49.

Which ONE of the following DIRECTLY supplies power to the Unit 2, 2A EDG Air Compressor?

- A. PP 211
- B. MCC 2A7
- C. LC 2A2
- D. LC 2A5

50.

Given the following timeline:

00:00:00 Unit 1 tripped and a LOCA and SIAS occurred

00:05:00 AFAS 1 and 2 actuated

00:06:00 AFW is throttled to BOTH S/Gs

00:30:00 LOOP occurs and the 1A EDG output breaker fails to CLOSE

00:31:00 The 1A EDG output breaker is MANUALLY CLOSED

Which ONE of the following describes the response of the AFW system after the 1A EDG breaker is manually CLOSED?

The 1A AFW pump will START ____ (1) ____.

The 1A AFW Pump Flow Control Valves will ____ (2) ____.

- A. (1) IMMEDIATELY
(2) GO FULL OPEN
- B. (1) IMMEDIATELY
(2) REMAIN THROTTLED OPEN
- C. (1) after a 15 second time delay
(2) GO FULL OPEN
- D. (1) after a 15 second time delay
(2) REMAIN THROTTLED OPEN

51.

Given the following conditions:

- Unit 2 is at 100% power
- RC-26-61, Control Room Outside Air Int (North OAI Radiation Monitor) has failed
- HVA/ACC-3A, A Control Room Air Conditioner is running
- 2-AOP-25.02, Ventilation Systems is in progress

Which ONE of the following describes the response of the Control Room Outside Air Intake (CROAI) ducts and the required actions?

____(1)____ CROAI intake duct(s) isolate(s).

Manual action ____ (2) ____ required to re-pressurize the control room envelope in accordance with 2-AOP-25.02.

- A. (1) ONLY the NORTH
(2) is
- B. (1) ONLY the NORTH
(2) is NOT
- C. (1) BOTH the NORTH and the SOUTH
(2) is
- D. (1) BOTH the NORTH and the SOUTH
(2) is NOT

52.

Given the following conditions:

- Unit 1 is at 100% power
- Containment Fan Cooler HVS-1A/1B/1C/1D are running
- HVA-3A and HVA-3B Control Room Air Conditioners are running
- Crew is performing 1-OSP-03.06B, 1B LPSI Pump Code Run

Subsequently:

- Flow is lost to the Unit 1 "B" CCW Header

Which ONE of the following describes the effect on the plant?

- A. Spent Fuel Pool temperatures will RISE
- B. 1B LPSI Pump Seal Temperatures will RISE
- C. HVA-3B Control Room Air Conditioner will trip
- D. Containment Fan Cooler HVS-1B outlet air temperatures RISE

53.

On Unit 2, which ONE of the following describes the Cooling Water arrangement to the instrument air compressors?

NORMAL Cooling water flow is supplied by ____ (1) ____.

The Instrument Air Compressor EMERGENCY Cooling water can be aligned to ____ (2) ____ Instrument Air Compressors.

- A. (1) CCW
(2) ONLY the A and B
- B. (1) CCW
(2) A, B, C and D
- C. (1) TCW
(2) ONLY the A and B
- D. (1) TCW
(2) A, B, C and D

54.

Which ONE of the following completes the statements below?

IAW 2-NOP-68.01, Containment Building Access Hatches-Operation, interlocks that are installed to prevent both airlock doors from being open at the same time must be functional ____ (1) ____.

A control room annunciator alarms to alert the control room operators ____ (2) ____ door(s) is(are) OPEN.

- A. (1) in Modes 1 through 4
 (2) ONLY if BOTH the “inner” AND “outer”
- B. (1) in Modes 1 through 4
 (2) if EITHER the “inner” OR “outer”
- C. (1) ONLY in Modes 1 through 3
 (2) ONLY if BOTH the “inner” AND “outer”
- D. (1) ONLY in Modes 1 through 3
 (2) if EITHER the “inner” OR “outer”

55.

Given the following conditions:

- Unit 2 is at 100% power
- An Event is in progress with the following timeline

TIME:	00:00:00	00:10:00
RCS Pressure	2252 psia	2228 psia
CNTMT ΔP	(-) 2.0 in H2O	(+) 9.0 in H2O
Reactor Cavity Leakage	0.3 gpm	11.0 gpm
CNTMT Particulate Radiation	2.74 E2 cpm	2.74 E2 cpm

The following alarms are received simultaneously:

- Annunciator N-46, Reactor Cavity Leakage HIGH
- Annunciator T-15, CNTMT Fan CLR HVS-1C/1D Temp HIGH

Which ONE of the following describes the event in progress and which alarm will be addressed FIRST?

The Event in progress is a(n) ____ (1) ____ .

In accordance with OP-AA-100-1000, Conduct of Operations, Annunciator ____ (2) ____ will be addressed FIRST.

- A. (1) RCS Leak
(2) N-46, Reactor Cavity Leakage
- B. (1) RCS Leak
(2) T-15, CNTMT Fan CLR HVS-1C/1D Temp HIGH
- C. (1) Main Steam Leak
(2) N-46, Reactor Cavity Leakage
- D. (1) Main Steam Leak
(2) T-15, CNTMT Fan CLR HVS-1C/1D Temp HIGH

56.

Which ONE of the following describes the CEDM MG sets power arrangement?

The CEDM MG sets are powered from the ____ (1) ____ 480V AC ____ (2) ____.

- A. (1) A1 and B1
 (2) MCC
- B. (1) A1 and B1
 (2) Load Centers
- C. (1) A2 and B2
 (2) MCC
- D. (1) A2 and B2
 (2) Load Centers

57.

Given the following conditions:

- Unit 1 is at 100% power
- ONE (1) Charging Pump is operating
- Position Limiter Bypass Switch is in NORMAL
- Pressurizer Level Control is selected to Channel "Y"
- Pressurizer Heater Low Level Cutoff Switch is selected to BOTH

Subsequently:

- Pressurizer Level Transmitter Channel "Y" fails LOW

Which ONE of the following describes the response of Charging and Letdown?

Letdown flow will go to ____ (1) ____ gpm.

____ (2) ____ Charging Pump(s) will be running.

A. (1) 0
(2) 2

B. (1) 0
(2) 3

C. (1) 29
(2) 2

D. (1) 29
(2) 3

58.

Given the following conditions:

- Unit 1 has tripped due to an Excess Steam Demand (ESDE) inside containment.

The following Containment and Steam Generator (S/G) conditions existed at the listed times:

TIME:	01:00:00	01:02:00	01:04:00	01:06:00	01:08:00
Containment pressure (psig)	3.7	4.1	4.3	4.4	4.5
S/G 1A pressure (psia)	860	700	580	430	300
S/G 1A FW Hdr pressure (psia)	860	700	580	430	300
S/G 1A NR level	18%	12%	4%	0%	0%
S/G 1B pressure (psia)	860	700	590	590	590
S/G 1B FW Hdr pressure (psia)	860	700	590	590	590
S/G 1B NR level	21%	18%	16%	18%	21%

- NO operator actions have been taken

At 01:08:00 hours, which ONE of the following describes the status of Auxiliary Feedwater (AFW) components?

- A. AFW pumps 1A, 1B and 1C are running with ONLY the AFW motor-operated discharge valves to S/G 1B OPEN (MV-09-10, MV-09-12)
- B. AFW pumps 1B and 1C are running with ALL AFW motor-operated discharge valves OPEN (MV-09-09, MV-09-11, MV-09-10, MV-09-12)
- C. AFW pumps 1B and 1C are running with ONLY the AFW motor-operated discharge valves to S/G 1B OPEN (MV-09-10 and MV-09-12)
- D. AFW pumps 1A, 1B and 1C are running with ALL AFW motor-operated discharge valves OPEN (MV-09-09, MV-09-11, MV-09-10, MV-09-12)

59.

Which ONE of the following completes the statements below?

A MINIMUM Hydrogen gas accumulation of ____ (1) ____ concentration by volume is where combustion can occur.

In accordance with 2-EOP-03, LOCA, Hydrogen concentration is reduced by ____ (2) ____.

- A. (1) 2.0%
(2) the Hydrogen Recombiners
- B. (1) 2.0%
(2) placing the Containment Main Purge system in service
- C. (1) 4.0%
(2) the Hydrogen Recombiners
- D. (1) 4.0%
(2) placing the Containment Main Purge system in service

60.

Given the following conditions:

- Unit 1 is in Mode 6
- "A" Train Containment Purge is in operation aligned to the Refueling Cavity
- I&C has set the CIS Radiation Monitors trip setpoints to the value required for Moving Recently Irradiated Fuel
- The Upper Guide Structure is being lifted

Subsequently:

- A CIS monitor reads 95 mR/Hr
- B CIS monitor reads 102 mR/Hr
- C CIS monitor reads 85 mR/Hr
- D CIS monitor reads 87 mR/Hr

Which ONE of the following describes the response (if any) of the Containment Purge System?

Containment Purge _____.

- A. is AUTOMATICALLY secured
- B. remains in the current configuration
- C. suction AUTOMATICALLY aligns to the Reactor Cavity
- D. discharge AUTOMATICALLY aligns to the Shield Building Exhaust system

61.

Given the following conditions:

- Unit 2 is shutdown for a refueling outage
- A Full Core Off-Load is in progress
- The 2A and 2B Spent Fuel (SFP) Pumps are running

Subsequently:

- Annunciator N-44, FUEL POOL PUMPS MOTOR OVRLD alarms

The SNPO makes the following report:

- The 2A SFP Cooling Pump is running
- The 2B SFP Cooling Pump is NOT running
- The 2B SFP Pump Local Control Station indicates GREEN light ON; RED light OFF

Which ONE of the following describes the required actions?

In accordance with 2-AOP-04.01, Fuel Pool Cooling System, the Full Core Off-Load _____(1)_____ continue.

In accordance with 2-ARP-N44 the 2B SFP Cooling Pump can be restored by resetting the _____(2)_____.

- A. (1) may
(2) Breaker
- B. (1) may NOT
(2) Breaker
- C. (1) may
(2) Thermal Overload
- D. (1) may NOT
(2) Thermal Overload

62.

Given the following conditions:

- Unit 2 is performing Physics Testing following a refueling outage
- 2-PTP-81, Reload Startup Physics Testing is in progress
- MTC is slightly positive
- The Reactor is critical at $5 \times 10^{-4} \%$
- PIC-08-1A, 2A SG Atmos Dump Vlv is in AUTOMATIC
- MV-08-18A, 2A SG Atmos Dump Vlv is 15% OPEN
- PIC-08-1B, 2B SG Atmos Dump Vlv is in MANUAL
- MV-08-19B, 2B SG Atmos Dump Vlv is 15% OPEN

Subsequently:

- PIC-08-1A, DRIFTS, RAISING the OUTPUT demand 8%

Which ONE of the following describes the plant response?

RCS Temperature will ____ (1) ____.

Reactor Power will ____ (2) ____.

- A. (1) RISE
(2) RISE
- B. (1) RISE
(2) LOWER
- C. (1) LOWER
(2) RISE
- D. (1) LOWER
(2) LOWER

63.

Which ONE of the following describes the Digital Electro Hydraulic (DEH) system operation regarding the Overspeed Protection Control (OPC) for the Main Turbine?

The OPC circuit will actuate at a MINIMUM of ____ (1) ____ of rated turbine speed.

This will CLOSE the Governor and ____ (2) ____ valves.

- A. (1) 103%
(2) Throttle
- B. (1) 103%
(2) Intercept
- C. (1) 111%
(2) Throttle
- D. (1) 111%
(2) Intercept

64.

Given the following conditions:

- Unit 1 is performing a Liquid Release

Subsequently:

- Annunciator N-37, LIQUID WASTE RAD HIGH, goes into ALARM

Which ONE of the following describes the required actions in accordance with 1-ARP-N37 Liquid Waste Rad High?

- A. Throttle V21462, Final Effluent Discharge Valve, to lower the liquid release rate.
- B. If current radiation levels are higher than the Liquid Release permit limit, then MANUALLY CLOSE FCV-6627X Liquid Waste Flow Valve.
- C. Ensure BOTH the Waste Monitor Pump being used for the liquid release has AUTOMATICALLY stopped and FCV-6627X indicates CLOSED
- D. Ensure FCV-6627X, Liquid Waste Flow Valve indicates CLOSED AND FR-6627, Liquid Waste Flow indicates 0 gpm, the Waste Monitor Pump continues to run

65.

Given the following conditions:

- Unit 1 is at 45% power
- Reactor Regulating System-1 (RRS-1) is Selected
- RRS-1 Loop 1 Selector Switch (S-1) is ON

Subsequently:

- Control Channel Thot RTD, TE-1111X fails HIGH

Which ONE of the following describes how this failure affects the Steam Bypass Control System (SBCS) and the required actions?

IF a Reactor Trip were to occur, SBCS valves ____ (1) ____ quick open.

In accordance with 1-AOP-01.10, Pressurizer Pressure and Level, the crew is required to ____ (2) ____.

- A. (1) will
(2) SELECT RRS-2
- B. (1) will
(2) PLACE Loop 2 Selector Switch (S-2) to ON
- C. (1) will NOT
(2) SELECT RRS-2
- D. (1) will NOT
(2) PLACE Loop 2 Selector Switch (S-2) to ON

66.

On **Unit 1** which ONE of the following parameters can **NOT** be verified during the performance of the EOPs using the various Distributed Control System (DCS) displays?

- A. ECCS Flow
- B. CCW Flow rate to the RCPs
- C. Subcooled Margin per Figure 1A
- D. Secondary Main Steam Line Radiation monitors

67.

Given the following conditions:

- Unit 2 is at 100% power
- A Turbine Cooling Water Leak has developed on the "A" Isophase Bus Cooling Duct
- 2-AOP-13.01, Turbine Cooling Water has been entered

Which ONE of the following completes the statements below?

When performing local actions to isolate the leak, PEER CHECKS ____ (1) ____ required in accordance with OP-AA-100-1000, Conduct of Operations.

After the leak has been repaired and the Equipment Clearance Order is being cleared in accordance with OP-AA-101-1000, Clearance and Tagging, when locally setting the position of THROTTLE Valve, V-13339, 2A Isophase Bus Air Cooler Outlet ____ (2) ____ verification should be used.

- A. (1) are
(2) concurrent
- B. (1) are
(2) independent
- C. (1) are NOT
(2) concurrent
- D. (1) are NOT
(2) independent

68.

Given the following conditions:

- Unit 1 is moving fuel in the reactor core
- ALL Wide Range Neutron flux monitors are operating
- The audible count rate selected to "A" Channel
- ALL CIS monitors are OPERABLE

In accordance with Unit 1 Technical Specifications, which ONE of the following events would require the immediate suspension of fuel movement in the reactor core?

Loss of the _____,

- A. Channel "A" CIS monitor
- B. audible count rate in the Containment
- C. audible count rate in the Control Room
- D. Channel "B" and "D" Wide Range Neutron flux monitors

69.

Given the following conditions:

- Unit 1 is at 100% power
- I&C is to perform a calibration on RSC-26-2, A ECCS Rad Monitor
- The calibration has just started and will be completed during the shift

Which ONE of the following describes the requirement to place RSC-26-2 into the Equipment Out of Service (EOOS) Log (Action Tracking) in accordance with ADM-09.22, Equipment Out of Service?

- A. RSC-26-2 is NOT a Tech Spec Rad Monitor, therefore NO EOOS Log entry is required
- B. RSC-26-2 MUST always be entered into the EOOS Log if out of service (Inoperable)
- C. RSC-26-2 WILL need to be entered into the EOOS Log if it is NOT back in service (Operable) within 4 hours of being out of service
- D. Since RSC-26-2 is expected to be back in service (Operable) before the end of the current shift, entry into the EOOS Log is at the discretion of the SM/US/WCCS

70.

Given the following conditions:

- Unit 2 hung an equipment clearance order on V3540, HPSI TO HOT LOOP 2A VALVE
- As a result, Annunciator Q-26, HPSI TO HOT LEG 2A V3540/V3550 OVRLD alarmed and remained locked in
- The alarm was NOT discussed during the pre-job brief

Which ONE of the following describes the type of alarm and how the alarm will be identified in the control room?

In accordance with the OP-AA-100-1000, Conduct of Operations, this annunciator is defined as ____ (1) ____.

This annunciator window will be identified by placing a ____ (2) ____ mylar film on the window.

- A. (1) EXPECTED
(2) GREEN
- B. (1) EXPECTED
(2) YELLOW
- C. (1) UN-EXPECTED
(2) GREEN
- D. (1) UN-EXPECTED
(2) YELLOW

71.

Which ONE of the following describes the location and Tech Spec applicability of the following Unit 2 Radiation Monitors?

The Containment High Range Radiation Monitors are located ____ (1) ____ containment and they ____ (2) ____ Tech Spec Radiation Monitors.

- A. (1) inside
(2) are
- B. (1) inside
(2) are NOT
- C. (1) outside
(2) are
- D. (1) outside
(2) are NOT

72.

Given the following conditions:

- Unit 1 is in a refueling outage
- You are to brief 2 jobs:
 - ECO for racking out the 1C CCW Pump breaker
 - Irradiated Fuel Assembly inspections in the Spent Fuel Pool (SFP)
- BOTH Areas are posted as radiation areas
- The SFP is posted as a contaminated area

Which ONE of the following describes the Radiation Work Permit (RWP) requirements for entry into these areas in accordance with ADM-05.03, Radiation Work Permits?

The 1C CCW Pump ECO job requires a ____ (1) ____.

The Irradiated Fuel Assembly inspections job requires a ____ (2) ____.

- A. (1) Job Specific RWP
(2) Job Specific RWP
- B. (1) Job Specific RWP
(2) Operations General entry RWP
- C. (1) Operations General entry RWP
(2) Job Specific RWP
- D. (1) Operations General entry RWP
(2) Operations General entry RWP

73.

Given the following conditions:

- Unit 1 is experiencing a LOCA
- 1-EOP-03, LOCA is in progress
- RCS Pressure is 1300 psia and STABLE
- Containment Temperature is 214 °F
- Containment Pressure is 8.0 psig and RISING

Subsequently:

- CSAS actuates
- Containment Temperature LOWERS to 187 °F
- Containment Pressure LOWERS to 5.0 psig

Which ONE of the following completes the statements below?

Prior to CSAS, the CAUTION in 1-EOP-03, states that the crew should use ____ (1) ____ to verify subcooling.

After the CSAS, the CAUTION in 1-EOP-03, states that the crew should use ____ (2) ____ to verify subcooling.

- A. (1) Figure 1A
(2) Figure 1A
- B. (1) Figure 1A
(2) Figure 1B
- C. (1) Figure 1B
(2) Figure 1A
- D. (1) Figure 1B
(2) Figure 1B

74.

Given the following conditions:

- A Fire Notifier Panel trouble alarm is received

Subsequently:

- The Unit 2 Control Room Notifier Fire Panel fails
- I & C has been notified of the failure

Which ONE of the following completes the statements below?

The crew will be informed of the **TROUBLE** alarm by an ____ (1) ____.

When the Notifier Fire Panel fails, in accordance with 0-NOP-79.01, Fire Detection System, the crew is required to ____ (2) ____.

- A. (1) audible alarm ONLY
- (2) Notify Security to commence continuous roving fire watches to ALL vital areas on Unit 2
- B. (1) audible alarm ONLY
- (2) Station an Operator at the FS-90 Master Local Fire Alarm Panel on Unit 2 to monitor and report fire alarms to the Unit 2 Control Room
- C. (1) audible alarm and a flashing strobe light
- (2) Notify Security to commence continuous roving fire watches to ALL vital areas on Unit 2
- D. (1) audible alarm and a flashing strobe light
- (2) Station an Operator at the FS-90 Master Local Fire Alarm Panel on Unit 2 to monitor and report fire alarms to the Unit 2 Control Room

75.

Given the following conditions:

- Unit 1 has tripped due to a S/G Tube Rupture and a Loss of Coolant Accident
- The ruptured S/G has been isolated
- 1-EOP-99, Figure 2 is MET
- Containment Temp is 185 °F
- REP CET is 460 °F
- Pressurizer pressure is 600 psia

Which ONE of the following is the MAXIMUM cooldown limit in any ONE hour period?

(REFERENCE PROVIDED)

- A. 30 °F
- B. 50 °F
- C. 70 °F
- D. 100 °F

**SUBJECTIVE SCORE
INSTRUCTOR USE ONLY**

100	90	80	70	60
50	40	30	20	10
9	8	7	6	5
4	3	2	1	0

(T) (F) KEY

% 3

FORM NO. 888-E

IMPORTANT

USE NO. 2 PENCIL ONLY

• MAKE DARK MARKS

• ERASE COMPLETELY TO CHANGE

EXAMPLE: A B C D E

TO USE SUBJECTIVE SCORE FEATURE:

• Mark total possible subjective points

• Only one mark per line on key

• 163 points maximum

EXAMPLE OF STUDENT SCORE:

SCANTRON

NAME		
SUBJECT	TEST NO.	
DATE	PERIOD	

FOR USE ON
TEST SCORING
MACHINE ONLY

TEST RECORD

PART 1	
PART 2	
TOTAL	

PART 1

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WRITTEN EXAMINATION COVER SHEET

Trainee Name: **RO KEY**

Employee Number: **RO KEY**

Site:

St Lucie

Examination Number/Title: NRC WRITTEN RO

Training Program: L-17-1 Initial License Training

Course/Lesson Plan Number(s): L-17-1 NRC Written

Total Points Possible: 75 **RO KEY**

Grade: ____ / ____ = ____ %

Graded by: **RO KEY**

Date:

Co-graded by (if necessary):

Date:

**RO
KEY**

IMPORTANT

USE PENCIL ONLY

• MAKE DARK MARKS
• ERASE COMPLETELY TO CHANGE
• EXAMPLE: (A) (B) (C) (D) (E)

TO USE SUBJECTIVE SCORE FEATURE:
• Mark total possible subjective points
• Only one mark per line on key
• 163 points maximum


EXAMPLE OF STUDENT SCORE:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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NAME			
SUBJECT		TEST NO.	
DATE		PERIOD	

TEST RECORD	
PART 1	
PART 2	
TOTAL	

PART 2

		WRITTEN EXAMINATION COVER SHEET	
Trainee Name: RO KEY			
Employee Number: RO KEY		Site:	St Lucie
Examination Number/Title: NRC WRITTEN RO			
Training Program: L-17-1 Initial License Training			
Course/Lesson Plan Number(s): L-17-1 NRC Written			
Total Points Possible: 75	RO KEY		Grade: ____ / ____ = ____ %
Graded by: RO KEY		Date:	
Co-graded by (if necessary):		Date:	

RO KEY



Saint Lucie RO Written Exam References

1. 1-EOP-99, Rev 62, Figure 1A, Page 1 of 1
2. 1-EOP-99, Rev 62, Figure 1B, Page 1 of 1
3. 2-ONP-100.2, Rev 43, Figure 1