

**EXAMINATION**  
**LICENSED OPERATOR INITIAL TRAINING PROGRAM**

**Course: 2002 SROU Exam**

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**Student Name**

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**Social Security Number**

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**Score**

**Correct answers have been provided for all questions that were graded as incorrect and are understood.**

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**Student Signature**

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**Date**

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**Prepared By**

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**Date**

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**Approved By**

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**Date**

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Question No. 1 Point Value: 1

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Select the correct answer:

Reactor Power is 100% when an automatic scram signal is received. There is no rod movement but all other plant parameters remain normal. An EAL for a Site Area Emergency (SAE) requires "Automatic and Manual SCRAM signals present". Which of the following signals must also be tried and fail in order to declare a Site Area Emergency?

- a. Scram pushbuttons and ARI/RPT pushbuttons
- b. Scram pushbuttons and mode switch to shutdown
- c. Automatic ARI/RPT signal and ARI/RPT pushbuttons
- d. Automatic ARI/RPT signal and mode switch to shutdown

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Question No. 2 Point Value: 1

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Select the correct answer:

A failure to scram has occurred and the crew is taking actions per EOP-2, ATWS RPV Control.  
The following conditions exist:

RPV pressure being maintained 800-1000 psig with SRVs  
RPV level being maintained -22" to +90" with feedpumps  
20% SLC Tank level has been injected into the RPV  
Rods are being inserted manually, 40 rods still at position 48

Which of the following statements is true?

- a. The reactor is shutdown and will remain shutdown if pressure is maintained within current limits.
- b. The reactor is not shutdown since more than one rod is not fully inserted.
- c. The reactor is shutdown and cooldown may now commence.
- d. The reactor will not be shutdown until the Cold Shutdown Boron Weight has been injected.

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Question No. 3 Point Value: 1

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Select the correct answer:

Given the following conditions:

- The plant is operating at 100% power
- Reactor pressure is slowly increasing
- The EPR is controlling reactor pressure

Select the FIRST action that should be taken by the CRO for these conditions.

- a. Manually scram the reactor.
- b. Control pressure via the Bypass Valve Opening Jack.
- c. Reduce the MPR setpoint.
- d. Turn off power to the EPR.

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Question No. 4 Point Value: 1

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Select the correct answer:

The plant is shutdown with the "A" RHR loop in shutdown cooling. The SW system is lost and Reactor Pressure rises to 160 psig. How will the RHR system respond?

- a. RHR 17 & 18 will close, RHR 13A & 13C will open, and the RHR pump will continue to run.
- b. RHR 17 & 18 will close and the Loop A RHR pump will trip.
- c. RHR 17 & 18 will remain open and the RHR pump will trip.
- d. RHR 17 & 18 will close and the RHR pump will continue to run.

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Question No. 5 Point Value: 1

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Select the correct answer:

With the plant at 100% power a total loss of feedflow occurs. As vessel level starts to drop the Reactor Recirculation pumps runback to 20% speed. The reason for this runback is:

- a. to minimize stress on CRD stub tubes and incore housing welds.
- b. to minimize flow induced vibration of LPRMs and TIP tubes.
- c. to prevent cavitation of the recirculation pumps.
- d. to prevent exceeding core thermal limits.

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Question No. 6 Point Value: 1

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Select the correct answer:

A LOCA has occurred and due to a high torus temperature, torus cooling is required. To accomplish this the "CTMT SPRAY VLV LPCI SIG BYPASS" (pistol grip) switch has to be placed in MANUAL to:

- a. allow the RHR Heat Exchanger Bypass Valve (RHR-65A/B) to be closed
- b. allow the Low Pressure Coolant Injection (LPCI) injection valves to be closed.
- c. allow starting of the RHRSW Pumps.
- d. allow the RHR System to be realigned to torus cooling if reactor water level is above -48 inches.

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Question No. 7 Point Value: 1

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Select the correct answer:

A small break LOCA has occurred with the following parameters:

- DW Pressure 8 psig
- RPV Water Level 135"
- RPV Pressure 860 psig

RHR Pump "A" has been placed in torus cooling due to a high torus temperature. Subsequently, a large break LOCA occurs resulting in an RPV water level of -200".

What is the response of RHR-65A, Hx Bypass Valve, and the torus cooling lineup?

- a. RHR-65A opens and torus cooling lineup isolates
- b. RHR-65A opens and torus cooling lineup is unaffected
- c. RHR-65A remains closed and torus cooling lineup isolates
- d. RHR-65A remains closed and torus cooling lineup is unaffected



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Question No. 8 Point Value: 1

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Select the correct answer:

The plant is operating at 100% power when the A Recirc pump ramps up to 100% speed. The thermal limit that is most significantly challenged by this event is:

- a. LHGR
- b. MCPR
- c. APLHGR
- d. MFLPD

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Question No. 9 Point Value: 1

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Select the correct answer:

Which one of the following reactor scrams occurs in anticipation of a positive reactivity addition?

- a. Low Vessel level
- b. Turbine Stop Valve closure
- c. High Drywell pressure
- d. High Scram Discharge Volume

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Question No. 10 Point Value: 1

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Select the correct answer:

While performing the initial actions of OP 3126 (Shutdown Using Alternate Shutdown Methods) from 75% power, the Operator is directed to place the "A" RHR Pump control switch in PULL-TO-LOCK.

The Control Room switch for the "A" RHR Pump is placed in PULL-TO-LOCK:

- a. to meet the interlock for the RHR Alternate Shutdown Transfer Switches required for local control.
- b. to ensure that the pump does not start and meet the logic for Automatic Depressurization System actuation.
- c. to prevent pump starts until the RHR Shutdown Cooling Isolation Valves (RHR-17 / 18) are open for a suction path.
- d. to ensure that the pump does not start without minimum flow protection during transfer to local control.

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Question No. 11 Point Value: 1

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Select the correct answer:

The control room has been abandoned and a shutdown is being conducted from outside the control room. Reactor pressure is currently 800 psig. A direction is given to commence a cooldown. Per OP 3126, Shutdown Using Alternate Shutdown Methods, the correct method to accomplish this is to:

(OP 3126, App C, fig. 1, is enclosed)

- a. Reduce pressure gradually over the next hour by opening SRVs. At the end of the hour, pressure should be 325 psig.
- b. Reduce pressure gradually over the next hour by opening SRVs. At the end of the hour, pressure should be 250 psig.
- c. Reduce pressure to 250 psig by opening an SRV and maintain pressure 250 psig +100/-0 psig.
- d. Reduce pressure to 325 psig by opening an SRV and maintain pressure 325 psig +100/-0 psig.

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Question No. 12 Point Value: 1

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Select the correct answer:

Given the following conditions:

- A fuel leak occurs and as a result the reactor is manually scrammed.
- Due to the fuel leak, ARM #6 and ARM #7 areas radiation levels reach 1200 mR/hr and 1250 mR/hr respectively.
- The south Scram Discharge Volume vent and drain valves have failed open and cannot be closed.

(EOP-4 is a required student reference.)

Under these conditions, Emergency RPV depressurization is:

- a. not required since the CRD HCU north and south areas are considered the same area.
- b. required in order to limit the release of radioactivity into the secondary containment.
- c. required to allow the scram to be reset and the primary system leak isolated.
- d. not required since there is no primary system discharging into secondary containment.

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Question No. 13 Point Value: 1

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Select the correct answer:

Given the following conditions:

- The plant is operating at 75% power
- Radioactivity is being released from a primary leak into secondary containment
- EOP-4 (Secondary Containment Control) has been entered

Which one of the following EOP-4 actions would send unfiltered water/air to the environment?

- a. Operating available sump pump
- b. Operating available RRUs
- c. Restarting TB HVAC
- d. Restarting RB HVAC

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Question No. 14 Point Value: 1

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Select the correct answer:

Per OP 1101, Management of Refueling Activities and Fuel Assembly Movement, which three conditions listed below require evacuation of the Refueling Floor?

1. Doubling of SRM counts.
  2. A dropped fuel assembly.
  3. High airborne activity alarms in the reactor building on the 345 level.
  4. Unanticipated decrease in Reactor Cavity level.
  5. High radiation alarms on the Rx Building 303 level area rad monitors.
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- a. 1, 2 and 5.
  - b. 1, 4 and 5.
  - c. 3, 4 and 5.
  - d. 2, 3 and 4.

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Question No. 15 Point Value: 1

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Select the correct answer:

The plant is shutdown for refueling, with the Mode Switch in REFUEL. Which of the following describes the interlocks associated with rod withdrawal during refueling activities?

- a. Control rod withdrawal is prevented anytime the Refueling Platform is over the core.
- b. A control rod withdrawal block will be inserted if one rod is fully withdrawn (Notch 48), and a second rod is withdrawn past Notch 02.
- c. A control rod withdrawal block will be inserted anytime one rod is not fully inserted and a second rod is selected.
- d. With the Reactor Mode Switch transferred to STARTUP/HOT STANDBY, no control rod withdrawal interlocks would be in effect.



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Question No. 16 Point Value: 1

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Select the correct answer:

The plant is in the EOPs with the following conditions:

- Torus level - 11 ft
- DW Temp 150°F
- Drywell/Torus pressure is increasing

Which one of the following would be the first Drywell/Torus pressure where containment integrity could no longer be assured?

- a. +2 psid DW/Torus Differential Pressure
- b. 10 psig DW pressure
- c. 25 psig Torus pressure
- d. 65 psig Torus pressure

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Question No. 17 Point Value: 1

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Select the correct answer:

A small steam leak inside the drywell has caused the following plant conditions to exist:

Drywell Pressure: 3.1 psig, rising slowly

Drywell Temperature: 167°F, rising slowly

Reactor Water Level: 142", steady

Reactor Building Ventilation Exhaust Radiation: 1.2 mr/hr, steady

Assuming all plant equipment operated as designed, what is the present status of Secondary Containment Atmosphere?

- a. At a positive pressure, being exhausted through a filtered and monitored path.
- b. At a negative pressure, being exhausted through a filtered and monitored path.
- c. At a positive pressure, being exhausted through an unfiltered and unmonitored path.
- d. At a negative pressure, being exhausted through an unfiltered and unmonitored path.

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Question No. 18 Point Value: 1

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Select the correct answer:

Which of the following plant conditions will result in an automatic ARI/RPT actuation?

- a. RPV Pressure - 1100 psig for 10 seconds  
Rx Power - 30%
- b. RPV Pressure - 850 psig for 5 seconds  
RPV Water Level - 88 inches for 10 seconds
- c. RPV Water Level - 80 inches for 5 seconds  
Rx Power - 2%
- d. RPV Pressure - 1200 psig for 3 seconds  
RPV Water Level - 86 inches for 5 seconds

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Question No. 19 Point Value: 1

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Select the correct answer:

If torus temperature or RPV pressure cannot be maintained below the Heat Capacity Temperature Limit, EOP-3, Primary Containment Control, requires RPVED. This action is performed to avoid:

- a. damaging SRV downstream piping during RPV Emergency Depressurization.
- b. loss of all RPV level instruments after RPV Emergency Depressurization.
- c. overpressurizing the Primary Containment during RPV Emergency Depressurization.
- d. excessive hydrodynamic loading on downcomer piping during RPV Emergency Depressurization.

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Question No. 20 Point Value: 1

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Select the correct answer:

During normal operations the Tech Spec torus maximum temperature limit is \_\_\_\_\_ °F. This limit insures the suppression pool doesn't approach \_\_\_\_\_ °F following a DBA LOCA.

- a. 90; 170
- b. 90; 212
- c. 120; 170
- d. 120; 212

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Question No. 21 Point Value: 1

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Select the correct answer:

Given the following conditions:

- The plant has experienced a failure to scram (ATWS)
- Reactor water level is being deliberately lowered to reduce power

Regardless of reactor power, per EOP-2, ATWS Control, level must NOT be lowered less than \_\_\_\_\_ to ensure \_\_\_\_\_ .

- a. +6"; thermal hydraulic instabilities (oscillations) will not occur
- b. +6"; inadvertent low pressure ECCS starts will not occur
- c. -22"; adequate core cooling is maintained during the ATWS
- d. -22"; the narrow range water level variable leg instrument tap is not uncovered

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Question No. 22 Point Value: 1

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Select the correct answer:

A LOCA has occurred and all rods are in. Reactor water level is low and can not be maintained in the normal band. The crew has entered the EOPs and are attempting to achieve Adequate Core Cooling (ACC). Which one of the following ensures ACC?

- a. LPCI injecting at 7,000 gpm and vessel level is at -28".
- b. C.S. injecting at 3,300 gpm and vessel level is at -40".
- c. HPCI injecting at 4,000 gpm and vessel level is at -47".
- d. RCIC injecting at 400 gpm and vessel level is at -6".

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Question No. 23 Point Value: 1

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Select the correct answer:

The SCRO has entered EOP 2 for an ATWS. After repeated manual scrams the rods are partially inserted. There has been no boron injected and the SS wants to start a cooldown. Which one of the following can be used to determine the reactor is shutdown?

- a. APRM downscale lights
- b. Fully withdrawn SRMs, decreasing count rates and a negative period
- c. LPRM downscale lights
- d. Fully withdrawn IRMs, decreasing count rates and range switches on range 8



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Question No. 24 Point Value: 1

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Select the correct answer:

A steam leak is reported in the Heater Bay which has set off the Stack Gas Rad Mon Sys Trbl Alarm. While attempting to determine if actions to isolate the leak have been successful, a report is received that the Turbine Building HVAC is shutdown.

Per EOP-4, Secondary Containment Control, which of the following should be performed, and why?

- a. Leave the Turbine Building HVAC shutdown to minimize the release from the Turbine Building.
- b. Leave the Turbine Building HVAC shutdown since no direction is provided.
- c. Restart the Turbine Building HVAC to filter the turbine building atmosphere and minimize radiological release.
- d. Restart the Turbine Building HVAC to provide a monitored, elevated radiological release.

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Question No. 25 Point Value: 1

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Select the correct answer:

The EOPs have been entered and the following steady state conditions exist:

Drywell O<sub>2</sub> - unavailable

Drywell H<sub>2</sub> - 0.7%

Torus O<sub>2</sub> - 5%

Torus H<sub>2</sub> - 0.4%

Using the attached EOP-3, the containment should be purged with nitrogen:

- a. immediately based upon current conditions
- b. after sampling results for Drywell O<sub>2</sub> are obtained
- c. after Torus H<sub>2</sub> exceeds 0.5%
- d. before Torus H<sub>2</sub> exceeds 0.5%

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Question No. 26 Point Value: 1

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Select the correct answer:

The SAGs have been entered and the containment has the following conditions:

Drywell H2 - 5%

Drywell O2 - 5%

Torus H2 - 7%

Torus O2 - 4%

Utilizing the attached SAG-2, determine which, if any, action level is required for the drywell.

- a. No action
- b. Action 1
- c. Action 2
- d. Action 3

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Question No. 27 Point Value: 1

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Select the correct answer:

The following conditions exist:

Main condenser backpressure: 5.4" Hg and rising rapidly  
Circ water in OPEN cycle  
CRO is reducing Reactor Power with recirc flow at 9%/min  
Annunciator 9-5-K-8, "STOP/CTRL VLV FAST CLOSURE BYP" is energized  
TB AO reports visible damage to the LP turbine exhaust boot and the sound of air rushing through  
The SCRO directs the crew to transfer station loads, scram the reactor, then trip the turbine.

These actions are required because:

- a. The resulting backpressure-induced vibration will cause rotor bowing.
- b. An automatic turbine trip, due to high backpressure, will cause a scram in this condition.
- c. Turbine blade damage may result from excessive exhaust pressure.
- d. Maintaining backpressure  $\leq 14$ " HgA will preserve the main condenser as a heat sink.

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Question No. 28 Point Value: 1

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Select the correct answer:

The ACRO notes the following indications in the Control Room:

EPR and MPR white lights on CRP 9-7 OFF  
Feed pump recirc valve position indication on CRP 9-6 OFF  
Main transformer cooling indicating lights on CRP 9-7 OFF  
RCIC system valve position indication on CRP 9-4 OFF

Select the correct operator action and the basis from the list below.

- a. A reactor scram will be required to unload the transformers before they overheat.
- b. An SAE must be declared due to a sustained loss of CR annunciators.
- c. The "A" and "B" Feed Pumps must be tripped locally since they receive their power from Bus 1.
- d. The MSIVs shall be closed immediately to control pressure since both MPR and EPR will fail due to the low pressure condition.

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Question No. 29 Point Value: 1

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Select the correct answer:

A 4KV load shed breaker, normally operated from the Control Room, loses DC control power.  
What breaker responses, if any, are functional?

- a. Auto trips on an LNP and can be closed from the Control Room
- b. Auto trips on an LNP and can NOT be closed from the Control Room
- c. Does NOT auto trip on an LNP and can be opened from the Control Room
- d. Does NOT auto trip on an LNP and can NOT be opened from the Control Room

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Question No. 30 Point Value: 1

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Select the correct answer:

The plant is at 100% power when a scram signal is received. The CRO reports RPS failed to deenergize, the scram valves remain shut, no rod motion occurred and power remains at 100%.

Which one of the following EOP strategies for control rod insertion will result in a turbine trip?

- a. App D, Vent the Scram Air header
- b. App E, Individual Control Rod Scrams
- c. App G, Manual Insertion of Individual Control Rods
- d. App BB, Increase CRD Cooling Water Pressure

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Question No. 31 Point Value: 1

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Select the correct answer:

A reactor startup is in progress with the generator synchronized to the grid and operating at 40% power. Computer point D619 (Bus 1 Sync-check relay) prints out in the alarm (LOSS) state. Ten minutes later, the main generator trips and locks out.

In this condition:

- a. Recirc MG B drive motor breaker will trip, on bus undervoltage.
- b. Bus 1 Residual bus transfer will occur.
- c. Reactor Feedwater Pump A will trip when Bus 1 voltage decays to 1000 volts, after a 5 second time-delay.
- d. Bus 1 Automatic fast transfer will occur.



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Question No. 32 Point Value: 1

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Select the correct answer:

The plant is at 100% power when the FW reg valves lockup. The valves drift open and level increases. The RFPs fail to trip. After tripping the RFPs, water level continues to rise.

Per OT 3114, Reactor High Level, what is the required action on the rising water level?

- a. When level reaches 177", shut HPCI/RCIC 15 and 16.
- b. When level reaches 200", shut all MSIVs.
- c. When level reaches 200", shut HPCI/RCIC 15 and 16.
- d. When level reaches 230", shut all MSIVs and shut HPCI/RCIC 15 and 16.

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Question No. 33 Point Value: 1

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Select the correct answer:

The plant is at 100% power when a loss of feedwater occurs. Level drops to 80" and level is automatically restored. As level rises, HPCI fails to trip on high reactor water level. All other systems respond normally.

Which of the following could become flooded if HPCI continues to inject?

- a. Main Turbine Casing
- b. RCIC Turbine Casing
- c. SRVs
- d. SJAEs

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Question No. 34 Point Value: 1

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Select the correct answer:

In the PC pressure leg of EOP-3, operators are instructed to spray the DW when torus pressure exceeds 10 psig. The reason DW sprays are initiated beyond this pressure is to:

- a. Ensure DWSIL curve is not exceeded.
- b. Ensure PCPLA is not exceeded.
- c. Prevent chugging in the downcomer.
- d. Ensure enough time is available to prepare to RPVED if sprays are not effective.

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Question No. 35 Point Value: 1

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Select the correct answer:

During a loss of coolant accident, the following conditions exist:

- Reference leg temperature is 350°F
- Reactor pressure is 50 psig

Which one of the following describes the accuracy and trending capabilities of reactor water level indication for the given conditions?

- a. Level is accurate; trend is accurate
- b. Level is inaccurate; trend is accurate
- c. Level is accurate; trend is inaccurate
- d. Level is inaccurate; trend is inaccurate

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Question No. 36 Point Value: 1

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Select the correct answer:

A SW break has occurred and SW header pressure falls to 30 psig. Which of the following loads will be isolated?

- a. RBCCW Heat Exchangers and Generator Hydrogen Coolers
- b. RBCCW Heat Exchangers and Steam Tunnel RRUs
- c. RR MG Set Lube Oil Coolers and Generator Hydrogen Coolers
- d. RR MG Set Lube Oil Coolers and Steam Tunnel RRUs

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Question No. 37 Point Value: 1

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Select the correct answer:

A loss of shutdown cooling has occurred due to a loss of all available RHR pumps. SDC restart is unsuccessful.

In accordance with ON 3156, "Loss of Shutdown Cooling", what mode of operation for the RWCU system is required?

- a. RWCU Return to RHR SDC Suction Line Operation
- b. Reactor Letdown
- c. Reactor Bottom Head Drain Line flush
- d. RCU Filter Demin Bypass with Return to Vessel

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Question No. 38 Point Value: 1

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Select the correct answer:

Given the following conditions:

- The plant is in Cold Shutdown
- Reactor coolant temperature is 190°F
- The reactor vessel head is installed
- The RHR lineup is as follows:
  - The "A" Loop is in shutdown cooling with the "C" RHR Pump in service
  - The "B" Loop is in torus cooling with the "D" RHR Pump in service
  - The "A" and "B" RHR Pumps are NOT available
- Reactor water level is lowering, and has reached 77 inches

Assuming no Operator actions are taken, what is the expected response of the RHR and RHRSW to these conditions?

- a. Both RHR and RHRSW pumps trip.
- b. The "C" RHR and both RHRSW pumps trip. The "D" RHR pump continues to operate.
- c. The "C" RHR and its associated RHRSW pump trip. The "D" RHR and its associated RHRSW pump continue to operate.
- d. Both RHR and RHRSW pumps continue to operate.

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Question No. 39 Point Value: 1

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Select the correct answer:

Given the following conditions:

- The plant is conducting a startup, with the Mode Switch in STARTUP/HOT STBY
- Plant pressure is 700 psig
- Control Rod 34-35 (at "Notch 10") has an Accumulator Trouble alarm in due to accumulator low pressure
- The "B" CRD Pump is tagged out
- The "A" CRD Pump has just tripped
- An additional accumulator trouble alarm comes in (NOT within a 9 rod array for 34-35)

What, if any, are the required actions for these conditions?

- a. No actions required
- b. Place the plant in Hot Shutdown within 12 hours
- c. Place the plant in Cold Shutdown within 24 hours
- d. Insert a manual reactor scram



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Question No. 40 Point Value: 1

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Select the correct answer:

An accident occurred 3 hours ago, and the following conditions exist:  
(Students will be given EOP-3)

RPV pressure is 50 psig and steady  
All SRV switches are in OPEN  
Drywell pressure is 3 psig and steady  
Drywell temperature is 275°F and rising slowly

Based upon these plant conditions, what adverse conditions could result from drywell spray initiation?

- a. The evaporative cooling pressure drop may result in drywell pressure going to atmospheric.
- b. The evaporative cooling pressure drop may result in exceeding design differential pressure between the torus and drywell.
- c. The steam produced by initiating drywell sprays could over-pressurize the containment.
- d. Spraying into such a hot environment may cause brittle fracture of the containment liner.

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Question No. 41 Point Value: 1

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Select the correct answer:

The plant is at 100% power with all systems operational and in a normal lineup. A LOCA occurs, all systems respond as designed and initiate injection into the vessel.

The following conditions exist:

- Torus level 15 ft and rising
- RPV pressure 35 psig and lowering
- RPV water level 95 inches and rising slowly

Per EOP-3, Primary Containment Control, what system should be terminated to prevent a continued torus level increase?

- a. HPCI
- b. RCIC
- c. Condensate
- d. Core Spray

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Question No. 42 Point Value: 1

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Select the correct answer:

Given the following conditions:

- The plant is operating at 70% power
- HPCI is running for a surveillance test
- The "A" SBTG train is running to support HPCI operation
- The "B" SBTG train was secured after HPCI was started
- A valid Refuel Floor High Radiation signal is received
- All plant systems respond as designed
- No Operator actions are taken

Which of the following is the expected response of SBTG for these conditions?

- a. The "B" SBTG Train will not start. The "A" SBTG Train will begin processing the Reactor Building atmosphere after the HPCI Gland Seal Exhauster discharge isolates.
- b. The "B" SBTG Train will not start. The "A" SBTG Train will begin processing the Reactor Building atmosphere along with the HPCI Gland Seal Exhauster discharge.
- c. The "B" SBTG Train starts and begins processing the Reactor Building atmosphere. The "A" SBTG Train will trip and isolate as part of the HPCI Gland Seal Exhauster discharge isolation.
- d. The "B" SBTG Train starts and begins processing the Reactor Building atmosphere. The "A" SBTG Train will divert to process the HPCI Gland Seal Exhauster discharge exclusively.

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Question No. 43 Point Value: 1

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Select the correct answer:

Reactor Building ventilation has isolated on high exhaust radiation levels. All valves have isolated but the status of "A" Rx Bldg Supply Fan can not be determined. There are no red/green indications in the control room nor locally. Using the attached CWD Sheet 1394, determine that cause for the loss of all indication could come from an open breaker at \_\_\_\_\_ or \_\_\_\_\_.

- a. MCC 7D; one blown fuse at coordinates F-3
- b. MCC 7D; two blown resistors at coordinates A/B-3/4
- c. MCC 10A; one blown fuse at coordinates F-3
- d. MCC 10A; two blown resistors at coordinates A/B-3/4

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Question No. 44 Point Value: 1

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Select the correct answer:

A trip of the "A" Reactor Recirculation Pump has occurred. The plant is operating in the Buffer Region of the Power/Flow Map, the "B" Reactor Recirculation Pump is at 70% speed and Solomon is NOT available.

Per OT 3117, Reactor Instability, which ONE of the following is REQUIRED?

Exit the Buffer Region by:

- a. manually scrambling the reactor.
- b. inserting control rods using the spiral outward pattern.
- c. increasing the speed of the "B" Reactor Recirculation Pump.
- d. inserting control rods using the Rapid Shutdown Sequence.

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Question No. 45 Point Value: 1

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Select the correct answer:

The RHR system is operating in LPCI mode due to a LOCA. \_\_\_\_\_ is required by the RRU to cool the pump room and \_\_\_\_\_ is required to cool the pump seals.

- a. RBCCW; RBCCW
- b. RBCCW; Service Water
- c. Service Water; RBCCW
- d. Service Water; Service Water

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Question No. 46 Point Value: 1

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Select the correct answer:

The plant has experienced a DBA LOCA concurrent with an LNP. The Emergency Diesel Generators have just powered busses 3 and 4. The RHR system response will be:

- a. RHR pumps A & D start immediately, C & B start 5 seconds later.
- b. RHR pumps C & B start immediately, A & D start 10 seconds later.
- c. RHR pumps A & C start immediately, B & D start 5 seconds later.
- d. RHR pumps A & D start immediately, C & B start 10 seconds later.

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Question No. 47 Point Value: 1

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The "A" core spray loop is running in the full flow test mode for a scheduled surveillance test. A major leak develops in one loop of the recirculation system, the reactor quickly depressurizes to approximately 500 psig and DW pressure increases to 20 psig.

The "A" Core Spray response to the above conditions will be:

- a. Core Spray Injection valve (CS-12A) will open,  
Test Bypass valve (CS-26A) will close, and  
Minimum Flow valve (CS-5A) will open.
- b. Core Spray Injection valve (CS-12A) will remain closed,  
Test Bypass valve (CS-26A) will close, and  
Minimum Flow valve (CS-5A) will open.
- c. Core Spray Injection valve (CS-12A) will open,  
Test Bypass valve (CS-26A) will close, and  
Minimum Flow valve (CS-5A) will remain closed.
- d. Core Spray Injection valve (CS-12A) will remain closed,  
Test Bypass valve (CS-26A) will close, and  
Minimum Flow valve (CS-5A) will remain closed.



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Question No. 48 Point Value: 1

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Select the correct answer:

With the plant operating at 100% power, the following occurs:

- "B" CORE SPRAY HEADER d/p HIGH annunciates.
- Core Spray leak detection indication reads +4 psid.

All other plant parameters are normal

A short time later a Main Steam Line break occurs. Inventory loss is occurring at a rate of 3000 gpm. If "B" Core Spray was used to ensure Adequate Core Cooling (ACC), it would be:

- a. ineffective for both core submergence and spray cooling.
- b. effective for core submergence only.
- c. effective for both core submergence and spray cooling.
- d. effective for spray cooling only.

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Question No. 49 Point Value: 1

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Select the correct answer:

The following plant conditions exist:

SLC System 1 injecting to the RPV  
RPV pressure is 1100 psig and dropping slowly  
4 SRVs open  
RWCU in service  
All rods at position 48  
MSIVs closed

The CRO must immediately:

- a. drive control rods.
- b. reduce pressure with bypass valves.
- c. isolate RWCU.
- d. start SLC System 2.

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Question No. 50 Point Value: 1

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Select the correct answer:

A failure to SCRAM coincident with a loss of Bus 9 occurs. The SCRO has ordered Standby Liquid Control (SLC) injected. The CRO positions the SLC initiation switch to SYS 1. The SLC system response will be:

- a. SLC-14A squib valve will fire and the "A" SLC pump will start.
- b. SLC-14A squib valve will fire and the "A" SLC pump will not start.
- c. SLC-14A squib valve will not fire and the "A" SLC pump will start.
- d. SLC-14A squib valve will not fire and the "A" SLC pump will not start.

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Question No. 51 Point Value: 1

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Select the correct answer:

Given the following conditions:

- A plant startup is in progress
- The Recirc flow input signal to the APRMs is 25%
- As Recirc flow is raised, the "B" Flow Converter/Comparator output remains at 25%
- Actual recirculation loop flows respond as expected

What will be the FIRST effect on plant operation as recirculation flow continues to be raised?

- a. A full scram will occur due to flow biased neutron flux high.
- b. A control rod block will occur due to a flow converter/comparator out of limits trip.
- c. A control rod block will occur due to a flow converter/comparator unit "inop" signal.
- d. A half scram will occur due to flow biased neutron flux high.

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Question No. 52 Point Value: 1

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Select the correct answer:

The reactor is operating at 50% power with the following LPRM status for "E" APRM:

A Level LPRMs 3  
B Level LPRMs 5  
C Level LPRMs 2  
D Level LPRMs 3

LPRM 5B-08-09 which is assigned to "E" APRM fails downscale. I&C recommends bypassing the failed LPRM.

When the LPRM is bypassed, the plant response will be:

- a. "LPRM DOWNSCALE" alarm clears only
- b. Control Rod Block only
- c. Half Scram only
- d. Control Rod Block and a Half Scram

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Question No. 53 Point Value: 1

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Select the correct answer:

RCIC has been periodically tripping on a spurious high level signal. I&C desires to disable this signal for approximately a year until the next outage. Per AP 6002, Preparing 50.59 Evaluations, during the 10CFR50.59 screening process, it should be determined that it \_\_\_\_\_ require a change to Tech Specs and the final approval authority would be the \_\_\_\_\_ .

- a. does; NRC
- b. does; Plant Manager
- c. does not; NRC
- d. does not; Plant Manager

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Question No. 54 Point Value: 1

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Select the correct answer:

The plant has the following conditions:

- All rods in
- Main Steam line break in the Turbine Bldg
- MSIVs have failed to isolate
- Rx Level +82.5" and decreasing at 5"/min
- Rx Pressure - 900 psig

ADS will initiate after \_\_\_\_\_ and the RO should be directed to \_\_\_\_\_ ADS initiation.

- a. 2 minutes; inhibit
- b. 2 minutes; allow
- c. 10 minutes; allow
- d. 10 minutes; inhibit

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Question No. 55 Point Value: 1

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Select the correct answer:

Given the following conditions:

- Drywell pressure is 2.0 psig and slowly rising due to a small leak
- Drywell cooling has been maximized IAW OT-3111 (High Drywell Pressure)
- Eight drywell RRUs are currently running
- Drywell pressure subsequently reaches 2.5 psig and an LNP occurs

The RRUs will:

- a. automatically shift to 1A/B & 2A/B running, and 3A/B & 4A/B off, and may be shifted to all eight running after a time delay.
- b. trip and can be restarted by the Operator after bypassing/resetting trip logics.
- c. continue to run until manually shifted by the Operator.
- d. trip and cannot be restarted until drywell pressure is lowered to less than 2.0 psig.



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Question No. 56 Point Value: 1

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Select the correct answer:

During normal plant operation at 100% power, drywell-to-torus dP has reached 1.9 psid and is rising slowly. No indications of coolant leakage are present, and the dP rise is attributed to the Nitrogen Supply System. Which of the following conditions would cause the rising dP and what action is required per OP 2115, Primary Containment?

- a. The nitrogen purge supply pressure control valve (PCV-1-156-10) is too far open and needs throttling in the CLOSE direction.
- b. The nitrogen purge supply pressure control valve (PCV-1-156-10) is not open far enough and needs throttling in the OPEN direction.
- c. The nitrogen makeup pressure control valve (PCV-1-156-3) is too far open and needs throttling in the CLOSE direction.
- d. The nitrogen makeup pressure control valve (PCV-1-156-3) is not open far enough and needs throttling in the OPEN direction.

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Question No. 57 Point Value: 1

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Select the correct answer:

Following a power transient a line break occurs downstream of RV-39 and RV-40, Sample Isolation Valves. The reactor is scrammed and EOPs are entered to mitigate the event.

The following conditions exist:

- Containment radiation - 1200 R/hr
- RV-39 and RV-40 fail to isolate
- Multiple RB ARMs are alarming

Determine the highest classification/EAL that applies to this condition.

- a. Declare an Alert (A-1-b)
- b. Declare a Site Area Emergency (S-2-a)
- c. Declare a Site Area Emergency (S-3-a)
- d. Declare a General Emergency (G-2-a)

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Question No. 58 Point Value: 1

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Select the correct answer:

A refuel floor high radiation has been received. The refuel floor radiation monitor indicates a reading of 120 mr/hr.

Using ERFIS the "ISOL" icon is demanded and the "ISOLATION GROUPS AND VALVES DISPLAY" is displayed.

ERFIS should show a Group 3A/B indication color of \_\_\_\_\_ and a Group 3A/B valves indicating \_\_\_\_\_.

- a. RED; GREEN
- b. GREEN; RED
- c. GREEN; GREEN
- d. RED; RED

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Question No. 59 Point Value: 1

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Select the correct answer:

A fully qualified Vermont Yankee radiation worker with all previous exposure history on file has received 2355 mrem through the month of September for 2001.

Per AP 0506, Personnel Monitoring, which of the following is the remaining Total Effective Dose Equivalent (TEDE) exposure this individual is allowed to receive during the final quarter (three months) of 2001? Assume no authorizations to exceed Vermont Yankee administrative limits have been received.

- a. 1145 mrem
- b. 1645 mrem
- c. 2145 mrem
- d. 2645 mrem

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Question No. 60 Point Value: 1

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Select the correct answer:

The plant is operating normally at 100% power when the Speed Load Changer fails in the lower direction.

With this failure Reactor power will \_\_\_\_\_ due to a(n) \_\_\_\_\_ in feedwater heating.

- a. increase; decrease
- b. increase; increase
- c. decrease; decrease
- d. decrease; increase

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Question No. 61 Point Value: 1

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Select the correct answer:

A Group 3 isolation signal is received and then clears. SBTs start and all Group 3 valves close. The Group 3 valves are backed up, including the Rx Bldg HVAC supply and exhaust dampers (HVAC-9, 10, 11 and 12). The SBT-1A/B control switches are left in Auto/Close. If an operator attempted to reset the Group 3 isolation, the isolation would \_\_\_\_\_ and Rx Bldg DP would \_\_\_\_\_.

- a. NOT reset; decrease
- b. NOT reset; remain the same
- c. reset; decrease
- d. reset; remain the same

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Question No. 62 Point Value: 1

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Select the correct answer:

The SBGT system is in normal standby lineup when a total loss of air occurs. If a SBGT auto initiation occurs, the air operated SBGT valves would:

- a. line up properly.
- b. fail as is.
- c. all close.
- d. all open.

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Question No. 63 Point Value: 1

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Select the correct answer:

The plant is in normal 100% power operations. A loss of AC electrical power occurs for the "B" Main Station Battery Charger (BC-1-1B). It is determined this charger will require 7 days to repair. This loss affects battery bus \_\_\_\_\_ and will require \_\_\_\_\_ .

- a. DC-3; a 7 day LCO and plant shutdown
- b. DC-3; a 3 day LCO until the spare charger is placed in service
- c. DC-1AS; a 7 day LCO and plant shutdown
- d. DC-1AS; a 3 day LCO until the spare charger is placed in service



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Question No. 64 Point Value: 1

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Select the correct answer:

During normal power operation, the outside operator informs the Control Room that the "High Pressure Cylinder" pressure on ATB 79-40 is 390 psig and decreasing with the compressor running. Which of the following states the consequences of this condition?

- a. Breaker will trip and lockout if pressure continues to fall.
- b. Breaker will respond to manual trip signals but fail to respond to automatic trip signals.
- c. Breaker will respond to automatic trip signals but fail to respond to manual trip signals.
- d. Breaker has lost all tripping capability.

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Question No. 65 Point Value: 1

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Select the correct answer:

The Reactor Building Exhaust Fan trips, the standby exhaust fan fails to start, and the supply fan fails to trip.

What is the affect on the Reactor Building to this condition?

- a. The personnel access doors which will blow open during an overpressure condition.
- b. SBTG will require manual initiation and will maintain negative pressure.
- c. SBTG automatically initiates and will maintain negative pressure.
- d. The blowout panels in the refuel floor walls blow out.

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Question No. 66 Point Value: 1

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Select the correct answer:

EOP-4, Secondary Containment Control, provides the following direction:

IF Reactor Building HVAC isolates AND Reactor Building vent exhaust is less than 14 mr/hr  
THEN restart Reactor Building HVAC defeating interlocks (Appendix AA).

Appendix AA is implemented and RB Ventilation is restored.

What is the response to a vent exhaust reading of 30 mr/hr and the status of secondary containment pressure?

- a. RB HVAC will trip and isolate, secondary containment will remain negative.
- b. RB HVAC will trip and isolate, secondary containment will remain positive.
- c. RB HVAC will continue to operate isolation bypassed, secondary containment will remain negative.
- d. RB HVAC will continue to operate isolation bypassed, secondary containment will remain positive.

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Question No. 67 Point Value: 1

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Select the correct answer:

The plant is in an ATWS and EOP 2 has been entered. The crew is implementing Appendix G, "Manually Insert Individual Control Rods", but is unable to bypass the RWM because of a mechanical problem with the keylock switch. Current power level is 40%.

What is the effect on rod motion?

- a. Rod motion will be permitted without interruption.
- b. Rod motion will be blocked immediately.
- c. Rod motion will continue as the Rapid Shutdown Sequence is used during Appendix G.
- d. Rod motion will be blocked when reactor power is less than 20% power.

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Question No. 68 Point Value: 1

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Select the correct answer:

Select the condition which will cause the full core display DRIFT light to illuminate.

- a. When driving in a rod using Emergency IN
- b. Scramming a rod from 9-16
- c. Driving a rod in and Rod Sequence Timer Stalls
- d. While driving out a rod using notch override

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Question No. 69 Point Value: 1

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Select the correct answer:

Given the following conditions:

- RHR Loop B (pump D) is in torus cooling
- Indicated flow is 5800 gpm
- The minimum flow valve has just failed open due to a short

Actual total flow to the torus will \_\_\_\_\_ and total cooling to the torus will \_\_\_\_\_ .

ASSUME NO OPERATOR ACTIONS

- a. decrease; remain the same
- b. decrease; decrease
- c. remain the same; remain the same
- d. remain the same; decrease

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Question No. 70 Point Value: 1

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Select the correct answer:

Per Technical Specifications, which of the below would require the immediate suspension of fuel handling activities?

- a. The loss of one train of SBT for greater than 12 hours
- b. The loss of one power supply to Reactor Building Exhaust radiation monitor
- c. Loss of both Reactor Building exhaust fans due to a spurious Group 3 isolation
- d. Both Railroad door airlock gaskets being declared inoperable

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Question No. 71 Point Value: 1

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Select the correct answer:

The plant is at normal 100% power operations. RFP "C" is tagged out for maintenance but all other equipment is operable. Which of the following describes the immediate actions if a loss of Bus 1 were to occur?

- a. Insert a Manual Scram
- b. Close RR "A" Pump Discharge Valve RV-53A
- c. Reduce "B" Recirc speed to 70%
- d. Place Turbine Aux Oil Pump in Pull-To-Lock



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Question No. 72 Point Value: 1

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Select the correct answer:

A failure to scram has occurred and the crew is taking actions per EOP-2, ATWS RPV control. Reactor water level has been reduced to less than 90" using OE 3107, appendix GG, Terminate and Prevent. The master feedwater level controller and both individual feedwater regulating valve controllers were left in BALANCE.

What is the expected position of the feedwater regulating valves (FW-12A/B) in this condition and why?

- a. Oscillating between full open and full shut as a result of steam pressure fluctuations
- b. Open as a result of feed flow being terminated and prevented
- c. Locked in mid position due to loss of signal while terminated and prevented
- d. Shut in accordance with OE 3107, Appendix GG

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Question No. 73 Point Value: 1

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Select the correct answer:

RCIC is operating to make up water to the vessel when a loss of DC-2 occurs. What is the RCIC response?

- a. RCIC isolation logic activates, RC-15 closes
- b. RCIC controller fails low, injection ceases
- c. RCIC continues to inject, all RCIC trips are lost except overspeed and low oil pressure
- d. RCIC Turbine trips on overspeed

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Question No. 74 Point Value: 1

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Select the correct answer:

WHICH ONE (1) of the following actions is required if BOTH of the Plant Stack radiation monitors, RM-17-156/157, fail DOWNSCALE?

- a. Releases may continue provided that grab samples are taken once each 12 hours and the samples are analyzed within 24 hours.
- b. Releases may continue for up to 72 hours provided the AOG system is not bypassed AND the AOG system noble gas activity monitor is operable.
- c. Releases may continue for up to 7 days provided that grab samples are taken once each 12 hours and the samples are analyzed within 24 hours, and these samples indicate that releases remain below .16 Ci/sec and boundary doses remain below 500 mRem/yr whole body and 3000 mRem/year skin.
- d. Releases may continue for 30 days provided the AOG system is not bypassed AND the AOG system noble gas activity monitor is operable.

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Question No. 75 Point Value: 1

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Select the correct answer:

Given the following conditions:

- The plant is operating at 100% power
- The keylock bypass switch for "AOG Inlet to Final Delay Pipe Rad Monitor," RAN-OG-3128, is in BYPASS
- RAN-OG-3127 has lost power and failed downscale
- Both "AOG Start-up Bypass Valves," AOG-145/146, are closed

The Main Stack Isolation valve (FCV-11) will:

- a. not isolate with RAN-OG-3128 in BYPASS
- b. begin to isolate in 2 minutes.
- c. begin to isolate in 30 minutes.
- d. begin to isolate in 45 minutes.

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Question No. 76 Point Value: 1

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Select the correct answer:

The ARM DNSCL and the TURBINE BLDG RAD HI annunciators have just alarmed. ARM #24, TURBINE BLDG TURBINE DECK, has both its upscale and downscale lights energized. No other ARM's are alarming. This situation indicates that:

- a. the installed bug source is exposed.
- b. the indicator/trip unit has been placed to ZERO.
- c. there was a momentary loss of power to the indicator/trip unit.
- d. the detector has lost argon gas pressure.

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Question No. 77 Point Value: 1

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Select the correct answer:

A Control Room fire panel alarm for the Hydrogen shed and a visual report of a fire in the Hydrogen shed are received. Upon Shift Supervisor instructions, manual spray is initiated from which of the following locations?

- a. Remote pull box outside of Control Room
- b. Remote pull box inside of Control Room
- c. Remote pull box outside South wall of new warehouse
- d. Remote pull box inside South wall of new warehouse

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Question No. 78 Point Value: 1

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Select the correct answer:

The Fire Brigade is fighting a fire in the south warehouse. The Electric Fire Pump started and immediately tripped on overcurrent. The Diesel Fire Pump is running and supplying the fire system with system pressure at 90 psig. The overcurrent trip of the Electric Fire Pump is reset.

Which one of the following describes the fire pump's response?

- a. The Electric Fire Pump starts and the Diesel Fire Pump continues to run.
- b. The Electric Fire Pump starts and the Diesel Fire Pump stops.
- c. The Electric Fire Pump remains in standby and the Diesel Fire Pump continues to run.
- d. The Electric Fire Pump remains in standby and the Diesel Fire Pump stops.

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Question No. 79 Point Value: 1

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Select the correct answer:

Control room ventilation is in a normal lineup with Control Room Supply Fan SAC-1A running. A rupture of the instrument air system occurs. Instrument air header pressure has dropped to 0 psig.

How will control room ventilation respond?

- a. SAC-1A will trip and its discharge damper remains open.
- b. SAC-1A will continue to run and its discharge damper fails shut.
- c. SAC 1A will continue to run and its discharge damper remains open.
- d. SAC-1A will trip and its discharge damper fails shut.



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Question No. 80 Point Value: 1

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Select the correct answer:

The reactor operator has just received a SCRAM on Rx low level and noticed a red light for the TIP system on the mimic on CRP 9-3. This is:

- a. a normal condition since the ball valves are normally open.
- b. a normal condition since the shear valves are normally open.
- c. an abnormal condition since the ball valves should be closed.
- d. an abnormal condition since the shear valves should be closed.

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Question No. 81 Point Value: 1

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Select the correct answer:

A seismic event has caused a loss of the Vernon Dam. For the next 7 days, what systems are used for cooling the fuel pool?

- a. RBCCW through the Normal Fuel Pool Cooling System
- b. RBCCW through the Standby Fuel Pool Cooling System
- c. RHRSW through the Normal Fuel Pool Cooling System
- d. RHRSW through the Standby Fuel Pool Cooling System

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Question No. 82 Point Value: 1

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Select the correct answer.

Electrical Maintenance desires to deenergize the DC-1 power supplies to the MSIVs for troubleshooting.

Which of the following would be the effect of a loss of DC-1 power supplies on the MSIVs?

- a. All 4 inboard MSIVs will drift closed over the next 5 minutes.
- b. All MSIVs will close in 3-5 seconds
- c. All MSIVs will operate normally
- d. All 4 outboard MSIVs will drift closed over the next 5 minutes.

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Question No. 83 Point Value: 1

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Select the correct answer:

A plant startup is underway. The Turbine/Generator has just been synched to the grid. The Generator is loaded and reactor power is 15%.

If a Turbine trip were to occur the reactor would \_\_\_\_\_ and condensate quench spray valve would \_\_\_\_\_.

- a. scram, open
- b. scram, remain closed
- c. remain operating, open
- d. remain operating, remain closed

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Question No. 84 Point Value: 1

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Select the correct answer:

While operating at 95% power, the unit auxiliary transformer and the 4160 volt tie line to Vernon Hydroelectric Station become INOPERABLE. Which of the following describes the maximum length of time allowed before a Tech Spec required action must be taken?

- a. 1 hour
- b. 24 hours
- c. 7 days
- d. Indefinitely

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Question No. 85 Point Value: 1

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Select the correct answer:

The plant is at 100% power. The "A" RHR pump has been inoperable for the past three (3) days. The "B" Diesel Generator has just failed its monthly surveillance.

Determine which one of the following statements describes the most limiting conditions for operation imposed by the situation outlined above?

- a. The reactor can continue operations for four (4) days, then must be placed in COLD SHUTDOWN in 24 hours.
- b. The reactor can continue operations for seven (7) days, then must be placed in COLD SHUTDOWN in 24 hours.
- c. A reactor shutdown shall be initiated, and the reactor shall be in COLD SHUTDOWN in 24 hours.
- d. The reactor can continue operations for the next seven (7) days, provided at least one off-site transmission line, one startup transformer, and the Vernon line remain operable.

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Question No. 86 Point Value: 1

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Select the correct answer:

The 'A' CRD pump is operating normally and the flow control valve is in AUTO. Which of the following describes the changes in CRD system if controller malfunction causes the Flow Control Valve to fail closed?

- a. Charging water pressure and drive water pressure increase.
- b. Charging water pressure and drive water pressure decrease.
- c. Drive water pressure and cooling water pressure increase.
- d. Drive water pressure and cooling water pressure decrease.

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Question No. 87 Point Value: 1

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Select the correct answer:

Per AP 0155, Current System Valve and Breaker Lineup and Identification, which of the following shall be documented on a Lineup Deviation Form?

The "A" RHR Heat Exchanger Inlet Valve (RHR-23A) has been repositioned:

- a. as required and documented by a Caution Tagging Order.
- b. as required and directed by a surveillance test.
- c. as required and documented by a White Tagging Order.
- d. by an AO who is standing by to return the valve to its original position in accordance with the system operating procedure.



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Question No. 88 Point Value: 1

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Select the correct answer:

A coupling check is performed whenever a rod is initially withdrawn to position 48. Per OP 0105, Reactor Operations, which one of the following is an indication of an uncoupled rod during this check?

- a. The 48 indication disappears and the rod display window goes dark.
- b. The 48 indication disappears and the rod display window goes to double red dash.
- c. The 48 indication flashes and the rod display window goes to double red dash.
- d. The 48 indication flashes and the rod display goes dark.

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Question No. 89 Point Value: 1

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Select the correct answer:

Which of the following combinations of reactor power and pressure indicate violation of a Safety Limit?

- a. Reactor power 38%  
Reactor pressure 850 psig
- b. Reactor power 30%  
Reactor pressure 820 psig
- c. Reactor power 28%  
Reactor pressure 780 psig
- d. Reactor power 20%  
Reactor pressure 750 psig

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Question No. 90 Point Value: 1

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Select the correct answer:

An MSIV surveillance results in a full closure time for MS-80A of 2.8 seconds.

Which one of the following is correct in regards to this time?

- a. The time is acceptable since it is faster than required to limit offsite release.
- b. The time is unacceptable since it is too slow to limit offsite release.
- c. The time is acceptable since it is slow enough to limit the pressure rise on a closure of all MSIVs.
- d. The time is unacceptable since it is too fast to limit the pressure rise on a closure of all MSIVs.

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Question No. 91 Point Value: 1

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Select the correct answer:

The plant is in a refueling outage with the mode switch in refuel and all rods inserted. The refuel bridge crew has used the grapple to pick up a fuel bundle. They start to move towards the core when the control room operator withdraws a control rod. When the bridge reaches the core area:

- a. the bridge stops and a hoist raise block is generated.
- b. the bridge stops and a hoist lower block is generated.
- c. the bridge continues but a hoist raise block is generated.
- d. the bridge continues and the hoists remain operable.

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Question No. 92 Point Value: 1

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Select the correct answer:

A Temporary Modification (TM) has been approved and installed on a plant system. Eight weeks later, it has been determined that changes to the modification are needed.

Per AP 0020, Control of Temporary and Minor Modifications, which of the following describes how this change shall be accomplished?

- a. The current TM shall be restored (removed) and a new TM incorporating the changes shall be approved and installed.
- b. After determining the level of the required change (minor or major), the current TM shall be modified.
- c. The current TM shall be restored (removed) and a Minor Modification incorporating the changes shall be approved and installed.
- d. After determining the level of the required change, an Vermont Yankee Design Change (VYDC) shall be approved and initiated.

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Question No. 93 Point Value: 1

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Select the correct answer:

Per AP 0517, Hot Particle Control and Zone Establishment, which of the following describes the personnel frisking requirements while working in a Zone 3 Hot Particle Area?

- a. Personnel working in the area must perform a frisk every half hour and may continue work indefinitely if survey readings are satisfactory.
- b. Personnel working in the area must perform a frisk at least every hour and may continue working indefinitely if survey readings are satisfactory.
- c. Personnel working in the area must perform a frisk after one hour and must exit after two hours and perform a whole body frisk in the nearest PCM-1B.
- d. Personnel working in the area must perform a frisk every two hours and must exit after four hours and perform a whole body frisk in the nearest PCM-1B.

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Question No. 94 Point Value: 1

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Select the correct answer:

Per OP 2610, "Liquid Waste Disposal", which one of the following would require the Shift Supervisor's or SCRO's permission to be granted and noted on the Discharge Permit?

- a. Routine House Heating Boiler Blowdowns
- b. MUD System Filter Discharges
- c. Continuous Discharge of RWCU Demins to the Waste Sample Tanks
- d. Batch Discharge of Waste Sample Tanks to the Condensate Storage Tank

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Question No. 95 Point Value: 1

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Select the correct answer:

Per Technical Specifications, which one of the following are responsible for administrative control of the keys to locked high radiation doors?

- a. Shift Supervisor and the Radiation Protection Manager
- b. Security Shift Supervisor and Radiation Protection Manager
- c. Security Shift Supervisor and the Senior RP Technician
- d. Shift Supervisor and the Senior RP Technician



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Question No. 96 Point Value: 1

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Select the correct answer:

An AO has a routine plant task that requires him to be in a 50 mr/hr field for 30 minutes. Which one of the following would result in the greatest reduction in total man-rems for this job?

- a. Use 2 AOs working 15 minutes each
- b. Install 2" of lead shielding that reduces radiation levels by 1/2 for each inch of lead
- c. Install valve reach rods that would allow the AO to work in a 25 mr/hr field for 30 minutes
- d. Utilize remote operated valves that would reduce his stay time to 12 minutes in a 50 mr/hr field

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Question No. 97 Point Value: 1

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Select the correct answer:

During an RPV-ED, the SRV's failed to open. The SCRO directs the BOP to implement Appendix "CC" RPV Venting via MSIVs.

During the implementation of Appendix "CC", the BOP fails to place the control switches for RV-39 and RV-40 to CLOSE. As a result the Group I SYS 1 and SYS 2 Reset Permissive lights on CRP 9-5 are not lit. The remaining steps involving jumper installation are completed.

How will the MSIVs and the MSL Drain Valves respond if an operator attempts to open them?

- a. MSIVs can be opened, MSL Drain Valves can NOT be opened.
- b. MSIVs can be opened, MSL Drain Valves can be opened.
- c. MSIVs can NOT be opened, MSL Drain Valves can be opened.
- d. MSIVs can NOT be opened, MSL Drain Valves can NOT be opened.

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Question No. 98 Point Value: 1

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Select the correct answer:

The plant has experienced a Recirc Pump trip. The RO reports APRMs are oscillating between 62% and 77% power. Which of the following is required?

- a. Increase running Recirc Pump speed
- b. Decrease running Recirc Pump speed
- c. Insert rods per rapid shutdown sequence
- d. Insert rods by manual scram

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Question No. 99 Point Value: 1

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Select the correct answer:

Given the following conditions:

- The plant is operating at 100% power
- A feedwater level control malfunction has resulted in lowering reactor water level
- Reactor water level has reached +120 inches
- There has been NO response from the Reactor Protection System (RPS)

Per DP 0166, Operations Department Standards, what are the responsibilities of the Control Room Operator for these conditions?

- a. Insert a manual scram while concurrently informing the Supervisory Control Room Operator (SCRO) of the actions being taken.
- b. Insert a manual scram only after verifying the RPS failure using two separate indications.
- c. Inform the Supervisory Control Room Operator (SCRO) of the condition, and insert a manual scram when directed.
- d. Perform an immediate power reduction to raise reactor water level to above the scram setpoint as soon as possible.

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Question No. 100 Point Value: 1

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Select the correct answer:

A reactor scram and MSIV isolation have occurred. Torus cooling is in service and the SRVs are being cycled to control reactor pressure. Which one of the following alarms indicates abnormal system response?

- a. Rx Relief/Safety Vlv Temp Hi (3-B-4)
- b. ADS Permissive RHR/CS Running (3-A-7)
- c. Rx Relief Vlv Open (3-A-1)
- d. Rx Relief Vlv Bellows Leakage (3-B-1)