

*QNUM 001
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295001 2.1.9
*QUESTION

During the up-shift of Reactor Recirculation Pumps to fast speed, the "A" pump was successfully shifted to fast speed. However, during the up-shift of the "B" pump, Breaker "5B" did not close and Breaker 1B tripped open. You observe the following plant conditions:

- Reactor Power: 34% RTP and stable
- Core Flow: 38 Mlb/hr
- Core Plate d/p 1.8 psid
- Reactor Recirc Pump "A" is in Fast Speed with it's FCV at 9% VALVE TRAVEL
- Reactor Recirc Pump "B" is Off with it's FCV at 9% VALVE TRAVEL

As the Operator at the Controls, which of the following actions would be correct?

- a. Downshift the "A" Recirc Pump to slow speed.
- b. Close the "A" Flow Control Valve to minimum.
- c. Close the Discharge Valve for Recirc Pump B.
- d. Open the "B" Flow Control Valve to 100%.

*ANSWER

c.

*REFERENCE

SDM: B33

LP: OT Combined B33, Obj. I

ONI-C51

NEW

HIGHER

*EXPLANATION

- a. Incorrect-not directed per procedure and would trip the only running Recirc Pump
- b. Incorrect-per ONI-C51 the valve would be positioned only as need to maintain Recirc Loop Flow greater that 45%
- c. Correct-per Attachment 2 of ONI-C51
- d. Incorrect-per Attachment 2 of ONI-C51, action is performed after closing the discharge valve.

*QNUM 002
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295003K204
*QUESTION

Given the following initial plant conditions:

- Mode 3 with plant cooldown in progress following an extended high power run.
- RHR loop "B" is in Shutdown Cooling (SDC) mode
- Coolant temperature is 335°F
- RPV pressure is 110 psig

Select the statement that describes the effect on the SDC Suction Isolation Inboard and Outboard Valves (1E12-F009 and 1E12-F008) if Bus EH12 (4.16 KV) trips.

- a. 1E12-F008 and 1E12-F009 will shut.
- b. 1E12-F008 and 1E12-F009 will NOT shut.
- c. 1E12-F008 will shut, 1E12-F009 will NOT shut.
- d. 1E12-F008 will NOT shut, 1E12-F009 will shut.

*ANSWER

c.

*REFERENCE

ONI-R22-1, attachment 1.

MODIFIED

HIGHER

*EXPLANATION

RHR Pump B will trip when bus EH12 trips, and the plant will heat up. When RPV pressure reaches 135 psig, a SDC isolation will be initiated.

- a. Incorrect—1E12-F009 will not shut due to loss of power.
- b. Incorrect—1E12-F008 will shut when RPV pressure reaches 135 psig.
- c. Correct—see a and b above.
- d. Incorrect—see a and b above.

*QNUM 003
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295004K202
*QUESTION

Non-Class 1E Battery 1B is supplying the System B 125V DC Bus (D1B), due to a lock-out on 480V AC MCC F1B08. Which of the following actions may be performed to extend the life of Battery 1B?

- a. Cross-tie the Unit 2 System A Battery to System B 125V DC Bus (D1B)
- b. Connect the Non-Class 1E System B Reserve Battery Charger to System B 125V DC Bus (D1B)
- c. Direct RSE to shutdown selected equipment in the TSC and computer room.
- d. Open the supply breakers to the Main Turbine, RFPT, and MFP emergency lube oil pumps.

*ANSWER

d.

*REFERENCE

ONI-R10, Attachment D-2
SDMs R23/24/25, R42

MEMORY

NEW

*EXPLANATION

- a. Incorrect– System is designed to allow crosstie with Unit 2 System B.
- b. Incorrect–There is no reserve battery charger for System B.
- c. Incorrect– Action is not related to extending battery life.
- d. Correct– Sheds unnecessary loads per ONI-R10, Attachment D-2.

*QNUM 004
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295005K201
*QUESTION

Given the following:

- The plant is operating at 75% power.
- Twenty seconds ago annunciator P680-0008-E6, "EHC DC INPUT PWR LOSS" was received.
- The following annunciators were then received in immediate succession:
 - P680-0008-D6, MAIN TURB THRUST BRG WEAR HI
 - P680-0006-B5, APRM A/E UPSC INOP/TRIP OPRM A/E TRIP
 - P680-0007-B12, TSI SYSTEM P822
- All plant systems are operating as designed.
- All other plant parameters are normal.

CHOOSE the first Reactor Protection System (RPS) trip that will occur as a result of these annunciators.

- a. Required Manual Turbine Trip
- b. APRM Neutron Flux High (directly)
- c. Turbine trip from Turbine Bearing Vibration High
- d. Turbine trip from Turbine Control Valve Fast Closure

*ANSWER

a.

*REFERENCE

PEI Bases

HIGHER

NEW

*EXPLANATION

- a. Incorrect – average pressure change of 50 psig/minute
- b. Correct – average pressure change of 20 psig/minute
- c. Incorrect – average pressure change of 40 psig/minute
- d. Incorrect – average pressure change of 33 psig/minute

*QNUM 005
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295006K205
*QUESTION

Which of the following Control Rod Drive Mechanism design features permit the pressure in the RPV to complete a SCRAM insertion if the associated accumulator pressure is inadequate?

- a. The repositioning of a ball check valve within the main drive flange insert port.
- b. The difference in surface area between the top and bottom of the drive piston.
- c. The collet fingers being spread apart when driven up against the guide cap.
- d. The closure of the buffer orifices by the upward movement of the buffer piston.

*ANSWER

a.

*REFERENCE

SDM C11 (CRDM)

MEMORY

NEW

*EXPLANATION

- a. Correct—ball check valve repositions when RPV pressure greater than accumulator pressure.
- b. Incorrect—The difference in piston areas tends to balance the control rod weight and assures a higher force for insertion than for withdrawal regardless of pressure source.
- c. Incorrect—This action allows the control rod to be withdrawn.
- d. Incorrect—This action cushions the mechanical impact at the end of drive piston travel.

*QNUM 006
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295016A201
*QUESTION

The Main Control Room has been evacuated. A manual scram was initiated, but there was not enough time to verify reactor power or control rod status. You have been directed to use SPDS to determine Reactor Power. Which of the following is a VALIDATED indication of Reactor Power on SPDS?

- a. A GREEN '0' displayed within a CYAN box
- b. A GREEN '0' displayed within a YELLOW box
- c. A WHITE '0' displayed within a CYAN box
- d. A WHITE '0' displayed within a YELLOW box

*ANSWER

a.

*REFERENCE

SDM C95

ONI-C61

MEMORY

NEW

*EXPLANATION

- a. Correct -
- b. Incorrect - Yellow box indicates not validated
- c. Incorrect - White indicates a loss of power
- d. Incorrect - Yellow box indicates not validated

*QNUM 007
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295018K201
*QUESTION

The plant was operating at 93% reactor power when Nuclear Closed Cooling (NCC) Drywell Supply Outboard Isolation Valve, 1P43-F355, was declared inoperable. It must be shut per Technical Specifications within 8 hours. Which of the following describes the impact on plant operation?

- a. The plant must be shutdown to Mode 3.
- b. The plant must be shutdown to Mode 4.
- c. No impact on plant operations. Full power operation may continue.
- d. Operation may continue, but at reduced power until the valve can be repaired.

*ANSWER

a.

*REFERENCE

SDM P43
ARI-H13-P680-0004
ONI-P43
HIGHER
NEW

*EXPLANATION

- a. Incorrect—Both Recirc Pumps will have to be shutdown due to the loss of cooling. Tech Specs require shutdown to mode 3 with no recirc pumps in operation.
- b. Incorrect—See a. above
- c. Correct
- d. Incorrect—Not required unless isolation valve not shut within 8 hours.

*QNUM 008
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295019A103
*QUESTION

Unit 1 Instrument Air (IA) compressor is operating in Manual/Modulate and Unit 2 Service Air (SA) compressor is red tagged for maintenance. The remaining SA and IA compressors are in standby (Auto - On/Off). During transfer of Bus L-12 from the Auxiliary to the Start Up Transformer, the bus failed to transfer causing the L-12 bus to become deenergized. Which one of the following is the expected response of the SA and IA Systems?

- a. The SA/IA system is unaffected by a loss of L-12.
- b. Unit 1 IA will be unaffected by the bus loss. The Unit 1 SA Compressor will trip. SA pressure will be lost.
- c. The Unit 1 IA compressor will trip. The Unit 1 Service Air compressor will maintain SA and IA Receiver pressure between 88 - 101 psig.
- d. The Unit 2 IA compressor will auto start when IA Receiver pressure is 88 psig and will maintain IA Receiver pressure between 88 - 101 psig. SA will be unaffected.

*ANSWER

d.

*REFERENCE

SOI-P51/52, Sect 4.2

SDM P51/52

ONI-R22-2

HIGHER

MODIFIED

*EXPLANATION

- a. Incorrect – Unit I SA will not start due to loss of power.
- b. Incorrect – see a.
- c. Incorrect – The SA/IA Cross-connect valves close preventing re-pressurization of the SA Receivers
- d. Correct

*QNUM 009
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295021K101
*QUESTION

Given the following initial plant conditions:

- The plant is in Operational Condition 4, twenty-four hours after shutdown, following an extended full power run.
- Residual Heat Removal (RHR) Loop B is operating in the Shutdown Cooling Mode.
- Reactor Coolant Temperature is 135°F on a very slow downward trend.
- Reactor Recirculation Pump A is in operation.
- Reactor water level is being maintained 200 to 220 inches on Shutdown Range indicator
- MSIVs and MSL Drains are shut.

Which of the following describes the expected Reactor Coolant Temperature response if Reactor Recirculation Pump A trips? Assume no operator action is taken.

- a. Decrease until equilibrium is reached in the RHR heat exchanger.
- b. Decrease until Reactor Coolant Temperature is equal to Emergency Service Water temperature.
- c. Increase until bulk boiling occurs, with reactor pressure steady at atmospheric pressure.
- d. Increase until bulk boiling occurs, and reactor pressure increases above atmospheric pressure.

*ANSWER

d.

*REFERENCE

OT-3036-004-E12

IOI-12

HIGHER

NEW

*EXPLANATION

- a. Incorrect – RPV water level below level required for natural circulation
- b. Incorrect – see a.
- c. Incorrect – Steam generation will exceed capacity of head vent line

d. Correct

*QNUM 010
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295023K101
*QUESTION

During refueling operations, a fuel bundle is being lifted from the core for movement to the spent fuel pool, the following events occur:

- Containment Ventilation exhaust radiation monitors alarm.
- Bubbles are observed coming from the bundle being moved.

Select the statement that correctly describes the IMMEDIATE ACTIONS to be performed:

- a. Immediately stop all fuel movement, evacuate all personnel from the Refuel Floor, and suspend all Core Alterations.
- b. Immediately stop all fuel movement, evacuate unnecessary personnel from the Refuel Floor, and suspend all Core Alterations.
- c. Place the bundle in a safe condition, evacuate unnecessary personnel from the Refuel Floor, and suspend all Core Alterations.
- d. Place the bundle in a safe condition, evacuate all personnel from the Refuel Floor, and suspend all Core Alterations.

*ANSWER

c.

*REFERENCE

ONI-J11-2

MEMORY

MODIFIED

*EXPLANATION

- a. Incorrect – Procedure states to place fuel bundle in a safe condition and to evacuate unnecessary personnel.
- b. Incorrect – see a.
- c. Correct
- d. Incorrect – see a.

*QNUM 011
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295024K209
*QUESTION

The SUPR POOL MAKE-UP LOGIC switch is in AUTO. Select the condition that will result in the IMMEDIATE actuation of the Suppression Pool Makeup System.

SPMU Manual Initiation pushbutton armed and depressed AND . . .

- a. Suppression Pool Temperature 110~~F~~.
- b. Reactor Water Level is equal to 100 inches.
- c. Drywell Pressure is 2 psig.
- d. Suppression Pool Water Level equals 16 ft.

*ANSWER

c.

*REFERENCE

SDM G43

MEMORY

MODIFIED

*EXPLANATION

- a. Incorrect – Manual Initiation Pushbutton must be accompanied by a LOCA signal (Level 1 or High Drywell Pressure) or test permissive switch in TEST
- b. Incorrect – Reactor Water Level is above Level 1 (16.5")
- c. Correct
- d. Incorrect – see a.

*QNUM 012
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295025 2.4.1
*QUESTION

Entry into PEI-B13, RPV CONTROL(Non-ATWS), is required under which ONE of the following conditions:

- a. Reactor vessel pressure 849 psig in Operating Condition 1.
- b. Safety Relief Valve Lo-Lo-Set logic is activated.
- c. RX PRESSURE HI annunciator illuminated.
- d. EHC System LOAD LIMIT LIMITING lamp is illuminated.

*ANSWER

b.

*REFERENCE

PEI-B13
SDM B21/N11
SDM N32/C85
MEMORY
BANK

*EXPLANATION

- a. Incorrect – While this is an abnormal condition for Operating Condition 1 it is not an Entry Condition.
- b. Correct – Lo-Lo-Set logic is activated at a reactor pressure of 1103 psig which is above the Entry Condition setpoint of 1065 psig.
- c. Incorrect – alarm setpoint is 1040 psig, which is below the reactor pressure Entry Condition setpoint of 1065 psig.
- d. Incorrect – simply means that load demand has exceeded the LOAD LIMIT setpoint

2.4.1 not completely satisfied, there are no immediate actions associated with EOPs. Satisfied the part of the KA we could.

*QNUM 013
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295026A103
*QUESTION

Suppression Pool Temperature, as monitored by instrumentation of the Containment Atmosphere Monitor System (CAMS), is displayed on two meters on Main Control Panel ECCS Benchboard H13-P601. Select the ONE statement below that correctly describes the indication provided by these meters.

- a. Each meter on H13-P601 indicates the average of the associated divisional Suppression Pool temperature points that are monitored by respective CAMS recorder on Panel H13-P883.
- b. Panel H13-P883 contains the temperature recorders that automatically plot all the Suppression Pool temperature points that are monitored by CAMS, the P601 meters display the same point that is being plotted by the recorder.
- c. The operator selects the point that is monitored on P601 by selecting the desired temperature point using switches on P883. Detection of a high temperature at any point in the Suppression Pool has no effect on the point displayed.
- d. The operator selects the point that is monitored on P601 by positioning the selector switches on P883. If any of the points monitored by the recorder detects a high temperature condition, the meter will automatically display the high temperature point.

*ANSWER

c.

*REFERENCE

SDM D23

MEMORY

BANK

*EXPLANATION

- a. Incorrect –
- b. Incorrect –
- c. Correct –
- d. Incorrect –

*QNUM 014
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295027K103
*QUESTION

Following a DBA LOCA (assume all systems operated as designed), which one of the following modes of RHR operation has the most significant long term impact on maintaining the Containment integrity?

- a. Low Pressure Coolant Injection Mode
- b. Shutdown Cooling Mode
- c. Containment Spray Mode
- d. Suppression Pool Cooling Mode

*ANSWER

d.

*REFERENCE

PEI Bases Document

SDM T23/P53

USAR Chapter 6

HIGHER

NEW

*EXPLANATION

- a. Incorrect – once the core is re-flooded, LPCI is not needed for core cooling and is shifted to the Suppression Pool Cooling Mode
- b. Incorrect – not available post-LOCA
- c. Incorrect – not needed for Containment cooling provided Suppression Pool cooling is effective.
- d. Correct – heat energy from the reactor is transferred to the Suppression Pool, thus removing heat from the Suppression Pool will limit heat-up of the Containment.

*QNUM 015
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295028K102
*QUESTION

Which one of the following is a reason why Drywell Temperature is monitored and controlled by PEI-T23, Containment Control?

- a. Maintain Drywell Temperature below the Technical Specification LCO limit.
- b. Prevent exceeding the equipment environmental qualification temperatures.
- c. Ensure NPSH limits for ECCS pumps are not exceeded.
- d. Verify proper operation of the Drywell Hydrogen Igniters.

*ANSWER

b.

*REFERENCE

PEI Bases Document

MEMORY

NEW

*EXPLANATION

- a. Incorrect – The LCO limit is an entry condition for PEI-T23.
- b. Correct –
- c. Incorrect – NPSH limits are a function of Suppression Pool Temperature.
- d. Incorrect – Controlled by a different PEI..

*QNUM 016
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295030K103
*QUESTION

Given the following initial conditions:

- A Group 1 Isolation occurred due failure to place the Reactor Mode Switch in SHUTDOWN after manually scrambling the reactor.
- Reactor pressure is being maintained 800 to 1000 psig using RCIC and SRVs.
- Reactor water level is being maintained between 185 and 215 inches with RCIC.
- Both loops of RHR are in Suppression Pool Cooling
- Suppression Pool Temperature is 110°F and increasing slowly
- Suppression Pool Level is 18.0 ft and decreasing slowly due to an unisolable leak.

Which one of the following actions will be most effective in limiting the challenge to the Containment?

- a. Shutdown RCIC, use HPCS to control RPV level, and use SRVs to control reactor pressure within a band of 600 to 800 psig.
- b. Continue to use RCIC and SRVs to control reactor pressure and change the pressure control band to 600 to 1000 psig.
- c. Shutdown RCIC, use the MFP to control RPV level, reset the Group 1 Isolation and use Bypass Valves to control reactor pressure in a band of 600 to 800 psig.
- d. Continue to use RCIC to control RPV level, reset the Group 1 Isolation and use Main Steam Line Drains to control reactor pressure in a band of 600 to 1000 psig.

*ANSWER

c.

*REFERENCE

PEI Bases Document

HIGHER

NEW

*EXPLANATION

- a. Incorrect – lowering the band moves you horizontally away from the unsafe region but the heat added by using SRVs moves vertically closer to the band.
- b. Incorrect – simply widening the band does not move you away from the unsafe region.
- c. Correct – reduces the heat added to the suppression pool and moves you horizontally away from the unsafe region.
- d. Incorrect – decreases the heat added to the pool but does not move you horizontally away from the unsafe region.

*QNUM 017
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295031A104
*QUESTION

Given the following conditions:

- The plant was initially operating at 100% power.
- The High Pressure Core Spray (HPCS) System automatically initiated on a high drywell pressure signal.
- Manual closure of the HPCS injection valve, E22-F004, was initiated as soon as the valve was full open.
- A reactor scram and trip of both Turbine Driven Reactor Feed Pumps occurred when RPV Level 8 was reached due to sluggish response of the Feed Water Level Control System.

Which ONE of the following describes the response of the HPCS injection valve, E22-F004, when RPV Level 2 is reached.? Assume the high drywell pressure signal is still present.

E22-F004 will . . .

- a. automatically open.
- b. remain closed until manually re-opened using it's respective control switch.
- c. remain closed until manually re-opened by depressing the Rx Wtr Lvl High Seal-In Reset Push Button.
- d. will remain closed until manually re-opened by using the E22-F004 control switch AFTER the Rx Wtr Lvl High Seal-In Reset Push Button is depressed.

*ANSWER

d.

*REFERENCE

SDM-E22A

HIGHER

BANK

*EXPLANATION

- a. Incorrect – The auto open circuit was overridden when the valve was manually closed.
- b. Incorrect – The valve will not reopen unless the Rx Wtr Lvl High Seal-In Reset Push Button is depressed first.

- c. Incorrect – The auto open circuit was overridden when the valve was manually closed.
- d. Correct –

*QNUM 018
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295037K205
*QUESTION

An ATWS has occurred at power. The scram signal has not been reset and the scram valves are open. You are directed to attempt to drive control rods per PEI-SPI 1.3, Manual Rod Insertion. Which ONE of the following statements correctly describes a required action to establish Drive Water Differential Pressure?

- a. Open CRD Flow Control Valve C11-F002A or C11-F002B
- b. Open CRD Drive Pressure Control Valve C11-F003
- c. Open CRD Pump Suction Filter Bypass Valves 1C11-F116 and 1C11-F117
- d. Shut the Charging Header Isolation Valve C11-F034

*ANSWER

a.

*REFERENCE

PEI-SPI 1.3

SDM C11 (CRDH)

HIGHER

MODIFIED

*EXPLANATION

- a. Correct –
- b. Incorrect – Procedure requires that the valve be shut
- c. Incorrect – Opened only if second pump is started and then only to prevent pump trip on low suction pressure
- d. Incorrect – No procedural direction to shut this valve

*QNUM 019
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295038K303
*QUESTION

Select the Radiation Monitor sub-system that will cause an automatic isolation when excess radioactivity is detected, but does NOT cause the isolation to prevent a radioactive release to the public.

- a. Drywell Atmosphere Radiation Monitor
- b. Containment Ventilation Exhaust Radiation Monitor
- c. Control Room Airborne Radiation Monitor
- d. Off Gas Post-Treatment Radiation Monitor

*ANSWER

c.

*REFERENCE

SDM-M25/M26

SDM-D17

SDM-17A

MEMORY

BANK

*EXPLANATION

- a. Incorrect – Shuts Backup Hydrogen Purges System isolation valves
- b. Incorrect – Shuts Containment and Drywell Purge isolation valves
- c. Correct – Places Control Room Vent system in Emergency Recirculation Mode
- d. Incorrect – Isolates filter bed

*QNUM 020
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 600000A203
*QUESTION

Which one of the following Carbon Dioxide Fire Protection sub-systems require the activation of more than one heat detector before an automatic actuation of the sub-system will occur?

- a. Reactor Recirculation Pumps
- b. Diesel Generator Rooms
- c. Lube Oil Storage Room
- d. Main Control Room Subfloors

*ANSWER

a.

*REFERENCE

SDM-P54 (CO2)

ONI-P54

MEMORY

NEW

*EXPLANATION

- a. Correct – Requires at least one detector in each of two zones
- b. Incorrect – Activation of any single detector
- c. Incorrect – Activation of any single detector
- d. Incorrect – Manually actuated

*QNUM 021
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295009A201
*QUESTION

Given the following plant conditions:

- RPV temperature 485°F
- RPV pressure 600 psig
- Drywell temperature 300°F
- Drywell pressure 20 psig
- Containment temp 135°F
- Containment pressure 2 psig

Which of the following may be used to determine that water level is above the Top of Active Fuel (TAF) without relying on the Minimum Indicated Level curves?

- a. Fuel Zone
- b. Wide Range
- c. Upset Range
- d. Shutdown Range

*ANSWER

a.

*REFERENCE

EOP Bases

HIGHER

MODIFIED

*EXPLANATION

- a. Correct – No correction required until DW temp > 300°F (Bases Fig. 2b)
- b. Incorrect – Fig. 2a of EOP bases
- c. Incorrect – Fig. 2c of EOP bases
- d. Incorrect – Fig. 2c of EOP bases

*QNUM 022
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295010A102
*QUESTION

Select the statement below that describes the response of the Drywell Equipment Drain Sump Pumps to a high Drywell pressure.

The pumps trip . . .

- a. when the sump pump-out timer times out.
- b. directly from a signal from the high Drywell pressure trip logic.
- c. as soon as the associated Drywell/Containment Isolation Valves leave their open seats.
- d. on high discharge pressure (after a short time delay) when the associated Drywell/Containment Isolation Valves close.

*ANSWER

d.

*REFERENCE

SDM G61

MEMORY

NEW

*EXPLANATION

- a. Incorrect – there are no trips associated with the pump-out timer.
- b. Incorrect – pumps are not interlocked with high Drywell pressure.
- c. Incorrect – pumps are not interlocked with DW/CT isolation valve position.
- d. Correct –

*QNUM 023
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295015K301
*QUESTION

Given the following plant conditions:

- An ATWS has occurred.
- Reactor power is steady at 23%.
- The Main Turbine has tripped.
- Several control rods are stuck out at various positions.
- The Unit Supervisor directs you to insert control rods using PEI-SPI, Section 1.

Why is it necessary to bypass the Low Power Setpoint?

- a. To bypass the two notch limit, allowing continuous insertion of control rods.
- b. To bypass the four notch limit, allowing continuous insertion of control rods.
- c. To bypass the bank limits that will be in effect when power decreases to the LPSP because of rod insertion.
- d. To bypass the bank limits that are in effect because power is being sensed below the LPSP.

*ANSWER

d.

*REFERENCE

SDM: C11(RCIS)

LP: OT-3036-C11(RCIS), Obj. E, G

HIGHER

BANK

*EXPLANATION

- a. Incorrect – There are no notch limits on rod insertion.
- b. Incorrect – There are no notch limits on rod insertion.
- c. Incorrect – With bypass valves open, the sensed power is already below the LPSP.
- d. Correct – With bypass valves open, the sensed power is already below the LPSP.

*QNUM 024
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295020A103
*QUESTION

SOI-C71, RPS Power Supply Distribution, has a requirement to shutdown the Containment Vessel and Drywell Purge System (M14), prior to transferring RPS Bus A between the RPS MG Set 'A' and the Alternate Supply, to prevent an inadvertent isolation of the system. Select the statement below that describes why an isolation would occur during the transfer.

Loss of power to . . .

- a. Containment Vent Exhaust Plenum Radiation Monitors A and C
- b. Containment Vent Exhaust Plenum Radiation Monitors A and D
- c. Inboard BOP Isolation Logic
- d. Outboard BOP Isolation Logic

*ANSWER

d.

*REFERENCE

OT-Combined LP M14

LER 87-015

SOI-C71

MEMORY

NEW

*EXPLANATION

- a. Incorrect – While both monitors lose powers they feed different trip systems.
- b. Incorrect – Monitor D does not lose power.
- c. Incorrect – Inboard BOP logic train does not lose power.
- d. Correct – Logic relays lose power and the outboard Isolation valves close.

*QNUM 025
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295032K205
*QUESTION

The Maximum Safe Operating Area Temperatures listed in PEI-N11, Containment Leakage Control, are based on:

- a. ensuring that instrumentation needed for safe shutdown is not damaged due to overheating.
- b. ensuring that instrumentation needed for safe shutdown is not damaged by high humidity.
- c. maintaining personnel accessibility to equipment needed for safe operation of the plant.
- d. maintaining an oxygen sufficient environment so that emergency personnel will not need to utilize SCBAs.

*ANSWER

a.

*REFERENCE

EOP Bases

MEMORY

NEW

*EXPLANATION

- a. Correct –
- b. Incorrect –
- c. Incorrect –
- d. Incorrect –

*QNUM 026
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295034A202
*QUESTION

The Primary Containment must be vented due to inability to maintain Primary Containment pressure below PCL. Select the Primary Containment vent path, from the list below, that has the greatest radiological consequences to the surrounding secondary containment areas.

- a. Main Steam Lines
- b. RHR A Containment Spray
- c. RHR B Containment Spray
- b. Fuel Pool Cooling and Cleanup

*ANSWER

d.

*REFERENCE

EOP Bases

MEMORY

MODIFIED

*EXPLANATION

- a. Incorrect –MSL Turbine Bypass: Releases outside of the surrounding containment into the Turbine Building with no impact to the surrounding containment.
- b. Incorrect –Releases into Spent Fuel Pool through the FHB man-door with nominal radiological impact to the 620' FHB room in the surrounding containment.
- c. Incorrect –Releases into Spent Fuel Pool through the FHB man-door with nominal radiological impact to the 620' FHB room in the surrounding containment.
- d. Correct – Releases to the FHB 620' (similar to 2 above) and into the IB 599' and IB 574' access hall with both radiological and steam impact to these compartments of the surrounding containment. Opening of this vent path may result in failure of the FPCC Surge Tank Room doors on the IB 599' elevation.

*QNUM 027
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 500000K202
*QUESTION

A LOCA has occurred resulting in significant Hydrogen generation. One division of Hydrogen Igniters is in operation and one Combustible Gas Mixing Compressor is operating. Both Hydrogen Recombiners are shutdown due to Hydrogen concentration exceeding 6%. Hydrogen concentration is continuing to increase. Which one of the following statements best explains why Hydrogen concentration is continuing to increase?

- a. Hydrogen generation has exceeded the operational capability of the one division of Hydrogen Igniters that are in service.
- b. A continuing increase in hydrogen concentration is indicative of a steam inert or Oxygen starved environment.
- c. Hydrogen concentration will continue to increase until the Hydrogen Igniters reach their operating temperature which can take several hours.
- d. The indicated increase must be due to a malfunction of the Hydrogen Analyzer since actual concentration cannot exceed 6% as long as the Hydrogen Igniters are in operation.

*ANSWER

b.

*REFERENCE

EOP Bases

MEMORY

NEW

*EXPLANATION

- a. Incorrect – Each division is designed to be able provide a controlled burn (as long as oxygen is present) of the hydrogen generated from a 75% metal-water reaction of the fuel cladding.
- b. Correct –
- c. Incorrect – Hydrogen Igniters take only a matter of minutes to reach operating temperature.
- d. Incorrect – see b.

*QNUM 028
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 203000 2.1.32
*QUESTION

Given the following:

- The plant is in Shutdown Cooling using RHR A and RHR B.
- Fuel offload from the vessel is being conducted.

While doing an independent verification of RHR System conditions, you discover RHR A flow to be 685 gpm and RHR B flow to be 4000 gpm because of throttling to minimize water disturbances for the fuel handlers. Neither RHR Pump's minimum flow valve is open. Under these conditions you should:

- a. continue with your verification, these flows are acceptable.
- b. IMMEDIATELY secure RHR A pump. The minimum flow valve should have opened.
- c. open the discharge valve further on the RHR A pump to balance flow. Balanced flow is the most desired condition when operating both RHR loops in Shutdown Cooling.
- d. throttle down on the RHR B discharge valve. This will allow the RHR A pump to pick up more flow. Balanced flow is not required.

*ANSWER

b.

*REFERENCE

SOI-E12, Precautions & Limitations Section 2.9 Rev 18

NEW

HIGHER

Explanation:

- a. flow is unacceptable.
- b. correct
- c. the pump should be tripped & an engineering eval performed to determine operability.
- d. this will not affect the inadequate flow from RHR pump A.

*QNUM 029
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 205000A212
*QUESTION

The Reactor is in shutdown cooling with reactor vessel water level at +220 inches. RHR pump flow is 2000 gpm. Recirculation pumps are off. Recirculation water temperature is 186°F and vessel flange temperature is 181°F. Which of the following is a concern and what corrective action should be taken?

- a. A transition to HOT SHUTDOWN has occurred (Mode Change). The containment and related tech spec systems must be restored to operable condition within 1 hour.
- b. Thermal stratification will occur in the bottom head with accompanying undetected core heat up and vessel pressurization. Increase shutdown cooling flow or raise RPV water level.
- c. RPV level is too high. The steam separators will impede the formation of natural circulation in the vessel, leading to thermal stratification and a change of operating mode. Lower RPV water level.
- d. The only valid temperature indication is the vessel flange instrumentation making it difficult to assess what is actually happening in the RPV. If available, start a Reactor Recirculation pump in slow speed, otherwise, increase shutdown cooling flow to maximum

*ANSWER

b.

*REFERENCE

System Description Manual, E-12, Residual Heat Removal System, III.1, R. 9, p 48.

NEW

HIGHER

- a. the transition has not occurred.
- b. correct.
- c. RPV level is acceptable for formation of natural circulation.
- d. other temperature indications are still valid

*QNUM 030
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 209001K303
*QUESTION

The plant was operating at 100% power when a loss of offsite power occurred, causing a reactor scram. All systems functioned correctly. Three minutes after the Emergency Diesel Generators (EDGs) were successfully started and sequence loaded, you note that the Division I EDG loading has decreased by approximately 220 amps (kW). Which of the following loads has been lost?

- a. RHR Pump C
- b. LPCS Pump
- c. NCC Pump A
- d. Emergency Service Water Pump A

*ANSWER

b.

*REFERENCE

System Description Manual, E-21, Low Pressure Core Spray System, Table E21-2, p 38.

NEW

MEMORY

- a. wrong power supply
- b. correct
- c. incorrect amperage/kw
- d. incorrect amperage/kw

*QNUM 031
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 209001A201
*QUESTION

The plant was operating at 100% power conducting a full-flow test surveillance on the Low Pressure Core Spray System (LPCS). Three minutes after the Low Pressure Core Spray (LPCS) pump started, the LPCS PUMP TRIP OVERCURRENT (H13-P601-21) annunciator energized. How will this affect the LPCS and what actions should be taken to respond to the trip of the LPCS pump?

- a. The full-flow test valve will shut. Attempt to restart the LPCS pump motor. If that fails, enter Technical Specification 3.5.1.
- b. The minimum flow valve will open, depressurizing the system. Enter Technical Specification 3.5.2. Send an operator to vent the system.
- c. The minimum flow valve will open, depressurizing both RHR A and LPCS. Enter Technical Specification 3.5.1. Send an operator to vent both systems.
- d. LPCS will depressurize through the full-flow test valve. Enter Technical Specification 3.5.1. Send maintenance personnel to investigate the trip of the pump.

*ANSWER

d.

*REFERENCE

H13-P601-21, LPCS PUMP TRIP OVERCURRENT; P83, R5

NEW

HIGHER

- a. Incorrect. - There are no immediate actions associated with this annunciator.
- b. Incorrect technical specification
- c. Incorrect technical specification
- d. correct answer

*QNUM 032
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 209002A301
*QUESTION

An ATWS has occurred with the following conditions:

- PEI-SPI 5.1, HPCS Injection Prevention, has been performed as required by PEI-B13, RPV Control (ATWS).
- Step 1.1 of PEI-SPI 6.4, HPCS Runout Injection, which places the HPCS LOCIC BYPASS E22-F023 switch in BYPASS, was completed and reported to the Main Control Room.
- Step 1.2, of PEI-SPI 6.4, which defeats the seal-in logic for E22-F004, HPCS Injection Valve, has not been completed.
- The Unit Supervisor, believing that Section 1 of PEI-SPI 6.4 is complete, directs the Balance of Plant Operator to commence HPCS Runout Injection.
- The Balance of Plant Operator then throttles E22-F023, HPCS Test Valve to Suppression Pool, to obtain a flow rate of 4800-5000 gpm as required by PEI-SPI 6.4.

When the Balance of Plant Operator takes the E22-F004 valve control switch to OPEN and then releases, the E22-F004 valve will stroke . . .

- a. off its closed seat and stop; E22-F023 will stroke shut; and the HPCS pump will be running on minimum flow.
- b. off its closed seat and stop; E22-F023 will remain as is; and the HPCS pump flow will be 4800-5000 gpm to the Suppression Pool.
- c. full open; E22-F023 will stroke shut; and the HPCS pump will inject into the RPV at 4800-5000gpm.
- d. full open; E22-F023 will remain as is; and the HPCS pump will be running in a runout condition.

*ANSWER

d.

*REFERENCE

EOP Bases

HIGHER

MODIFIED

*EXPLANATION

- a. Incorrect – E22-F004 will stroke full open.
- b. Incorrect – E22-F004 will stroke full open.
- c. Incorrect – E22-F023 will not stroke shut.
- d. Correct – With both valves open the pump will reach runout conditions.

*QNUM 033
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 211000K403
*QUESTION

To ensure the boron remains in solution, the Standby Liquid Control (SLC) suction pipe is heated. The temperature is measured every 24 hours per Technical Specification 3.1.7.3. What is the minimum required temperature to ensure SLC operability in Modes 1 and 2?

- a. \$ 65~~F~~.
- b. \$ 70~~F~~.
- c. \$ 75~~F~~.
- d. \$ 80~~F~~.

*ANSWER

b.

*REFERENCE

Perry Tech Spec SR 3.1.7.3

BANK

MEMORY

- a. too low
- b. correct
- c. too high
- d. too high

*QNUM 034
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 211000K604
*QUESTION

The plant was operating at 100% reactor power when the plant experienced an earthquake. A medium break LOCA occurred and RPV Level 2 was reached. All ECCS systems responded correctly. RPV level is currently 180 inches and slowly increasing. The reactor failed to scram and all efforts to manually insert control rods have failed. Standby liquid control has failed to correctly initiate and shut down the reactor (failed SQUIBB valves). The Unit Supervisor has decided to initiate Alternate Boron Injection (ABI) in accordance with PEI-SPI 1.8. What does the Unit Supervisor need to do in order to successfully initiate Alternate Boron Injection?

- a. Secure HPCS.
- b. Close E22-F004 (HPCS Injection Valve)
- c. Secure both SLC pumps
- d. Connect a low pressure hose from the SLC storage tank to the suction of the ABI pump; start the ABI pump, open the ABI pump discharge valve.

*ANSWER

a.

*REFERENCE

PEI-SPI, Alternate Boron Injection, 1.8, R2, P4

NEW

HIGHER

- a. correct
- b. E22-F004 must be open to allow ABI injection
- c. this has no effect on initiating ABI
- d. the hose is not connected from the SLC storage tank

*QNUM 035
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 212000K502
*QUESTION

Reactor Power is 60% as sensed by turbine 1st stage pressure. While performing Main Turbine Stop valve testing, an operator inadvertently begins testing Turbine Stop valve "C" while Turbine Stop valve "B" is 50% open. Which ONE of the following describes the response of the Reactor Protection System to this event?

- a. Full Reactor Scram.
- b. Half scram on RPS A.
- c. Half scram on RPS B.
- d. Neither full nor half scram is generated.

*ANSWER

d.

*REFERENCE

Perry SDM C71, R9 pg 37

BANK

HIGHER

- a. no half-scram is generated
- b. no half-scram is generated
- c. no half/full scram is generated'
- d. correct

*QNUM 036
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 215003K101
*QUESTION

While decreasing reactor power, IRM "A" is indicating 40/125 of scale on range 6. Which one of the following is the result of ranging IRM "A" to range 5?

- a. Initiates a rod select block.
- b. Initiates a half scram.
- c. Initiates a full scram.
- d. No RPS activity, IRM "A" goes to 115/125.

*ANSWER

b.

*REFERENCE

SDM C51 IRM, pg 27

BANK

HIGHER

- a. initiates a rod withdraw block, not select block
- b. correct
- c. only ½ of RPS makes up, no scram
- d. goes to >120/125

*QNUM 037
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 215003K303
*QUESTION

With the Reactor Mode Switch in "STARTUP" the "MODE/TEST" switch on IRM channel "D" drawer was inadvertently taken out of "OPERATE." This will result in a:

- a. trip of RPS "B" logic only.
- b. rod withdraw block only.
- c. trip of RPS "B" logic and a rod withdrawal block.
- d. full reactor scram if any other IRM is bypassed.

*ANSWER

c.

*REFERENCE

SDM C71, "Reactor Protection System," P31, R9

NEW

HIGHER

- a. rod withdrawal block also occurs
- b. channel trip occurs
- c. correct
- d. no trip if the other channel is bypassed

*QNUM 038
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 215004K405
*QUESTION

A plant start up is in progress. A control rod block has occurred. Scanning the panels results in the following observations:

- Source Range Monitor (SRM) channel B is reading about 95 counts per seconds (cps).
- All other SRM channels are reading greater than 8×10^4 cps.
- Only SRM detector A is full in.
- Intermediate range (IRM) channel B is on range 2 at 30/125.
- All other IRM channels are on range 3.
- ROD WITHDRAWAL BLOCK annunciator is illuminated.

What has to be done to clear the ROD WITHDRAWAL BLOCK annunciator?

- a. withdraw SRM A.
- b. insert SRM B.
- c. range up on IRM B to range 3.
- d. contact Instrument Maintenance, these plant conditions should not cause a ROD WITHDRAWAL BLOCK.

*ANSWER

b.

*REFERENCE

C-11 (RCIS), Table C-11-5, R7, P58

MODIFIED

HIGHER

- a. IRM A is on range 3
- b. correct
- c. the neutron strength is insufficient to range up
- d. there is a correct cause for the rod block

*QNUM 039
 *HNUM
 *ANUM
 *QCHANGED
 *ACHANGED
 *QDATE 2004/11/29
 *FAC 440
 *RTYP GE-BWR6
 *EXLEVEL R
 *EXMNR
 *QVAL 1.00
 *SEC
 *SUBSORT
 *KA 215005K406
 *QUESTION

The reactor has been operating near rated power for 200 days. Which one of the following describes the change in the indicated LPRM output signal from day 1 to day 200, the material used to extend LPRM lifetime, and the method used to calibrate the LPRMs?

	INDICATED LPRM POWER	LIFE EXTENDER	METHOD OF LPRM CALIBRATION
a.	Decreases	U^{238}	Core Heat Balance
b.	Decreases	U^{234}	TIP System Trace
c.	Increases	Pu^{238}	Core Heat Balance
d.	Increases	Pu^{239}	TIP System Trace

*ANSWER

b.

*REFERENCE

C51(PRM & OPRM) R8, P7

NEW

MEMORY

a., c., d. wrong life extender
 b. correct

*QNUM 040
 *HNUM
 *ANUM
 *QCHANGED
 *ACHANGED
 *QDATE 2004/11/29
 *FAC 440
 *RTYP GE-BWR6
 *EXLEVEL R
 *EXMNR
 *QVAL 1.00
 *SEC
 *SUBSORT
 *KA 215005K603
 *QUESTION

A reactor startup is in progress with the Rx Mode Switch in "STARTUP/STANDBY". The following is the present status of the APRMs versus LPRM inputs, and indicated power:

APRM

		A	B	C	D	E	F	G	H
Inputs:	4	5	4	3	4	4	6	6	D Level
Inputs:	4	3	3	4	6	2	4	4	C Level
Inputs:	3	4	4	4	4	4	6	4	B Level
Inputs:	3	3	3	4	6	4	4	2	A Level
Indicated Power:		11%	14%	12%	11%	12%	10%	12%	10%

SELECT the correct RPS response to the above data:

- a. No response
- b. Rod block ONLY
- c. Half scram ONLY
- d. Full scram

*ANSWER

a.

*REFERENCE

C51(PRM & OPRM) Section VII, Detailed Description of Average Power Range Monitoring System, R8, P18

BANK

HIGHER

- a. correct
- b., c., d. adequate inputs, no problems.

*QNUM 041
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 217000K506
*QUESTION

Which one of the following statements, describe the bases for restricting access to the Annulus during RCIC operation?

- a. To prevent personnel overexposure from N-16 gamma shine from the RCIC Turbine Exhaust Line.
- b. To prevent personnel injury and overexposure in the event that the RCIC Exhaust Diaphragm ruptures, releasing contaminated steam into the Annulus.
- c. To prevent personnel injury due to the high differential pressure created from running both AEGTS trains during RCIC operations.
- d. To prevent hearing loss since the Annulus is a high noise area during RCIC operations.

*ANSWER

b.

*REFERENCE

SOI-E51

MEMORY

NEW

- a. Incorrect – gamma shine is negligible.
- b. Correct –
- c. Incorrect – D/P Controllers maintain constant d/p and no requirement to run both AEGTS trains.
- d. Incorrect – Annulus is not a high noise area and access to high noise areas is not restricted, except for requirement to wear hearing protection.

*QNUM 042
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 218000A308
*QUESTION

The reactor has scrammed from 100% power due to a loss of offsite power. The following conditions exist:

- All emergency diesel generators started and tied to their respective emergency bus.
- All low pressure ECCS pumps are running.
- Reactor pressure is approximately 430 psig.
- The Reactor is shutdown.
- Reactor water level is 186.5 inches, decreasing at 10 inches/min.
- RCIC has isolated.
- HPCS has tripped.
- Drywell pressure is 0.68 psig, increasing at 0.25 psig/min.

Which ONE of the following describes the response of the Automatic Depressurization System (ADS), if plant conditions remain as stated and no operator action is taken?

- a. ADS will not automatically initiate, reactor pressure is too low.
- b. ADS will automatically initiate in 5 minutes 35 seconds.
- c. ADS will automatically initiate in 17 minutes.
- d. ADS will automatically initiate in 18 minutes 45 seconds.

*ANSWER

d.

*REFERENCE

Perry SDM B21C, figure B21C-5

MODIFIED

HIGHER

- a. unaffected by reactor pressure
- b. inadequate time to reach level 1
- c. inadequate time to reach level 1
- d. correct

*QNUM 043
 *HNUM
 *ANUM
 *QCHANGED
 *ACHANGED
 *QDATE 2004/11/29
 *FAC 440
 *RTYP GE-BWR6
 *EXLEVEL R
 *EXMNR
 *QVAL 1.00
 *SEC
 *SUBSORT
 *KA 223002K315
 *QUESTION

The plant was operating at 100% reactor power when a small break LOCA occurred inside containment. The Supervising Operator placed the mode switch in SHUTDOWN. Reactor pressure was at 750 psig when containment pressure reached 1.68 psig and the Nuclear Steam Supply Shutoff System (NS⁴) initiated. You noted the following valve positions from Division II:

Valve	Position
E51-F063, RHR & RCIC Steam Supply Inboard Isolation Valve	Shut
E51-F076, RHR & RCIC Steam Supply Inboard Warmup Isolation Valve	Shut
E51-F078, RCIC Exhaust Vacuum Brkr First Isolation Valve	Shut

Which of the following applies to these valves under these conditions:

- All equipment has functioned properly. No actions are required.
- NS⁴ has failed to properly initiate. E51-F063 and E51-F076 should be open.
- NS⁴ does not send any signals to these valves. No actions are required.
- NS⁴ does not send any signals to these valves, however, E51-F078 should be open.

*ANSWER

d.

*REFERENCE

SDM B21-NS4, Section II.C.6, R6, P23

NEW

HIGHER

- actions are required. F078 should be open
- F078 should be open, not 63/76
- action is necessary
- correct

*QNUM 044
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 239002K201
*QUESTION

At the Division 1 Remote Shutdown Panel, the Control Transfer Switch (S10) has been placed in the EMERG position for the SRVs.

At the Division 2 Remote Shutdown Panel, the Transfer and Control Switches for SRVs F051C and F051D have been taken out of the CONTROL ROOM position to the OFF position, and the Transfer and Control Switch for F051G is in the CONTROL ROOM position.

A transient causes reactor pressure to rise to 1140 psig.

Which one of the following describes the response of SRVs F051C, D, and G?

- a. All three of the SRVs will open.
- b. Only SRVs F051C and D will open.
- c. Only SRV F051G will open.
- d. None of the SRVs will open.

*ANSWER

c.

*REFERENCE

Perry Initial Exam Bank

BANK

HIGHER

(See Perry exam bank for reference)

*QNUM 045
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 239002A101
*QUESTION

With the reactor at 100% power, which ONE of the following conditions would be an indication of an open Safety Relief Valve (SRV)? (Assume no other plant problems.)

SRV tailpipe temperature is . . .

- a. dependent upon drywell pressure and would be in a range from 320°F to 547°F.
- b. stable at approximately 547°F.
- c. stable at approximately 345°F
- d. less than or equal to 240°F

*ANSWER

c.

*REFERENCE

Steam Tables

NEW

HIGHER

EXPLANATION

- a. Containment pressure would have to exceed 100 psig at this reactor pressure to have an affect on SRV tailpipe temperature.
- b. Temperature of the primary coolant without a pressure reduction.
- c. correct
- d. Downstream temperature of a Pressurized Water Reactor relief.

*QNUM 046
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 259002K201
*QUESTION

Given the following conditions:

- Reactor Power 100%.
- RFPT A and B on the Master Level Controller.
- Narrow Range Channel A is selected for input into Feedwater Level Control System.

A Loss of Bus D1B occurs. If no operator action was taken, what would be the impact on RPV level control?

- a. RPV level will rapidly increase due to partial loss of RPV level and feedwater flow signals.
- b. RFPT B speed initially increases then decreases as level error overcomes the flow error signal.
- c. The signal to LOW FLOW REACTOR LEVEL CONTROL, 1C34-R614, fails causing 1N27-F175 to ramp closed if in AUTO.
- d. RPV level will decrease slightly, then increase back to setpoint as RFPT B speed decreases and RFPT A speed increases.

*ANSWER

a.

*REFERENCE

Perry Exam Bank

BANK
HIGHER

See Perry Exam Bank for a discussion of distractors.

*QNUM 047
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 261000A402
*QUESTION

An RHR LOCA signal has been received. The Annulus Exhaust Gas Treatment System (AEGTS) has responded correctly. The operator then places the AEGTS Train "B" fan switch to the STOP position, then returns the switch to the STANDBY position. Which ONE of the following describes what you would observe on AEGTS Train "B?"

- c. The fan remains running because the LOCA initiation signal cannot be overridden by the STOP or STANDBY position of the control switch.
- a. The fan stops, the exhaust damper (M15-F080B) modulates shut, the recirculation control damper (M15-F070B) modulates shut, and the fan suction damper (M15-F090B) shuts.
- b. The fan stops, M15-F080B opens, M15-F070B shuts and M15-F090B shuts.
- d. The fan stops, M15-F080B and M15-F070B continue to attempt to modulate differential pressure between the annulus and atmosphere. There is no suction isolation damper.

*ANSWER

d.

*REFERENCE

Perry, AEGTS, M15, pg 9, 10, and 22, and Fig. M15-2
Lesson Plan OT-3036-002-M15-00, Learning Objectives C, E, F
NEW

MEMORY

Explanation

- a. the fan will stop
- b./c. there is no suction isolation
- d. correct

*QNUM 048
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 262001A210
*QUESTION

Given the following:

- The plant is operating at 47% reactor power.
- 13.8 KV Bus L10 is powered from startup transformer 200-PY-B
- HPCS diesel generator is tagged out of service for maintenance.

Select the ONE statement that describes the expected response of the AC electrical distribution system following a main turbine trip due to a main generator differential current lockout trip and the procedure that provides guidance to mitigate the plant conditions.

- a. The L11 and L12 buses will NOT automatically transfer to the L10 bus, but can be manually transferred. Refer to ONI R22-2, Loss of a Non-Essential 13.8Kv or 4.16Kv Bus.
- b. The L11 and L12 buses will automatically transfer to the L10 bus. Refer to ONI C71-1, Reactor Scram.
- c. The EH13 bus will be deenergized since the HPCS diesel generator is tagged out. Refer to ONI R22-1, Loss of an Essential and/or a Stub 4.16Kv Bus.
- d. Bus L12 will NOT transfer to the L10 bus when the L10 bus is powered from startup transformer 200-PY-B. Refer to ONI R22-2, Loss of a Non-Essential 13.8Kv or 4.16Kv Bus.

*ANSWER

b.

*REFERENCE

PERRY ILT BANK

MODIFIED

HIGHER

EXPLANATION

See Perry ILT Bank for explanation. Mitigating procedures were added to conform with the K/A.

*QNUM 049
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 262002K401
*QUESTION

Select the condition that will cause the static transfer switch in the Plant Vital Balance of Plant uninterruptible power supply (BOP-UPS) system to automatically shift.

- a. Low voltage sensed at the output of the BOP-UPS inverter will transfer the BOP-UPS to a bypass transformer powered from bus EF-1-D.
- b. High voltage sensed at the output of the BOP-UPS inverter will transfer the BOP-UPS to regulating transformer FB-1-R.
- c. A failure of battery 1A's normal and reserve battery chargers for more than 15 minutes will transfer the BOP-UPS to regulating transformer FB-1-R.
- d. A ground fault sensed on the BOP-UPS bus V-1-A will transfer the BOP-UPS to a bypass transformer powered from bus EF-1-D.

*ANSWER

c.

*REFERENCE

SDM R14/R15, R6, P2

BANK

MEMORY

See Perry Bank for explanation

*QNUM 050
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 263000A402
*QUESTION

The battery charger for Bus ED-1-C has been placed in service. The battery voltmeter on Bus ED-1-C is reading 140 VDC. What action(s) should the operator take in this situation?

- a. Do nothing, this voltage is acceptable.
- b. Adjust voltages using the FLOAT potentiometer on the in-service battery charger to set voltages within the required range.
- c. Adjust voltages using the EQUALIZE potentiometer on the in-service battery charger to set voltages within the required range.
- d. Verify that the battery volts, as read from the DIV 3 BATT VOLTS meter on 1H13-P601, read between 143 and 145.5 VDC and request an independent verification of the required components.

*ANSWER

b.

*REFERENCE

SOI-R42 (Div 3), Rev 0, pg 1

BANK

HIGHER

See Perry Exam Bank for explanation.

*QNUM 051
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 264000K506
*QUESTION

On a loss of power to a Class-1E bus, an emergency diesel generator (EDG) automatically starts and connects to the bus. Loads are then sequenced on the vital bus by a load sequencer. What is the purpose of load sequencing?

Loads are sequenced to ensure . . .

- a. the equipment needed most will be started first.
- b. support equipment is started before major equipment loads are started.
- c. operators have time to adjust KVARs on the EDG before circulating currents cause the EDG output breaker to trip.
- d. counter electro-motive force is established in started loads and the EDG has stabilized before succeeding loads are applied.

*ANSWER

d.

*REFERENCE

SD R43, R11, P5

NEW

MEMORY

Explanation

- a. true, but not the correct answer
- b. no support equipment is required for ECCS equipment started by the diesel
- c. KVAR loading should not be a problem since the diesel is not in parallel
- d. correct

*QNUM 052
 *HNUM
 *ANUM
 *QCHANGED
 *ACHANGED
 *QDATE 2004/11/29
 *FAC 440
 *RTYP GE-BWR6
 *EXLEVEL R
 *EXMNR
 *QVAL 1.00
 *SEC
 *SUBSORT
 *KA 300000K612
 *QUESTION

The following plant conditions exist:

- The Reactor is operating at 100% power
- The Unit 1 Service Air Compressor is the Lead compressor
- All other air compressors are in Standby
- All plant equipment is in a normal lineup for full power

Which one of the following describes the Service and Instrument Air system valve lineup following an inadvertent Division 1 RHR initiation signal?

	SA SUPPLY HDR CNTMT ISOL, 1P51-F150	INST AIR CNTMT ISOL, 1P52-F200	INST AIR DRYWELL ISOL, 1P52-F646
a.	OPEN	CLOSED	CLOSED
b.	CLOSED	OPEN	OPEN
c.	OPEN	OPEN	CLOSED
d.	CLOSED	CLOSED	OPEN

*ANSWER

a.

*REFERENCE

Perry ILT Bank

BANK

MEMORY

Explanation: See Perry ILT Bank for explanation

*QNUM 053
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL R
*EXMNR
*QVAL 1.00
*SEC
*SUBSORT
*KA 400000A401
*QUESTION

The plant was operating at 100% power when a Loss of Offsite Power (LOOP) occurred. How does this affect the Control Complex Chilled Water System?

- a The CCCW non-safety related cooling coils isolate.
- b. The CCCW chillers will not restart until off-site power is restored.
- c The CCCW chillers will automatically start when an EDG re-energizes their power supply.
- d Cooling for the CCCW chillers transfers from Nuclear Closed Cooling to Emergency Closed Cooling.

*ANSWER

c

*REFERENCE

SMD-P42

MODIFIED

MEMORY

See the Perry Exam Bank for discussion.

*QNUM 054
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 201001A304
*QUESTION

Select the statement below that correctly describes the response of the CRDH Flow Control Valve and the Control Room CRD System Flow indication when a reactor scram occurs.

Water flow is diverted to the charging water header causing a sensed . . .

- a. low flow condition and the Flow Control Valve will open. Indicated system flow will be off scale high.
- b. low flow condition and the Flow Control Valve will throttle open to maintain cooling water flow. Indicated system flow will be approximately 60 gpm.
- c. high flow condition and the Flow Control Valve will close. Indicated system flow will equal the Flow Control Valve design minimum flow of approximately 5 gpm.
- d. high flow condition and the Flow Control Valve will close. Indicated system flow will be off-scale high.

*ANSWER

d.

*REFERENCE

SDM C11(CRDH)

OT-Combined LP C11(CRDH)

MEMORY

MODIFIED

*EXPLANATION

- a. Incorrect – Flow element is upstream of the charging header supply and flow will indicate high (~200gpm) causing the FCV to close. Flow will exceed range of flow indicator (0-100 gpm)
- b. Incorrect – See a.
- c. Incorrect – See a.
- d. Correct –

*QNUM 055
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 201003A103
*QUESTION

While attempting to insert a control rod, the operator depresses the INSERT pushbutton and observes the following:

- No rod motion
- CRD DRIVE WATER HEADER FLOW at 0 gpm
- CRD COOLING WATER FLOW at 60 gpm

Which ONE of the following is the possible cause of these indications?

- a. CRD Flow Control Valve failed closed.
- b. Associated drive water stabilizing valves failed closed.
- c. Associated Insert Exhaust Directional Control Valve (DCV 121) failed closed.
- d. Associated Insert Drive Directional Control Valve (DCV 123) failed closed.

*ANSWER

d.

*REFERENCE

SDM C11(CRDH)

HIGHER

MODIFIED

*EXPLANATION

- a. Incorrect – would cause Cooling water flow to decrease
- b. Incorrect – would not prevent rod motion
- c. Incorrect – some flow would be indicated on the Drive Water Header Flow indication due to seal leakage (stall flow)
- d. Correct –

*QNUM 056
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 202001K413
*QUESTION

Which one of the following statements best describes the bases for the End of Cycle Recirculation Pump Trip (EOC-RPT) function?

- a. To counter-balance the positive reactivity added due to the pressurization transient caused by a trip of closure of the Main Steam Isolation Valves.
- b. To counter-balance the positive reactivity added due to the pressurization transient caused by a trip of the Main Turbine.
- c. To counter-balance the positive reactivity added due to the pressurization transient caused by a failure of the Bypass Valves to open on a turbine trip.
- d. To counter-balance the positive reactivity added due to the pressurization transient caused by a failure of Safety Relief Valves when demanded.

*ANSWER

b.

*REFERENCE

Tech Spec Bases B 3.3.4.1

NEW

MEMORY

*EXPLANATION

- a. Incorrect – Pressurization transient is not as severe due to slower closing time for MSIVs
- b. Correct –
- c. Incorrect – Bypass valves are assumed to fail for transient analysis
- d. Incorrect – Not an analyzed transient.

*QNUM 057
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 216000K506
*QUESTION

The RPV Reference Leg Purge system for the 'B' RPV level instruments has been out of service for an extended period of time when a plant transient results in a reactor scram and rapid depressurization of the RPV. How will 'B' RPV level INDICATIONS be affected?

Indicated level may read . . .

- a. LOWER than actual due to a decrease in the sensed differential pressure between the reference and variable legs.
- b. HIGHER than actual due to a decrease in the sensed differential pressure between the reference and variable legs.
- c. LOWER than actual due to an increase in the sensed differential pressure between the reference and variable legs.
- d. HIGHER than actual due to an increase in the sensed differential pressure between the reference and variable legs.

*ANSWER

b.

*REFERENCE

SDM B21(NBPI)

HIGHER

BANK(INPO)

*EXPLANATION

- a. Incorrect – see 'b'
- b. Correct – Non-condensable gases may build up in the reference legs with the purge system out of service. These gases would then come out of solution during the depressurization and displace liquid in the reference leg, thus decreasing the sensed differential pressure.
- c. Incorrect – see 'b'
- d. Incorrect – see 'b'

*QNUM 058
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 226001 2.1.23
*QUESTION

A Main Steam line break (18 minutes ago) has resulted in the following plant conditions:

- Drywell pressure is 4.0 psig and decreasing slowly.
- Suppression Pool Temperature is 150°F
- RPV water level is being maintained at the Main Steam lines with LPCS due to exceeding RPV Saturation Temperature in the Drywell.
- RHR B is operating in the Suppression Pool Cooling mode.
- RHR A is operating in the Containment Spray mode.
- Containment pressure is approaching 0 psig.

You have been directed to secure Containment Spray. While shutting the Containment Spray Shutoff Valve (F028A) you observe that the Minimum Flow Valve (F064A) did NOT open. You should . . .

- a. Reopen the Containment Spray Shutoff Valve (F028A)
- b. Open the LPCI A Injection Valve (F042A)
- c. Open the RHR A Test Valve to Supp Pool (F024A)
- d. Shutdown RHR Pump A

*ANSWER

c.

*REFERENCE

PEI-3.1

SOI-E12

PEI-T23

HIGHER

NEW

*EXPLANATION

- a. Incorrect – Containment spray must be secured to maintain Containment pressure above 0 psig.
- b. Incorrect – LPCI injection not needed for core cooling
- c. Correct –
- d. Incorrect – Current conditions require all available pool cooling

*QNUM 059
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 234000A101
*QUESTION

Refueling operations are in progress and the Inclined Fuel Transfer System (IFTS) is in operation.

Which one of the following describes the expected impact on the Refueling operations, if the Fuel Transfer Tube Drain Pump fails? (Assume the standby pump is not available.)

- a. IFTS operation must be terminated to prevent overflow of the Fuel Transfer Tube Drain Tank, trip of the Fuel Pool Circulating Pump (due to low-low level in the FPCC Surge Tank), and the subsequent loss of inventory from the Upper Containment Pool.
- b. IFTS operation may continue provided that FPCC Surge Tank level is manually maintained above the low-low level setpoint with makeup water from the Condensate Transfer and Storage System.
- c. All fuel handling activities must be terminated due to the inability to provide makeup from the Fuel Transfer Tube Drain Tank to the FPCC Surge Tank and thus to the Upper Containment Pool.
- d. All fuel handling activities may continue, but at a reduced pace, by opening the Fuel Transfer Tube Pump bypass line and using gravity to drain from the Transfer Tube Drain Tank to the FPCC Surge Tank.

*ANSWER

a.

*REFERENCE

SDM G41

SDM F42

HIGHER

NEW

*EXPLANATION

- a. Correct –
- b. Incorrect – Continued operation of IFTS would result in overflow of the Fuel Transfer Tube Drain Tank.
- c. Incorrect – Fuel handling activities using the Refueling Platform and Fuel Handling Platform would not be impacted unless IFTS operations were allowed to continue.

d. Incorrect – There is no bypass around the FTT Drain Pumps.

*QNUM 060
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 239001A110
*QUESTION

The plant is initially operating steady state at 75% RTP. If one(1) MSIV drifts closed, reactor power will _____ (1) _____ due to _____ (2) _____ .

- a. (1) drop to approximately 0%
(2) a reactor scram caused by a high steam flow Group 1 isolation.
- b. (1) decrease to approximately 60% RTP
(2) the loss of steam flow from the associated Main Steam line.
- c. (1) increase to approximately 90% RTP
(2) the increased differential pressure need to push the same amount of steam through three steam lines.
- d. (1) remain the same
(2) the response of the Steam Bypass/Pressure Control system to maintain a constant reactor pressure.

*ANSWER

c.

*REFERENCE

USAR Chapter 15

SDM N32/C85

HIGHER

NEW

*EXPLANATION

- a. Incorrect – neither a Group 1 isolation nor a reactor scram are expected to occur with power below 80%.
- b. Incorrect – since the steam lines are interconnected at equalizing header, steam flow will increase in the other three steam lines as the control valves open to maintain reactor pressure.
- c. Correct –
- d. Incorrect – reactor pressure will increase due to the increased differential pressure needed to push the required steam flow through three lines.

*QNUM 061
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 241000K503
*QUESTION

Given the following initial conditions in the Steam Bypass and Turbine Control system:

- Reactor Power 100% RTP
- Reactor Pressure 1030 psig
- Press Setpoint 940 psig
- Load Set 110%
- Load Limit 105%
- Max Combined Flow 130%

A loss of Feed Water Heating causes Reactor Power to increase to 110% RTP. Select the statement below that describes the response of the Steam Bypass and Turbine Control system.

- a. Turbine Load will remain constant; two Bypass valve will be open.
- b. Turbine Load will increase to 105%; two Bypass Valve will be open.
- c. Turbine Load will increase to 110%; one Bypass Valve will be open
- d. Turbine Load will increase to 110%; Bypass Valves will be Closed.

*ANSWER

b.

*REFERENCE

SDM N32/C85

HIGHER

NEW

*EXPLANATION

- a. Incorrect - see b.
- b. Correct - Turbine will load to the load limit of 105%, then two bypass valves will throttle open to account for the remaining 5% (each bypass valve has a capacity of just over 4%).
- c. Incorrect - see b.
- d. Incorrect - see b.

*QNUM 062
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 245000K405
*QUESTION

Which one of the following Main Turbine Lube Oil System pumps will be the first to automatically start as the bearing header pressure decreases from normal operating pressure? Assume all control switches are in AUTO.

- a. Shaft Lift Oil Pump
- b. Motor Suction Pump
- c. Turning Gear Oil Pump
- d. Emergency Bearing Oil Pump

*ANSWER

c.

*REFERENCE

SDM N34

MEMORY

BANK

*EXPLANATION

See Perry Exam bank for explanations.

*QNUM 063
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 268000A401
*QUESTION

Which of the following leak detection monitoring systems are required to be operable in accordance with the Technical Specification for RCS Leakage Detection Instrumentation?

- a. Drywell Floor Drain Sump and Drywell Air Cooler Condensate Flow Rate.
- b. Drywell Floor Drain Sump and Containment Floor Drain Sump.
- c. Drywell Equipment Drain Sump and Drywell Air Cooler Condensate Flow Rate.
- d. Drywell Equipment Drain Sump and Containment Equipment Drain Sump.

*ANSWER

a.

*REFERENCE

SDM E31

Tech Spec LCO 3.4.7 and associated bases

MEMORY

BANK

*EXPLANATION

- a. Correct –
- b. Incorrect – Containment Floor Drain Sump not required per Tech Spec LCO 3.4.7
- c. Incorrect – DW Equip Drn Sump not required per Tech Spec LCO 3.4.7
- d. Incorrect – neither is required per Tech Spec LCO 3.4.7

*QNUM 064
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 288000K303
*QUESTION

The plant is operating at 100% RTP. The outside ambient air temperature is 10°F. A failure of the Auxiliary Building Ventilation System supply air temperature controller has resulted in a trip of the Auxiliary Building Ventilation Supply Fan. Select the statement below that describes the impact that this malfunction will have on plant operation.

- a. To prevent freezing of the cooling coils for the Steam Tunnel Cooling System, the coils will have to be drained.
- b. Elevated temperatures in the RWCU Pump Rooms and Main Steam Tunnel may lead to system outages and/or plant shutdown to prevent automatic system isolations.
- c. The plant will have to be shutdown due to inability to maintain room air temperatures above the minimum required to ensure operability of the ECCS components.
- d. The plant will have to be shutdown due to inability to maintain room air temperatures below the maximum required to ensure operability of the ECCS components.

*ANSWER

b.

*REFERENCE

SDMs M38 and M47

HIGHER

NEW

*EXPLANATION

- a. Incorrect – The Steam Tunnel Cooling System takes it's suction on the Auxiliary Building atmosphere which is expected to remain well above freezing due to ambient heat generated from operating equipment.
- b. Correct –
- c. Incorrect – Auxiliary Building temperatures are expected to remain well above freezing temperatures under the described condition.
- d. Incorrect – ECCS Pump Room Cooling System units can be run to maintain temperatures below any operability limits.

*QNUM 065
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 290002 2.2.24
*QUESTION

The plant is Mode 5 with refueling activities taking place. Preparations are underway to replace four control rod blades (one in each quadrant) and four control rod drives (one in each quadrant also, but not the drives associated with the control rod blade replacement). The four fuel assemblies, in each of the cells associated with the control rod blades/drives to be replaced, have been removed. Select the statement below that describes the minimum additional requirements that must be met before maintenance personnel can install "FULL IN" position simulators (plugs) for the control rods/drives to be replaced.

- a. All other control rods in cells that contain one or more fuel assemblies must be fully inserted; and all other core alterations (except for the control rod blade/drive replacement) must be suspended.
- b. All other control rods in cells that contain one or more fuel assemblies must be fully inserted; and fuel assemblies shall only be loaded in compliance with an approved spiral reload sequence.
- c. All other control rods in a five by five array center on the control rod blades/drives to be replaced must be inserted and disarmed; and all other core alterations (except for the control rod blade/drive replacement) must be suspended.
- d. All other control rods in a five by five array center on the control rod blades/drives to be replaced must be inserted and disarmed; and fuel assemblies shall only be loaded in compliance with an approved spiral reload sequence.

*ANSWER

b.

*REFERENCE

Tech Spec 3.10.5 and associated bases.

MEMORY

NEW

*EXPLANATION

- a. Incorrect – loading of fuel assemblies in compliance with an approved spiral reload sequence is permitted.
- b. Correct –
- c. Incorrect – This is the requirement for single control rod blade/drive removal.

- d. Incorrect – TS 3.10.5 requires removal of the fuel assemblies from affected cells and does not require disarming of control rods.

*QNUM 066
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 2.1.1
*QUESTION

Assume that you receive your license on March 1, 2005, but because of vacation and required training you do not start standing watches (RO or SRO as applicable) until Monday March 28, 2005 and are scheduled to stand watch through Sunday April 3, 2005. Your shifts are scheduled for eight hours each day. Select the statement below that describes your license status on April 1, 2005.

- a. Your license is considered active and you can assume the watch on April 1, 2005. If you stand watches through Sunday, you will not need to stand any more watches until the July-September quarter to maintain proficiency.
- b. Your license is considered active and you can assume the watch on April 1, 2005. If you stand watches through Sunday, you will need to stand at least four additional watches before July 1, 2005 to maintain proficiency.
- c. Your license will be considered inactive and you cannot assume the watch on April 1, 2005. You must complete a minimum of 40 hours of shift functions, under the direction of a licensed RO or SRO as applicable, in the position to which you are assigned in order to regain active status.
- d. Your license will be considered inactive and you cannot assume the watch on April 1, 2005. You may regain active status by completing your Friday through Sunday shifts, under the direction of a licensed RO or SRO as applicable, in the position to which you are assigned.

*ANSWER

b.

*REFERENCE

10CFR55

HIGHER

NEW

*EXPLANATION

- a. Incorrect – see b.
- b. Correct – The license holder is considered active for the quarter in which the license is issued. To maintain active status the license holder must stand seven 8-hour shifts in each subsequent calendar quarter.
- c. Incorrect – see b.
- d. Incorrect – see b.

*QNUM 067
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 2.1.33
*QUESTION

The plant is in Mode 1. The Division 1 ESW (Emergency Service Water) subsystem has been declared inoperable due to failure of the Division 1 ESW pump to produce the flow needed to satisfy In-service Testing requirements. All other ESW equipment is operable. Select the Division 1 system/subsystem/ component that must be declared INOPERABLE.

- a. Emergency Diesel Generator
- b. Emergency Closed Cooling Water
- c. RHR – Suppression Pool Cooling Mode
- d. Fuel Pool Cooling & Cleanup Level Control

*ANSWER

a.

*REFERENCE

Tech Specs and associated bases for LCOs 3.0.6 and 3.7.1

MEMORY

NEW

*EXPLANATION

- a. Correct – Required action per note prior to Action A.1 of LCO 3.7.1
- b. Incorrect – Not required per LCO 3.0.6
- c. Incorrect – Not required per LCO 3.0.6
- d. Incorrect – Not required

*QNUM 068
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 2.2.22
*QUESTION

Select the statement below that describes an event that results in the violation of a safety limit.

- a. The reactor is at 25% power when the Main Turbine trips and bypass valves fail to open. The reactor scrams on high reactor pressure. Reactor pressure drops to 700 psig due to subsequent cold water addition from feedwater and the lack of decay heat.
- b. The reactor is at 55% power when a pressure regulator failure causes the bypass valves to fully open. Reactor pressure drops to 700 psig before the MSIVs automatically close and the reactor scrams. Reactor power is 42% when the MSIVs closes. Level is restored to normal band with RCIC.
- c. The reactor is at 25% power when the only operating RFPT trips. The reactor scrams on low level. HPCS and RCIC receive an initiation signal, but HPCS fails to start. Reactor water level drops to 20 inches before RCIC is able to turn and restore level. Reactor pressure drops to 700 psig with the subsequent injection.
- d. The reactor is at 55% power when both reactor recirculation pumps trip. Reactor vessel level increases to 219.5 inches. The reactor fails to automatically scram, but all control rods insert when a manual scram is inserted. Level is restored to normal band using the Feedwater System.

*ANSWER

b.

*REFERENCE

Tech Spec Section 2.0 and associated bases.

HIGHER

MODIFIED

*EXPLANATION

- a. Incorrect – Reactor is shutdown before pressure drops below 785 psig.
- b. Correct – Pressure drops below 785 psig with power greater than 23.8%
- c. Incorrect – Reactor is shutdown before pressure drops below 785 psig and water level remains above TAF.
- d. Incorrect – No safety limits are challenged.

*QNUM 069
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 2.2.25
*QUESTION

The transient analysis in chapter 15 of the USAR assumes that a reactor scram is initiated on closure of the Main Steam Isolation Valves to reduce the severity of the subsequent pressure transient, thereby . . .

- a. ensuring that the reactor steam dome pressure safety limit is not exceeded.
- b. ensuring that the MCPR safety limit is not exceeded.
- c. ensuring that the shrink in reactor water level does not result in ECCS actuations.
- d. ensuring that the amount of heat that must be absorbed in the suppression pool is minimized.

*ANSWER

d.

*REFERENCE

Tech Spec Bases 3.1.1.1

MEMORY

NEW

*EXPLANATION

- a. Incorrect – The over-pressurization analysis does not take credit for the MSIV closure scram.
- b. Incorrect – The TSV and CV closure analysis are more limiting.
- c. Incorrect – The reactor scram results in additional void compression which would increase the resulting shrink in indicated water level but does not result in an actual loss of inventory.
- d. Correct –

*QNUM 070
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 2.3.5
*QUESTION

Which one of the following types of survey instruments is typically used to monitor radiation dose rates?

- a. Geiger-Mueller Detector
- b. Ion-Chamber Detector
- c. Scintillation Detector
- d. Proportional Detector

*ANSWER

b.

*REFERENCE

Generic Fundamentals

MEMORY

NEW

*EXPLANATION

- a. Incorrect – While GM detectors can be calibrated to measure dose rates, they are typically used to detect the presence of radiation.
- b. Correct –
- c. Incorrect – Primarily used to measure the amount of radioactivity.
- d. Incorrect – Primarily used to measure the amount of radioactivity.

*QNUM 071
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 2.3.9
*QUESTION

According to SOI-M14, operation of the Containment Vessel and Drywell Purge System, in Modes 1, 2, and 3, should be restricted to between the hours of 1100 and 1600. Select the statement below that states the reason for this restriction.

- a. Ensures a lower off-site Noble gas dose due to more favorable weather conditions.
- b. Ensures that the necessary on-site personnel are available to support system operation.
- c. Ensures that the necessary off-site state/local personnel are available to support system operation.
- d. Ensures the most stable outside air temperatures are available for return air back into the containment/drywell.

*ANSWER

a.

*REFERENCE

SOI-M14

MEMORY

NEW

*EXPLANATION

- a. Correct – per note in section 4.1 of SOI-M14
- b. Incorrect –
- c. Incorrect –
- d. Incorrect –

*QNUM 072
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 2.3.10
*QUESTION

The plant is operating at 100% power. You are on the 620' elevation of Containment when you notice that a red rotating beacon has energized in the area of Drywell Purge Supply Duct A. What is the purpose of this red rotating beacon?

- a. To alert personnel that the reactor is critical and radiation dose rates may change rapidly.
- b. To alert personnel that the Drywell Purge Supply subsystem is in operation and elevated radiation levels exist in the area..
- c. To alert personnel that a fuel bundle has been dropped within the Upper Containment Pools and you are to evacuate the area.
- d. To alert personnel of a low water level in the DW Purge Supply Duct Surge Tank and the potential for radiation streaming from inside the Drywell to Containment.

*ANSWER

d.

*REFERENCE

SDM-M14

MEMORY

NEW

*EXPLANATION

- a. Incorrect –
- b. Incorrect –
- c. Incorrect –
- d. Correct –

*QNUM 073
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 2.4.15
*QUESTION

Select the statement below that reflects an Operations Section expectation for TRANSIENT ALARM RESPONSE during implementation of Perry Emergency Instructions (PEI).

- a. Entry into the TRANSIENT ALARM RESPONSE mode shall be announced by the Unit Supervisor.
- b. Locked in alarms that are abnormal for the present plant status should be communicated to the Unit Supervisor.
- c. Recurring alarms that annunciate ONI or PEI entry conditions do NOT need to be re-announced.
- d. The TRANSIENT ALARM RESPONSE mode will remain in effect until the PEIs are exited.

*ANSWER

b.

*REFERENCE

Perry Operations Section Expectations Handbook

MEMORY

NEW

*EXPLANATION

- a. Incorrect – Entry is understood and need not be announced
- b. Correct –
- c. Incorrect – All valid alarms related to ONI or PEI entry conditions should be announced.
- d. Incorrect – The SRO team determines when to exit the TRANSIENT ALARM RESPONSE mode based on plant conditions. This may occur while PEIs are still in effect.

*QNUM 074
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 2.4.26
*QUESTION

Select the statement below that correctly describes a requirement related to Fire Brigade composition.

- a. The Fire Brigade Leader must have a Reactor Operator or Senior Reactor Operator's license.
- b. If the Fire Brigade composition drops below the minimum number of five (5), it must be restored to at least the minimum number within one (1) hour.
- c. Any member of the Operations shift crew may be assigned to the Fire Brigade.
- d. Any site employee who is knowledgeable, trained, and skilled in fire fighting operations may be a member of the Fire Brigade.

*ANSWER

d.

*REFERENCE

PAP-0126

PAP-1910

MEMORY

NEW

*EXPLANATION

- a. Incorrect – The Fire Brigade Leader will have either a Reactor Operators license or equivalent knowledge of plant safety-related systems.
- b. Incorrect – The minimum number will be restored within two hours.
- c. Incorrect – Fire brigade members will have no other duties during a fire except those directly related to manual fire fighting.
- d. Correct –

*QNUM 075
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL B
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 2.4.31
*QUESTION

Select the statement below that describes the PAP-0528 sequence adherence requirement when utilizing Alarm Response Instructions.

- a. Immediate Actions shall be performed in sequence.
- b. Subsequent Actions shall be performed in sequence.
- c. Initiation of a "Condition Report" is required if Subsequent Actions are performed out of sequence.
- d. Initiation of a "Condition Report" is required if Immediate Actions are performed out of sequence.

*ANSWER

c.

*REFERENCE

PAP-0528

MEMORY

NEW

*EXPLANATION

- a. Incorrect – Immediate Actions may be performed in any order or in parallel.
- b. Incorrect – Subsequent Actions may be performed out of sequence if conditions dictate.
- c. Correct –
- d. Incorrect – Immediate Actions may be performed in any order or in parallel.

*QNUM 076
 *HNUM
 *ANUM
 *QCHANGED
 *ACHANGED
 *QDATE 2004/11/29
 *FAC 440
 *RTYP GE-BWR6
 *EXLEVEL S
 *EXMNR REESER
 *QVAL 1.00
 *SEC
 *SUBSORT
 *KA 295001A204
 *QUESTION

The reactor is operating at 100% power when an event occurs which results in the following indications:

	BEFORE	AFTER
Reactor Power:	100%	95%
Core Flow:	90.0 Mlbm/hr	85.5 Mlbm/hr
Loop A Driving Flow:	39,055 gpm	43,430 Mlbm/hr
Loop A Jetpump Flow:	45.1 Mlbm/hr	38.3 Mlbm/hr
Loop B Driving Flow:	38,945 gpm	39,335 Mlbm/hr
Loop B Jetpump Flow:	44.9 Mlbm/hr	47.2 Mlbm/hr

Which ONE of the following courses of action – from ONI-C51, Unplanned Change In Reactor Power Or Reactivity – would be appropriate based on these indications?

The Unit Supervisor should direct the

- Shift Technical Advisor to confirm the presence of Reactor Recirculation System vortexing.
- Supervising Operator to arm and depress the HPU SHUTDOWN switch for the FCV on Loop A.
- Supervising Operator to balance Recirc Loop A and B flows, and refer to Technical Specifications to determine Jet Pump operability.
- Supervising Operator to manually scram the reactor due to an individual control rod scram.

*ANSWER

c.

*REFERENCE

Lesson Plan OT-Combined B33

PDBs A0004, A0006, A0012

ONI-C51

MODIFIED

HIGHER

*EXPLANATION

- a. Incorrect – Vortexing is indicated by a rise in Recirc Drive Flow **and** Total Core Flow with no corresponding change in Recirc Flow Control Valve position or Recirc Pump speed.
- b. Incorrect – Would be appropriate if the FCV was moving, but FCV movement would cause driving flow and core flow to change in the same direction.
- c. Correct – a failed jet pump hold down beam would cause the above indications.
- d. Incorrect – While a scrammed control rod would cause a power decrease, driving flows and core flows would not be significantly impacted. Also a single rod scram would not require initiation of a full scram.

*QNUM 077
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295016A202
*QUESTION

Given the following conditions:

- The Main Control Room has been evacuated
- All Control Rods are fully inserted
- RPV Water Level is off-scale high on all RSP indications
- Reactor Pressure is 600 psig
- Drywell Temperature is 130°F
- Drywell Pressure is 1.0 psig
- ONI-C61, Evacuation Of The Main Control Room, required actions are complete
- IOI-11, Shutdown From Outside The Main Control Room, has been entered
- Both RFPTs were tripped and the breakers for the MFP and all the RFBPs have been opened due to level increasing above 220".

Which one of the following statements best describes the expected plan of action, once control has been transferred to the Division 1 Remote Shutdown Panel?

- a. Enter PEI-B13 since RPV level is unknown, Emergency Depressurize, and Flood the RPV to the Main Steam lines.
- b. Enter PEI-B13 since RPV level is unknown, Emergency Depressurize and inject slowly to establish RPV pressure above the Minimum Steam Cooling Pressure.
- c. Cooldown the Reactor, irrespective of cooldown rate, using SRVs, and use Condensate/Feedwater for level control when indicators are back on scale.
- d. Cooldown the Reactor, at less than 100°F/hr, using SRVs, and use RCIC for level control when indicators are back on scale.

*ANSWER

d.

*REFERENCE

ONI-C61

IOI-11

PEI-B13

NEW

HIGHER

***EXPLANATION**

- a. Incorrect – RPV level is high out of range with no reason to believe otherwise.
- b. Incorrect – RPV level is high out of range with no reason to believe otherwise and the reactor is shutdown with control rods.
- c. Incorrect – No justification to break cooldown rate.
- d. Correct –

*QNUM 078
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295019 2.4.21
*QUESTION

A complete loss of Service and Instrument Air has occurred and it may take several hours before the an air supply will be available. Assuming no other failures or malfunctions, which one of the following safety functions will require the most attention?

- a. Reactivity Control
- b. Containment Integrity
- c. Reactor Core Heat Removal
- d. Reactor Water Inventory Control

*ANSWER

b.

*REFERENCE

USAR Chapter 6.2

ONI-P52

NEW

HIGHER

*EXPLANATION

- a. Incorrect – Control rods will insert when MSIVs close and would insert on loss of air even if no scram signal is generated.
- b. Correct – Operator intervention will be necessary to prevent exceeding Containment limits. Suppression Pool cooling must be initiated in order to remove heat from the Containment. Containment ventilation will be lost also.
- c. Incorrect – Decay heat will be transferred to the Suppression pool through automatic SRV operation.
- d. Incorrect – MSIVs will close on loss of air, level will decrease to L2, HPCS and RCIC will start to restore level.

*QNUM 079
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295026A201
*QUESTION

The plant was operating at 100% power when a LOCA occurred. All control rods are fully inserted. LPCS and LPCI 'A' are both injecting into the RPV. NO other ECCS pumps are available. As long as both pumps are injecting, RPV water level can be maintained above TAF. Suppression Pool temperature is 130°F and rising. Select the statement below that correctly describes the use of LPCI 'A' for Suppression Pool cooling.

- a. LPCI 'A' must be diverted to Suppression Pool Cooling to ensure that Suppression Pool temperature is maintained below the Heat Capacity Limit, since LPCS can maintain adequate core cooling through spray cooling alone.
- b. LPCI 'A' may be diverted to Suppression Pool Cooling as long as LPCS is able to maintain RPV water level above -25 inches (the Minimum Steam Cooling RPV water level).
- c. LPCI 'A' must be diverted to Suppression Pool Cooling, irrespective of adequate core cooling, when neither Suppression Pool temperature nor Reactor pressure can be maintained below the Heat Capacity Limit (HCL)
- d. LPCI 'A' may be diverted to Suppression Pool Cooling only if additional injection sources become available to be used with LPCS to maintain RPV water level above 0 inches

*ANSWER

d.

*REFERENCE

PEI Bases

PEI-B13 and PEI-T23

NEW

HIGHER

*EXPLANATION

- a. Incorrect – Spray cooling alone is not approved for use at Perry
- b. Incorrect – Operation below TAF would only be permitted if LPCS and LPCI together were insufficient to maintain level above TAF
- c. Incorrect – LPCI 'A' can only be diverted if adequate core cooling can be maintained without it.
- d. Correct –

*QNUM 080
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295030 2.1.32
*QUESTION

Given the following plant conditions:

- Suppression Pool Level is 7 ft. and dropping at a rate of 6 in./hr due to an unisolable leak in the HPCS pump room.
- Suppression Pool Temperature is 90°F and nearly steady
- RHR 'A' and 'B' are providing Suppression Pool cooling
- LPCS and RHR 'C' are injecting to the RPV to maintain RPV water level above TAF

Your STA recommends shutting down one or more of the operating RHR pumps to prevent damage due to the lowering Suppression Pool level. Based on the above conditions, which one of the following would be appropriate?

- a. Only shutdown RHR 'A' AND 'B'
- b. Shutdown RHR 'A' OR 'B', AND Shutdown RHR 'C'
- c. Only shutdown ONE of the RHR pumps
- d. Shutdown ALL of the RHR pumps

*ANSWER

a.

*REFERENCE

PEI Bases

NEW

HIGHER

*EXPLANATION

- a. Correct – neither pump is currently needed for pool or core cooling and pump damage may occur below 5.75 ft (NPSH/Vortex limit)
- b. Incorrect – RHR 'C' is needed to maintain adequate core cooling
- c. Incorrect – see a or b above
- d. Incorrect – see b above

*QNUM 081
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295031 2.2.25
*QUESTION

The RPV water level low (Level 3) trip function, of Reactor Protection System, ensures that...

- a. enough time is available for the ECCS to start and reflood the reactor core before the Peak Cladding Temperature exceeds 2200°F.
- b. the heat energy – generated in the fuel – is substantially reduced, before the fuel is uncovered during a LOCA, so that the Peak Cladding Temperature does not exceed 2200°F when the core is reflooded.
- c. there is enough moderator available to slow down the fission neutrons needed to ensure operability of the fission detectors used by the APRM Flow Biased Thermal Power trip function.
- d. the Minimum Critical Power Ratio (MCPR) does not exceed the MCPR Safety Limit when the fuel is uncovered.

*ANSWER

b.

*REFERENCE

Technical Specification Bases

NEW

MEMORY

*EXPLANATION

- a. Incorrect – bases for ECCS initiation
- b. Correct – Tech Spec Bases B 3.3.1.1
- c. Incorrect – fabricated distractor
- d. Incorrect – MCPR protects against positive reactivity addition transients not LOCAs.

*QNUM 082
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295038 2.3.10
*QUESTION

Given the following conditions:

- An event has occurred creating a high airborne radiation condition in the Fuel Handling Building.
- The running Fuel Handling Building Ventilation Supply Fan tripped as designed.
- The outside ambient air temperature is 28°F.

Select the appropriate follow-up action from the following:

- a. Shutdown the FHB HVAC exhaust fans.
- b. Ensure that valves M40-F575 and M40-F576 are shut.
- c. Restore one of the FHB HVAC supply fans to operation within 30 minutes.
- d. Locally monitor FHB air temperature to determine when air temperature falls below 62°F.

*ANSWER

d.

*REFERENCE

SDM M40

SOI-M40

MEMORY

NEW

*EXPLANATION

- a. Incorrect – Fans remain running to support PEI-N11
- b. Incorrect – Valves open automatically on building negative pressure
- c. Incorrect – Supply fans remain OFF per PEI-N11 until rad levels decrease below entry level.
- d. Correct –

*QNUM 083
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295017 2.2.25
*QUESTION

While operating at 100% power, the following conditions occur:

1. Annunciators:

ANNULUS A DIFF PRESS LOW
ANNULUS B DIFF PRESS LOW

2. Annulus differential pressure: Zero inches of water gage

Select the ONE statement that identifies the reason why this situation should be corrected.

- a. Restoring AEGTS to operation will ensure that the availability requirements of the Maintenance Rule are satisfied.
- b. Operation of AEGTS reduces the post accident leakage rate from the containment vessel.
- c. Operation of AEGTS reduces the off-site release rate following a Design Bases Accident.
- d. Restoring AEGTS to operation will ensure that accessibility of the Secondary Containment is maintained.

*ANSWER

c.

*REFERENCE

Tech Spec Bases

SDM M15

MEMORY

MODIFIED

*EXPLANATION

- a. Incorrect – The Maintenance rule does not specify requirements for availability.
- b. Incorrect – Maintaining the annulus at a negative pressure would actually increase the containment leakage rate.
- c. Correct – The annulus is maintained at a negative pressure to ensure that containment leakage is collected, filtered and adsorbed before release.
- d. Incorrect – Secondary containment access is not dependant on AEGTS

*QNUM 084
 *HNUM
 *ANUM
 *QCHANGED
 *ACHANGED
 *QDATE 2004/11/29
 *FAC 440
 *RTYP GE-BWR6
 *EXLEVEL S
 *EXMNR REESER
 *QVAL 1.00
 *SEC
 *SUBSORT
 *KA 295022A201
 *QUESTION

During a plant startup, the following conditions exist:

- REACTOR MODE SWITCH in STARTUP/STANDBY
- Reactor pressure is 855 psig.
- Control rod 22-11 is at position 00, its nitrogen accumulator has a cracked weld and is isolated for repair.

The operating Control Rod Drive (CRD) pump trips, CRD Charging Header Pressure indicates 50 psig, and the CRD HCU LEVEL HI/PRESS LO annunciator is received for the following rods:

Rod	Position	Accumulator Pressure
18-27	00	1500 psig
38-23	48	1500 psig

Which ONE of the following should you direct the control room operators to do?

- a. Declare both CRD accumulators INOPERABLE and have the Supervising Operator place the REACTOR MODE SWITCH to SHUTDOWN.
- b. Declare control rod 38-23 accumulator INOPERABLE; insert and isolate control rod 38-23 within 1 hour, or place the REACTOR MODE SWITCH to SHUTDOWN.
- c. If charging header pressure CANNOT be restored to at least 1600 psig within 20 minutes, place the REACTOR MODE SWITCH to SHUTDOWN. Both control rods are still OPERABLE.
- d. Declare control rod 18-27 and 38-23 INOPERABLE. Monitor accumulator status. If any other accumulator becomes INOPERABLE, immediately place the REACTOR MODE SWITCH to SHUTDOWN.

*ANSWER

c.

*REFERENCE

Tech Specs

ONI-C11-1

HIGHER
MODIFIED
*EXPLANATION

- a. Incorrect – not required unless charging header pressure cannot be restored within 20 minutes or if reactor pressure drops below 600 psig.
- b. Incorrect – no limit for number of withdrawn control rods unless reactor pressure less than 600 psig.
- c. Incorrect – If control rods 18-27 and 38-23 are declared inoperable, TS 3.1.3 permits 4 hours to insert and disarm the control rod.
- d. Correct –

*QNUM 085
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 295035 2.1.7
*QUESTION

A RHR LOCA signal has been generated and both AEGTS trains are operating. The following conditions are observed:

- AEGTS train 'A' Exhaust Control Damper (F080A) is FULL OPEN and Recirculation Control Damper (F070A) is FULL SHUT.
- AEGTS train 'B' Exhaust Control Damper (F080B) is FULL SHUT and Recirculation Control Damper (F070B) is FULL OPEN.
- Annulus Differential Pressure is -0.2 in. water gage.

Given the above information, what direction would you give the Supervising Operator?

- a. Take manual control of the 'A' Differential Pressure Controller and attempt to restore Annulus Differential Pressure to 0.25 in. H₂O Vac.
- b. Take manual control of the 'A' Differential Pressure Controller and attempt to restore Annulus Differential Pressure to 0.75 in. H₂O Vac.
- c. Take manual control of the 'B' Differential Pressure Controller and attempt to restore Annulus Differential Pressure to 0.25 in. H₂O Vac.
- d. Take manual control of the 'B' Differential Pressure Controller and attempt to restore Annulus Differential Pressure to 0.75 in. H₂O Vac.

*ANSWER

d.

*REFERENCE

SDM M15

ARI-H13-P800-0001-A2(D2)

HIGHER

NEW

*EXPLANATION

- a. Incorrect – The 'A' controller appears to be functioning correctly since the Recirc Control Damper is closed and the Exhaust Control Damper is open.
- b. Incorrect – See a.
- c. Incorrect – The required differential pressure is 0.75 in. H₂O Vac.
- d. Correct –

*QNUM 086
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 203000A203
*QUESTION

HPCS, LPCS, and all three RHR pumps started on High Drywell Pressure. The following conditions are observed:

- All control rods are fully inserted
- RPV Level is 150 in. WR and decreasing slowly
- RPV Press is 800 psig and decreasing slowly

The BOP Operator reports that RHR Pump 'A' Minimum Flow Valve (F064A) is shut and will not open. Given the current plant condition which of the following actions would be most appropriate to assign the balance of plant operator?

- a. Declare RHR Pump 'A' INOPERABLE. Shutdown RHR Pump 'A' and pull it's control power fuses.
- b. Declare RHR Pump 'A' OPERABLE; open the Test Return Valve to Suppression Pool (F024A) to establish > 1650 gpm.
- c. Declare RHR Pump 'A' INOPERABLE but operational. Dispatch a plant operator to attempt to manually open the Minimum Flow Valve (F064A).
- d. Declare RHR Pump 'A' INOPERABLE, but operational. Shutdown RHR Pump 'A' until reactor pressure is low enough for the injection valve (F042A) to open, then restart the pump.

*ANSWER

a.

*REFERENCE

SOI-E12

HIGHER

NEW

*EXPLANATION

- a. Correct – Pump should not be allowed to run at shutoff head for greater than 8 seconds. Based on the current conditions RHR 'A' is not expected to be needed for adequate core cooling.
- b. Incorrect – Injection valve opens at ~530 psig which is still well above the pump shutoff head.

- c. Incorrect – Pump could be damaged due to runout when the injection valve opens.
- d. Incorrect – Takes too long.

*QNUM 087
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 223002A205
*QUESTION

The plant is at 100% power. I&C Technicians, performing a calibration on Reactor Vessel Steam Dome Pressure Transmitter PT-N078C, report to you that they are unable to calibrate the instrument so that both trip units [RPS and NS⁴(RHR Isol)] are operable at the same time. You should direct the I&C Technicians to calibrate the instrument so that . . .

- a. the RPS trip unit is operable; declare the NS⁴ trip channel inoperable and ensure the channel remains in a tripped condition while in modes 1 and 2.
- b. the RPS trip unit is operable; declare the NS⁴ trip channel inoperable and ensure the channel remains in a tripped condition while in modes 1, 2, and 3.
- c. the NS⁴ trip unit is operable; declare the RPS trip channel inoperable and ensure the channel remains in a tripped condition while in modes 1 and 2.
- d. the NS⁴ trip function is operable; declare the RPS trip channel inoperable and ensure the channel remains in a tripped condition while in modes 1, 2, and 3.

*ANSWER

c.

*REFERENCE

Tech Specs and Bases

HIGHER

NEW

*EXPLANATION

- a. Incorrect – The NS⁴ isolation function is required to be operable in modes 1, 2 & 3.
- b. Incorrect – This would be undesirable since RHR would be needed for SDC.
- c. Correct –
- d. Incorrect – The RPS trip function is only required to be operable in modes 1 & 2.

*QNUM 088
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 211000 2.1.12
*QUESTION

The RRCS DIV 1 OUT OF SERVICE annunciator on P680 has alarmed. The BOP Control Room Operator also reported to you that the 'low range' level indicator for the SLC Storage Tank is reading down scale but that the 'high-range' level indicator is indicating normally. Select the statement below that correctly states the required action.

- a. Declare Division 1 ATWS-RPT inoperable.
- b. Declare Division 1 of SLC inoperable.
- c. Declare Division 1 ATWS-RPT and Division 1 of SLC inoperable.
- d. Declare both Divisions of ATWS-RPT inoperable.

*ANSWER

c.

*REFERENCE

Tech Specs and Bases

SOI-C41

ARI-H13-P680-0004-A7

ARI-H13-P601-0019-E1

HIGHER

NEW

*EXPLANATION

- a. Incorrect – Loss of power to one division of RRCS also deenergizes the same division SLC storage tank level
- b. Incorrect – Div 1 ATWS-RPT instrument channels are inoperable.
- c. Correct –
- d. Incorrect – Div 1 ATWS-RPT instrument channels are inoperable but trip functions are maintained by Div 2. See 'a.' also.

*QNUM 089
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 262002A201
*QUESTION

The Division 1 ATWS-UPS Inverter is supplying 120VAC Bus EV-1-A when the Division 1 Battery Charger (EFD1A) trips off. Reserve Charger EFD12A is not available. The 120VAC Bus EV-1-A will be automatically transferred to the alternate AC source when the Division 1 ATWS-UPS Inverter (1) . Procedural guidance for recovery of the Division 1 ATWS-UPS Inverter is found in (2) .

- a. (1) input voltage drops below 105 VDC
(2) SOI R-14, 120 VAC Vital Inverters
- a. (1) input voltage conditions are low and sensed for 15 minutes
(2) SOI R-15, Technical Support Center Uninterruptable Power Supply System
- c. (1) output frequency drops below 58.8 Hz
(2) ARI-H13-P877-0001-H4, BUS EF-1-B BREAKER TRIP
- d. (1) output voltage drops below 105 VDC for 15 minutes
(2) ARI-H13-P877-0002-H1, DC BUS ED-1-B UNDERVOLTAGE

*ANSWER

a.

*REFERENCE

SDM R14/15

HIGHER

NEW

*EXPLANATION

- a. Correct –
- b. Incorrect – No time delay, incorrect procedure
- c. Incorrect – Incorrect procedure
- d. Incorrect – Incorrect procedure

*QNUM 090
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 300000 2.2.17
*QUESTION

Given the following conditions:

- Unit 1 Service Air (SA) Compressor is operating in Manual/Modulate.
- The Unit 1 and Unit 2 Instrument Air (IA) Compressors are in Standby Readiness (Auto - On/Off).
- The Unit 2 Service Air (SA) Compressor is red tagged for maintenance. The work on the Unit 2 SA compressor was to be completed yesterday and is now estimated to be returned to service in 48 hours.
- The work schedule calls for the Unit 2 Instrument Air (IA) Compressor to be removed from service and red tagged on your shift.
- Grid Stability is RED

Select the statement below that best describes the conditions necessary for work to proceed on the Unit 2 Instrument Air Compressor.

- a. The work on the Unit 2 IA Compressor may proceed without any compensatory measures in place.
- b. The work on the Unit 2 IA Compressor may proceed provided no switchyard work is taking place.
- c. The work on the Unit 2 IA Compressor may proceed provided the Unit 1 IA Compressor is placed in operation (Manual/Modulate).
- d. The work on the Unit 2 IA Compressor should be postponed until after the Unit 2 SA Compressor is returned to service.

*ANSWER

d.

*REFERENCE

SOI-P51/52, Sect 2

SDM P51/52

PAP-0905

HIGHER

NEW

*EXPLANATION

- a. Incorrect – Plant is at increased risk of loss of air due to both operable air compressors being powered from the same source.
- b. Incorrect – Plant is at increased risk of loss of air due to both operable air compressors being powered from the same source.
- c. Incorrect – Plant is at increased risk of loss of air due to both operable air compressors being powered from the same source.
- d. Correct –

*QNUM 091
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 214000A201
*QUESTION

The plant is in MODE 5 and an in-vessel fuel shuffle is in progress. No other refueling activities are taking place. A fuel bundle being inserted into the core just penetrated the top guide when the REFUEL INTERLOCK indicator on the Refueling Platform illuminated and power to the main hoist was interrupted. Select the statement below that: 1) describes the most probable cause for actuation of the REFUEL INTERLOCK; and 2) specifies the actions required by Technical Specifications.

- a. A control rod was withdrawn; Immediately suspend loading fuel assemblies into the core (removal of fuel assemblies from the core may continue).
- b. A control rod position indication probe failed; after verifying that all control rods are fully inserted use the Hoist-Override to complete loading the fuel assembly into the core.
- c. A control rod was withdrawn; Immediately suspend in-vessel fuel movement and/or control rod withdrawal, and initiate action to insert all insertable control rods.
- d. A control rod position indication probe failed; immediately verify that all control rods are fully inserted and initiate action to disarm the control rod drive associated with the faulty position indication probe.

*ANSWER

d.

*REFERENCE

Technical Specifications 3.9.1 – 3.9.4 (and associated bases)

SDM C11(RC&IS)

OT Combined LP F11/F15 (Refueling Systems)

HIGHER

NEW

*EXPLANATION

- a. Incorrect – both rod block channels would have to fail in-order for a rod withdrawal to be permitted.
- b. Incorrect – correct failure, but fuel movement must be suspended until the faulty position indication is corrected or bypassed (after disarming the drive)
- c. Incorrect – both rod block channels would have to fail in-order for a rod withdrawal to be permitted.

d. Correct –

*QNUM 092
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 256000A208
*QUESTION

Given the following conditions:

- Reactor Plant at 100% RTP
- The following annunciators are in alarm:
 - HOT SURGE TANK LEVEL HI
 - HTR 4 ISOL HOT SRG TK LEVEL HI
- The Extraction Steam supply and Steam Seal Evaporator drains to Heater 4 have automatically isolated
- N21-F220, Hot Surge Tank Level Control Bypass Valve indicates closed
- N21-F230, Hot Surge Tank Level Control Valve is partially open and is unresponsive to the Hot Surge Tank Level Controller signals (in either AUTO or MANUAL)
- Local manual control of N21-F230, Hot Surge Tank Level Control Valve was unsuccessful
- Hot Surge Tank level is 150" and increasing slowly

Which one of the following actions should you direct the Supervising Operator to perform per the ARIs and SOI-N21?

- a. Shutdown one of the Condensate Booster Pumps
- b. Perform the "Securing Flow to the Hot Surge Tank" section of SOI-N21
- c. Throttle open Condensate Minimum Flow Recirculation Valve (N21-F245)
- d. Manually trip all Hotwell and Condensate Booster Pumps

*ANSWER

c.

*REFERENCE

SDM N32/85

HIGHER

MODIFIED

*EXPLANATION

- a. Incorrect – not directed by the ARI or SOI and could lead to damage of the other Condensate Booster Pump due to operating at run-out condition.

- b. Incorrect – per SOI-N21 this section SHALL not be performed if Reactor Feedwater Booster pumps are in operation.
- c. Correct –
- d. Incorrect – to be performed only if level is off-scale high

*QNUM 093
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 288000A204
*QUESTION

An exposed fuel bundle is dropped and is damaged during transfer from the Reactor Vessel to the Inclined Fuel Transfer System. Select the statement below that describes the automatic action that should occur in the Containment Vessel and Drywell Purge Supply (M14) System, and the action(s) to be taken, if the Containment Vessel and Drywell Purge Supply (M14) System continues to operate in the Refuel mode.

- a. The M14 system Containment isolation valves close automatically when the Area Radiation Monitor for the Containment Upper Pool Area reaches its alarm setpoint. Direct operators to close the M14 system containment isolation valves and verify that the M14 supply and exhaust fans continue to operate in the recirculation mode.
- b. The M14 exhaust fans automatically trip when the M14 Exhaust Duct Radiation Monitor reaches its alarm setpoint. Direct operators to trip the M14 exhaust fans and verify that the M14 supply fans continue to operate.
- c. The M14 system Containment isolation valves close automatically when the M14 Exhaust Duct Radiation Monitor reaches its alarm setpoint. Direct operators to close the M14 system containment isolation valves and verify that the M14 supply and exhaust fans trip.
- d. The M14 suppl fans trips when the Area Radiation Monitor for the Containment Upper Pool Area reaches its alarm setpoint. Direct operators to trip the M14 supply fans and verify that the M14 exhaust fans continue to operate.

*ANSWER

c.

*REFERENCE

SDM M14

ONI-J11-2

HIGHER

MODIFIED

*EXPLANATION

- a. Incorrect – Supply AND exhaust fans trip when the isolation valves go closed.
- b. Incorrect – Isolation valves must be closed. See a. also.
- c. Correct – A damaged fuel bundle will cause high radiation in the vent exhaust which should have caused an automatic isolation.

d. Incorrect – See b.

*QNUM 094
 *HNUM
 *ANUM
 *QCHANGED
 *ACHANGED
 *QDATE 2004/11/29
 *FAC 440
 *RTYP GE-BWR6
 *EXLEVEL S
 *EXMNR REESER
 *QVAL 1.00
 *SEC
 *SUBSORT
 *KA 2.1.2
 *QUESTION

Select the combination, of Control Room staff positions and plant locations, that describes a situation that does NOT meet the required shift manning in the control room when the plant is operating at 75% power under steady-state conditions.

	POSITION	PLANT LOCATION
a.	Shift Manager: Unit Supervisor: Reactor Operator at the controls: Second Licensed Operator:	Unit Supervisor desk Shift Manager's Office Service Building Horseshoe area
b.	Shift Manager: Unit Supervisor: Reactor Operator at the controls: Second Licensed Operator:	Containment Shift Manager's Office Back panels Horseshoe area
c.	Shift Manager: Unit Supervisor: Reactor Operator at the controls: Second Licensed Operator:	Service Building Back panels Horseshoe area Containment
d.	Shift Manager: Unit Supervisor: Reactor Operator at the controls: Second Licensed Operator:	Tech Support Center Unit Supervisor desk Horseshoe area Back panels

*ANSWER

b.

*REFERENCE

PAP-0126

MEMORY

MODIFIED

*EXPLANATION

- a. Incorrect – There is a licensed operator in the Horseshoe Area, an SRO in the Control Room, and the SM is on site.

- b. Correct – Either the US or the SM must be in the Control Room in MODES 1, 2, or 3
- c. Incorrect – See a.
- d. Incorrect – See a.

*QNUM 095
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 2.1.6
*QUESTION

An event requiring a reactor scram from 100% reactor power occurred. Over half of the control rods failed to fully insert. Subsequent scram attempts resulted in very little control rod motion, the scram discharge volume doesn't appear to be draining fully, several control rods remain withdrawn, and the only available CRD pump has been damaged in the process. The reactor is sub-critical with APRM channels reading between 0% and 4%. Given the above information and that you only have one operator available to send into the field, which one of the following alternate rod insertion methods would you chose?

- a. Manual Rod Insertion
- b. Venting The Over-piston Volumes
- c. Venting The Scram Air Header
- d. Increased Cooling Water DP

*ANSWER

b.

*REFERENCE

PEI-SPI 1.1 – 1.7

HIGHER

NEW

*EXPLANATION

- a. Incorrect – Requires a running CRD pump
- b. Correct – Over piston area is vented to the Suppression Pool rather than to the scram discharge volume which appear to be not draining fully.
- c. Incorrect – Since SDV is not draining this method not likely to work any better than resetting and rescramming.
- d. Incorrect – Requires a running CRD pump

*QNUM 096
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 2.2.21
*QUESTION

Select the maintenance activity below that would require Post Maintenance Testing.

- a. Painting of the floor and walls in the RCIC Pump room.
- b. Replacement of the lagging on the steam lines in the RCIC Pump room.
- c. Calibration of the RCIC steam supply pressure instrument.
- d. Re-packing of the RCIC Turbine Trip-Throttle Valve.

*ANSWER

d.

*REFERENCE

PAP-1124

MEMORY

NEW

*EXPLANATION

- a. Incorrect – does not impact equipment operation
- b. Incorrect – does not impact equipment operation
- c. Incorrect – self-testing activity
- d. Correct – activity can affect stroking time and should not allow steam leakage.

*QNUM 097
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 2.2.26
*QUESTION

In addition to the Refueling Supervisor and the Platform Operator, which of the following personnel is required to be on the refueling bridge during refueling?

- a. Qualified Nuclear Engineer
- b. Health Physics Technician
- c. Spotter
- d. Quality Insurance Inspector

*ANSWER

c.

*REFERENCE

SOI-F11

MEMORY

NEW

*EXPLANATION

- a. Incorrect – Not required by SOI-F11
- b. Incorrect – Not required by SOI-F11
- c. Correct –
- d. Incorrect – Not required by SOI-F11

*QNUM 098
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 2.3.8
*QUESTION

Venting of the Containment – using PEI-SPI 7.3, FPCC Containment Venting – has been initiated due to exceeding Primary Containment Limit (PCL). Which one of the following correctly describes the condition that must be met before venting of the Containment can be terminated?

Containment pressure . . .

- a. below 2.25 psig
- b. equal to atmospheric pressure
- c. within the Primary Containment Limit (PCL)
- d. below the Pressure Suppression Pressure (PSP) limit

*ANSWER

c.

*REFERENCE

PEI Bases

OT-3408-008-16

HIGHER

NEW

*EXPLANATION

- a. Incorrect – See ‘c’ below
- b. Incorrect – See ‘c’ below
- c. Correct – Direction is given to vent to reduce and maintain Containment pressure below the Primary Containment Limit (Figure 3). This minimizes the release of radioactivity while it assures containment integrity.
- d. Incorrect – See ‘c’ above

*QNUM 099
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 2.4.30
*QUESTION

An accident involving a tanker truck delivering Sodium Hypochlorite has resulted in a spill of approximately 2500 gallons of Sodium Hypochlorite within the Protected Area. In accordance with PAP-0806, Oil/Chemical Release Contingency Plan, which one of the following agencies must be notified within 15 minutes?

- a. U.S. Environmental Protection Agency, National Response Center
- b. U.S. Nuclear Regulatory Commission, Headquarter Operations Officer
- c. Ohio Environmental Protection Agency, State Emergency Response Commission
- d. Lake County Emergency Planning Commission

*ANSWER

a.

*REFERENCE

PAP-0806

MEMORY

NEW

*EXPLANATION

- a. Correct – Release exceeds reportable quantity (1400 gal.)
- b. Incorrect – PAP does not require notification of NRC
- c. Incorrect – Must be notified within 30 minutes
- d. Incorrect – Must be notified within 30 minutes

*QNUM 100
*HNUM
*ANUM
*QCHANGED
*ACHANGED
*QDATE 2004/11/29
*FAC 440
*RTYP GE-BWR6
*EXLEVEL S
*EXMNR REESER
*QVAL 1.00
*SEC
*SUBSORT
*KA 2.4.46
*QUESTION

The reactor scrammed due to a small-break LOCA. The only available injection source is from the Condensate Transfer system. To maximize injection, Emergency Depressurization was initiated approximately 20 minutes ago and all ADS valves were verified open. The SRV OPEN annunciator just reset. You have directed the Reactor Operator to verify the status of the ADS valves. Select the status report that you would expect based on the above information.

- a. The ADS valves appear to be closed based on stable SRV tailpipe temperatures. Direct the panel operators to open SRVs using their control switches.
- b. The ADS valves appear to be closed based on SRV tailpipe temperatures slowly increasing. Direct the panel operators to use alternate methods of depressurizing the reactor vessel.
- c. The ADS valves appear to be open, based on SRV tailpipe temperatures of approximately 330°F and slowly increasing due to the lack of injection. Direct operators to open additional SRVs and continue to monitor for injection.
- d. The ADS valves appear to be open, based on SRV tailpipe temperatures of approximately 250°F and stable. Injection is occurring, direct operators to monitor reactor vessel level.

*ANSWER

d.

*REFERENCE

Steam Tables

HIGHER

NEW

*EXPLANATION

- a. Incorrect – SRVs still open. Annunciator reset because Reactor pressured dropped below 30 psig.
- b. Incorrect – SRVs still open. Annunciator reset because Reactor pressured dropped below 30 psig.
- c. Incorrect – Tailpipe temperature corresponds to normal reactor pressure.
- d. Correct – Tailpipe temperature corresponds to reactor pressure of ~25 psig.

*END