Question # 001
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 007 EK2.03
QUESTION
When at 100% power, a series of failures results in a complete loss of Train A DC Power to Unit 1.

When the RO looks at the SI/Reactor Trip Alarm Panel 47017, which annunciator light(s) (if any) are expected to be LIT?

a. NO reactor trip OR safety injection annunciator lights are LIT.

b. ONLY the Turbine Trip/Reactor Trip and Negative Flux Rate reactor trip annunciator lights are LIT.

c. ALL reactor trip annunciator lights will be LIT, and all safety injection annunciator lights are NOT LIT.

d. ALL reactor trip AND safety injection annunciator lights are LIT.

ANSWER
c.
REFERENCE
Simulator response
1C20.9 AOP1 section 2.1
Fig B8-2
ARP 47017-0101 (similar for all RP alarms)
X-HIAW-1-39 Westinghouse logic
KA Statement:
Knowledge of the interrelations between a reactor trip and the following:
Reactor trip status panel
HIGHER
NEW

Question # 002
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 008 AK2.01
QUESTION
Given the following:

- The crew is responding to a stuck open Pressurizer PORV.
- Pressurizer Power Relief Isolation Valve A (MV-32195) control switch is taken to CLOSE.
- One second later, the MV-32195 RED light goes OUT. The GREEN light does NOT come ON.

Which one of the following explains ALL of the above indications?

a. GREEN control board light bulb is bad.

b. CLOSED position limit switch failure.

c. OPEN position limit switch failure.

d. Thermal overload of the associated breaker.

ANSWER
d.
REFERENCE
SP2265 section 7.2
NF-40780-4 Note green light from switch signal 3 (bo) and red from 7 (ac), indicating both should be on during valve travel until valve is fully open OR closed.
KA Statement:
Knowledge of the interrelations between the Pressurizer Vapor Space Accident and the following:
Valves
HIGHER
MODIFIED

Question # 003
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 009 EA2.24
QUESTION
Given the following conditions:

- Unit 1 Reactor Trip and Safety Injection due to a Small Break LOCA.
- 1ES-1.1 POST-LOCA COOLDOWN AND DEPRESSURIZATION is in progress.
- The Lead RO is cooling down the RCS at 85°F/hr.
- RCS pressure is 1500 psig and decreasing.
- Containment pressure is 6.8 psig and slowly decreasing.
- 11 RCP has been stopped per 1ES-1.1.
- 12 RCP is running.
- Annunciator 47015-0507 12 RCP BEARING/STATOR HI TEMP is received.
- 12 RCP stator temperature is 252°F and slowly increasing.

What action is required?

a. Immediately trip 12 RCP per the RCP trip criteria on the information page.

b. Immediately trip 12 RCP per the 47015-0507 ARP, and restart 11 RCP to reestablish forced flow.

c. Realign 12 Containment Fan Coil Unit to the gap/support positions to reestablish RCP cooling per the 47015-0507 ARP.

d. Monitor stator temperature and stop 12 RCP if stator temperature reaches 300°F per the 47015-0507 ARP.

ANSWER
d.
REFERENCE
ARP 47015-0507
1ES-1.1 Information Page
KA Statement:
Ability to determine or interpret the following as they apply to a small break LOCA:
RCP temperature setpoints
MEMORY
NEW

Question # 004
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 011 EK3.05
QUESTION
During a Large Break LOCA, all ECCS flow is assumed to bypass the core until the completion of the Blowdown Phase. During the Refill Phase immediately following blowdown, the ECCS flow is directed to the _________.

a. cold legs AND reactor vessel simultaneously to refill the core from the top and bottom at the same time.

b. reactor vessel ONLY as complete core uncovery occurs during blowdown and core injection is the most effective cooling method.

c. cold legs ONLY to refill the core barrel and start the recovery of the core from the bottom up.

d. cold legs AND hot legs simultaneously to ensure either SI or Accumulator injection will pass through the core on the way to the break.

ANSWER
c.
REFERENCE
Fig B18A-1, B18A-5
KA Statement:
Knowledge of the reasons for the following as they apply to the Large Break LOCA:
Injection into cold leg
MEMORY
NEW

Question # 005
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 015 AA1.22
QUESTION
Given the following:

- Unit 1 is at 100% power for last 42 days.
- 11 Reactor Coolant Pump #1 seal return flow has dropped rapidly from 3.0 GPM to 0.9 GPM.
- 47012-0301 11 RCP STANDPIPE HI LVL is in alarm.

Which of the following has occurred?

a. #1 Seal Failure

b. #2 Seal Failure

c. #3 Seal Failure

d. #1 Seal Blockage

ANSWER
b.
REFERENCE
1C3 AOP3 section 2.1
ARP 47012-0301, 0401
KA Statement:
Ability to operate and/or monitor the following as they apply to the Reactor Coolant Pump Malfunctions (Loss of RC Flow):
RCP seal failure/malfunction
HIGHER
BANK

Question # 006
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 022 2.4.50
QUESTION
Given the following conditions:

- Alarm 47023-0605 UNIT 2 REACTOR MAKEUP LO PRESS is coming in and out of alarm every 15 seconds.
- 21 RMU tank is 12 feet, 22 RMU tank is 6 feet.
- 22 Reactor Makeup Pump is RUNNING
- The Turbine Building Operator reports RMU header pressure is cycling between 60 and 80 psig.

What is the problem with RMU, and what action(s) will be directed by the ARP in response?

a. Low 22 RMU tank level is causing 22 RMU pump to cavitate. Start 21 RMU pump AND stop 22 RMU pump.

b. The RMU system is operating normally, but alarm 47023-0605 setpoint has drifted high and is alarming early. Initiate a work order on the alarm setpoint.

c. Excessive plant service demand is causing one of the makeup supply header valves to cycle, isolating RMU to the plant header. Stop use of RMU for services AND start 21 RMU pump.

d. 22 RMU Pump Discharge Relief is cycling on excessive RMU header pressure. Stop 22 RMU pump then start 21 RMU pump.

ANSWER
c.
REFERENCE
ARP 47023-0605
C13.1 Precaution 3.1
NF-39242
KA Statement:
Loss of Reactor Coolant Makeup:
Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.
HIGHER
NEW

Question # 007
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 025 AK1.01
QUESTION
Given the following Unit 2 plant conditions:

- The unit is in Cold Shutdown with the RCS solid.
- RHR flow has been lost and CANNOT be restored.
- Wide Range level in both steam generators is 72%.
- All other systems and components are available.

In accordance with E-4 CORE COOLING FOLLOWING LOSS OF RHR FLOW, which of the following is the preferred method of removing the core's decay heat?

a. Establish maximum flow from the RWST via charging pumps and open one Pressurizer PORV.

b. Establish flow from the RWST via an SI pump and allow the Pressurizer PORVs to cycle open and closed at the OPPS setpoint.

c. Gravity drain from the RWST through RHR and open the Pressurizer PORVs.

d. Align AFW to at least one SG and open the respective SG PORV.

ANSWER
d.
Explanation:
REFERENCE
E-4 flowpath and bases
KA Statement:
Knowledge of the operational implications of the following concepts as they apply to Loss of Residual Heat Removal System:
Loss of RHRS during all modes of operation
MEMORY
BANK

Question # 008
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 038 2.1.2
QUESTION
Given the following:

- Unit 1 Reactor Trip and Safety Injection.
- 12 SG has been identified as faulted to containment and has been isolated per 1E-2 FAULTED STEAM GENERATOR ISOLATION.
- 11 SG has been identified as the ruptured SG per 1E-3 STEAM GENERATOR TUBE RUPTURE.
- 1E-3 Step 7a "Determine Required Core Exit Temperature" is in progress.
- The following conditions exist:
  * 11 SG pressure is 785 psig.
  * 12 SG pressure is 600 psig.
  * CETC temperature is 480°F.
  * Containment pressure peaked at 6 psig and is now 4.6 psig and stable.

What is the required CETC temperature and action?

a. 498°F, set both SG PORVs to current SG pressures to maintain RCS temperature constant and continue with steps to depressurize RCS.

b. 480°F, set 12 SG PORV to current SG pressure to maintain RCS temperature constant and continue with steps to depressurize RCS.

c. 471°F, open 11 SG PORV to cooldown the RCS at the maximum rate.

d. 465°F, open 12 SG PORV to cooldown the RCS at the maximum rate.

ANSWER
b.
Note: Provide a copy of 1E-3 page 7 step 7a
REFERENCE
1E-3 step 7 and bases
SWI-O-10 step 7.8.4.c
KA Statement:
Steam Generator Tube Rupture
Knowledge of operator responsibilities during all modes of plant operation.
HIGHER
BANK

Question # 009
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 054 AK3.03
QUESTION
Given the following:

- Unit 2 Reactor Trip from 55% power on loss of both Main Feedwater Pumps (MFP's).
- Both SG NR levels are offscale LOW.
- 11 SG WR level is 51%, 12 SG WR level is 48%.
- 11 AFW pump is running, 12 AFW pump is OOS.
- AFW flow is 120 gpm to 11 SG, 130 gpm to 12 SG.
- AFW pump discharge pressures is 1100 psig.
- RCS temperature is 542°F and decreasing slowly.

What action will be taken to control AFW flow in 1ES-0.1 REACTOR TRIP RECOVERY and why?

a. Isolate AFW flow to 11 SG to diagnose if 11 SG is ruptured. Flow to 12 SG may be controlled at any flowrate as 11 SG WR level is adequate to provide a heat sink.

b. Reduce AFW flow to both SG's as required to maintain AFW pump discharge pressure at or above the current pressure, as maintaining 11 AFW pump running is more important than maintaining AFW flow >200 gpm.

c. Reduce AFW flow to just over 100 gpm per SG to stop the RCS cooldown while maintaining a heat sink based on AFW flow.

d. Stop AFW flow to both SG's to stop the RCS cooldown, as SG level in 11 SG is adequate to provide a heat sink.

ANSWER
c.
REFERENCE
1ES-0.1 step 10 RNO, bases
1C28.1 Limitation 4.2
KA Statement:
Knowledge of the reasons for the following responses as they apply to the Loss of Main Feedwater (MFW): Manual control of AFW flow control valves.
HIGHER
BANK

Question # 010
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 055 EK1.02
QUESTION
Given the following:

- 2ECA-0.0, LOSS OF ALL SAFEGUARDS AC POWER is in progress.
- The RO performing the rapid depressurization of both SG's to 300 psig becomes distracted and does not close the SG PORVs when required.
- Pressure in both SG's reaches 180 psig before the depressurization is stopped.

What is the potential operational implication that could result from the excessive SG depressurization?

a. Nitrogen injection from the accumulators may occur, causing natural circulation flow in the RCS to be interrupted.

b. Transition to 2FR-P.1 RESPONSE TO IMMINENT PRESSURIZED THERMAL SHOCK could be required due to the excessive RCS cooldown.

c. Voiding may occur in the reactor vessel, causing the upper portion of the core to become uncovered and potentially causing core damage.

d. The TDAFW pump may trip on low discharge pressure due to the low steam supply pressure, resulting in a loss of heat sink.

ANSWER
a.
REFERENCE
1ECA-0.0 step 21, Caution and Bases
F-0.4
KA Statement:
Knowledge of the operational implications of the following concepts as they apply to the Station Blackout: Natural circulation cooling
MEMORY
BANK

Question #	011
Exam Date	2005/18/05
Facility	282
Reactor Type	PWR-WEC2
Exam Level	RO
K/A	056 AA2.17

QUESTION

All offsite power has been lost and safeguards buses are being supplied by their respective diesel generators.

How can the status of each Pressurizer Backup Heater Bank be determined from the Control Room?

a. Check for RED light indication on the associated Heater Bank Control Switch; if LIT, the bank is ENERGIZED.

b. Check for RED light indication on the Bank A and B Heater Bank Control Switches; if LIT, the bank is ENERGIZED.
Banks D and E are NOT energized regardless of control switch indication.

c. Use the ERCS M1.97 display to view the power supplied to Bank A heaters.
Banks B, D and E are NOT energized regardless of control switch indication.

d. Use the ERCS M1.97 display to view the power supplied to Bank A or Bank B heaters.
Banks D and E are NOT energized regardless of control switch indication.

ANSWER

d.

REFERENCE

ERCS M1.97 display
Fig B20.6-7b
Dwg PZP-026
MCC Report 1P2, 1R2

KA Statement:

Ability to determine and interpret the following as they apply to the Loss of Offsite Power:
Operational status of Pressurizer Backup Heaters

MEMORY

NEW

Question # 012
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 058 AK1.01
QUESTION
Given the following:

- Unit 1 is at 100% power.
- 12 battery charger shuts down due to an internal failure.
- 12 DC Panel voltage indicates 123.5 VDC.

What control room alarms are expected to be in at this time?

	47024-1105 12 DC SYSTEM TROUBLE	47024-1204 12 DC PANEL UNDERVOLTAGE
a.	Actuated	Actuated
b.	NOT actuated	Actuated
c.	Actuated	NOT actuated
d.	NOT actuated	NOT actuated

ANSWER
c.
REFERENCE
ARP 47024-1105, 1204
KA Statement:
Knowledge of the operational implications of the following concepts as they apply to Loss of DC Power: Battery charger equipment and instrumentation
MEMORY
BANK

Question # 013
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 062 AA1.07
QUESTION
Given the following:

- Unit 1 is at 100% power, Unit 2 is in MODE 5.
- 21 Cooling Water Pump is OOS.
- Buses 26 and 27 are OOS for bus inspections.
- All CFCU's are on cooling water for chiller repairs.

The following events occur:

- 11 Cooling Water Pump locks out.
- All equipment operates as designed EXCEPT 22 Diesel Driven Cooling Water Pump fails to start automatically or manually.
- Loop A Cooling Water Header Pressure is 75 psig, Loop B 70 psig.
- Loop A Cooling Water Flow is 9,000 gpm, Loop B is 10,000 gpm
- C35 AOP2 LOSS OF PUMPING CAPACITY OR COOLING WATER HEADER WITHOUT SI is in progress.

What action is required and why?

a. Isolate cooling water flow from Unit 1 and Unit 2 Train B CFCU's to reduce total flow demand on 12 DDCLP to below 17,500 gpm.

b. Split the cooling water headers by closing at least one valve in the 121 Cooling Water Header (ABCD valves) and either cooling water header crossover valve (MV-32144 or MV-32159) to restore one cooling water loop to OPERABLE pressure.

c. Manually start 121 Cooling Water Pump as it has failed to start automatically when required.

d. Trip Unit 1 Reactor and isolate cooling water flow to the Unit 1 turbine building to reduce cooling water flow to below 13,000 gpm.

ANSWER
a.
REFERENCE
C35 AOP2
KA Statement:
Ability to operate and/or monitor the following as they apply to the Loss of Nuclear Service Water (SWS): Flow rates to the components and systems that are serviced by the SWS; interactions among the components
HIGHER
NEW

Question # 014
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 065 AA1.05
QUESTION
Given the following:

- Unit 1 instrument air header pressure is lowering.
- Operators are responding per C34 AOP1 LOSS OF INSTRUMENT AIR.

What condition is expected to be the FIRST to require initiation of a manual reactor trip?

a. Lowering SG level due to Feedwater Regulating Valves drifting closed.

b. Main Steam Isolation Valves (MSIV's) dual indication from drifting closed.

c. Lowering Pressurizer level due to all charging pumps failing to minimum speed.

d. Increasing RCP stator temperatures due to CFCU dampers failing to the DOME position.

ANSWER
a.
REFERENCE
C34 AOP1 Attachment A
KA Statement:
Ability to operate and/or monitor the following as they apply to the Loss of Instrument Air: RPS
MEMORY
BANK

Question # 015
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A E04 EA1.1
QUESTION
Given the following:

- Reactor trip and safety injection from 100% power has occurred.
- Actions of 1E-0 REACTOR TRIP AND SAFETY INJECTION have been completed and a transition to 1ECA-1.2 LOCA OUTSIDE CONTAINMENT has been made.
- You are verifying the positions of the RHR Loop Suction Isolation valves per Step 1.

Which of the following correctly describes the expected condition of the Loop A(B) RHR Suction Isolation valves, and what action (if any) must be taken to verify this position?

a. The two loop side valves (MV-32164 and MV-32230) are labeled "Valve Closed/Breaker Open" and require local verification of valve position. The two RHR side valves (MV-32165 and MV-32231) are closed with power maintained, and verification can be made by the GREEN light lit.

b. The two loop side valves (MV-32164 and MV-32230) are labeled "Valve Closed/Breaker Open." If further verification is desired, the MCC breakers for the MOV's may be closed to restore light indication. The two RHR side valves (MV-32165 and MV-32231) are closed with power maintained, and verification can be made by the GREEN light lit.

c. All four isolation valve positions (MV-32164, MV-32165, MV-32230 and MV-32231) may be verified using light indication above their respective control switches with no local actions required.

d. All four isolation valves (MV-32164, MV-32165, MV-32230 and MV-32231) are labeled "Valve Closed/Breaker Open." The MCCB's associated with the MOV's must be closed and closure attempted with control board switches.

ANSWER
b.
REFERENCE
1C15 (RHR) section 5.7 "Shutdown and Alignment for ECCS Operation"
Fig B15-01
1ECA-1.2 Step 1
KA Statement:
Ability to operate and/or monitor the following as they apply to the LOCA Outside Containment: Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features
MEMORY
NEW

Question # 016
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A E05 EK2.2
QUESTION
The crew has just transitioned from 1E-1 LOSS OF REACTOR OR SECONDARY COOLANT to 1FR-H.1 RESPONSE TO LOSS OF SECONDARY HEAT SINK.

1FR-H.1 Step 1 directs a transition to procedure and step in effect (1E-1) IF RCS pressure is less than all intact SG pressures. What is the reason for this transition?

a. Providing main or auxiliary feedwater to SG's under these conditions may halt natural circulation core cooling.

b. Core decay heat is being removed by the break flow AND the secondary heat sink is NOT required.

c. Initiating ANY feed flow under reverse delta-P conditions increase the likelihood of a SG tube rupture.

d. Auxiliary feedwater flow was isolated based on RCS cooldown and 1FR-H.1 actions to restore are not required.

ANSWER
b.
REFERENCE
1FR-H.1 Step 1 and caution, bases
1E-0 Step 8, 1E-1 Step 3 (AFW control steps)
KA Statement:
Knowledge of the interrelations between the (Loss of Secondary Heat Sink) and the following: Facility's heat removal systems, including primary coolant, emergency coolant, the decay heat removal systems, and relations between the proper operation of these systems to the operation of the facility.
MEMORY
BANK

Question # 017
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A E11 EK3.4
QUESTION
Given the following:

- A LOCA has occurred on Unit 1.
- Bus 112 is locked out, deenergizing MCC's 1LA1, 1M1, 1X1, and 1L1.
- Containment pressure has peaked at 48 psig and is now 21 psig and decreasing.
- RWST level is 27% and decreasing.
- Both containment spray pumps are operating.
- 1ECA-1.1 LOSS OF EMERGENCY COOLANT RECIRCULATION is in progress at Step 5.

What actions should be taken with regard to the Containment Spray pumps in Step 5?

a. Both spray pumps are stopped to preserve RWST inventory.

b. One spray pump is stopped to preserve RWST inventory. The other should remain operating until containment pressure is below 20 psig, then it should be stopped as the operating CFCU's provide adequate containment heat removal.

c. One spray pump is stopped to preserve RWST inventory. The other remains operating until RWST level is 8%, then it should be stopped to prevent pump damage.

d. Both spray pumps remain running as the operating CFCU's do not provide adequate containment heat removal.

ANSWER
b.
REFERENCE
1ECA-1.1 step 5 and bases
B19
NF-40022-1
KA Statement:
Knowledge of the reasons for the following responses as they apply to the (Loss of Emergency Coolant Recirculation): RO or SRO function within the control room team as appropriate to the assigned position, in such a way that procedures are adhered to and the limitations in the facilities license and amendments are not violated.
HIGHER
MODIFIED

Question # 018
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A E12 2.1.2
QUESTION
Given the following:

- Both SG's are faulted to containment.
- Actions of 1ECA-2.1 UNCONTROLLED DEPRESSURIZATION OF BOTH STEAM GENERATORS are in progress.
- Secondary pressure boundary isolation is complete.
- The following conditions exist:
- Containment pressure is 35 psig and decreasing.
- RCS temperature is 325°F and rising.
- RCS pressure is 1485 psig and rising.
- Pressurizer level is offscale low.
- 11 SG WR level is 3% and stable, pressure is 35 psig.
- 12 SG WR level is 8% and decreasing, pressure is 80 psig.
- AFW flow to 11 SG is 0 gpm, 12 SG is 50 gpm.

What action MUST the RO take to stabilize the plant?

a. Increase AFW flow to 12 SG ONLY as needed to stabilize temperature at 325°F.

b. Increase AFW flow to both SG's simultaneously as needed to stabilize temperature at 325°F.

c. Increase spray flow or open a PZR PORV to prevent a repressurization of the RCS and pressurized thermal shock.

d. Stop SI pumps to prevent a repressurization of the RCS and pressurized thermal shock.

ANSWER
a.
REFERENCE
1ECA-2.1 and bases
1FR-H.5
KA Statement:
Steam Line Rupture- Excessive Heat Transfer Knowledge of operator responsibilities during all modes of operation.
HIGHER
MODIFIED

Question # 019
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 001 AK2.06
QUESTION
Given the following conditions:

- Unit 1 is at 50% reactor power and increasing.
- Tavg is 554°F and increasing.
- Tref is 560.5°F and stable.
- Turbine impulse pressure is 260 psig and increasing.
- Turbine control is in IMP OUT.
- Rods are in AUTO and withdrawing.

What event is occurring?

a. Tref circuit failed high causing a continuous rod withdrawal.

b. Excess steam demand caused by a SG PORV opening.

c. Tavg channel failed low causing a continuous rod withdrawal.

d. Excess steam demand caused by turbine control valve opening.

ANSWER
a.
REFERENCE
1C5AOP1 Symptoms
Fig B5-6, B7-4
KA Statement:
Knowledge of the interrelations between the Continuous Rod Withdrawal and the following:
Tave/ref deviation meter
HIGHER
MODIFIED

Question # 020
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 067 AK3.04
QUESTION
A fire is in progress in Zone 19, 715' elevation Auxiliary Building - Unit 1 side.

Unit 1 reactor has been tripped and MSIV's closed per F5 Appendix D IMPACT OF FIRE OUTSIDE CONTROL/RELAY ROOM.

The next step in F5 Appendix D directs opening of MCC breakers 1LA1-B2/1LA2-C2, 1 RCS LP A(B) HOT LEG RHR SPLY (OUTSIDE).

Why are these breakers opened?

a. The fire may cause a loss of remote closure capability.

b. To prevent spurious opening of the MOV's due to hot shorts of the control wiring.

c. To allow manual operation of the valves during the cooldown after the fire is out.

d. To prevent a loss of RHR suction due to hot shorts of the control wiring.

ANSWER
b.
REFERENCE
1C15
F5 Appendix D p. 42
KA Statement:
Knowledge of the reasons for the following responses as they apply to the Plant Fire On Site: Actions contained in EOP for a plant fire on site
MEMORY
NEW

Question # 021
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 028 AK2.02
QUESTION
The Pressurizer Level Control Selector Switch is in the White-Blue (2-3) position.

Which level channel failure WILL NOT cause letdown to isolate?

a. White channel failed LOW.

b. White channel failed HIGH.

c. Blue channel failed LOW.

d. Blue channel failed HIGH.

ANSWER
b.
REFERENCE
Fig B7-20
KA Statement:
Knowledge of the interrelations between the Pressurizer Level Control Malfunctions and the following: Sensors and detectors
HIGHER
BANK

Question #	022
Exam Date	2005/18/05
Facility	282
Reactor Type	PWR-WEC2
Exam Level	RO
K/A	068 AA2.07

QUESTION
Given the following:

- You are the Unit 1 RO.
- Unit 1 has been tripped and the control room evacuated per 1C1.3 AOP1 SHUTDOWN FROM OUTSIDE THE CONTROL ROOM due to toxic gas.
- You note the following indications at the Hot Shutdown Panel:
- 11 Charging Pump is running and 12 and 13 Charging Pumps are off.
- One letdown orifice is in service.
- 1LI-433 Cold Cal Pressurizer Level indication is 19% .
- Communications have NOT been established with other crew personnel.

What action should be taken from the Hot Shutdown Panel in regard to CVCS operation?

a. Start additional charging pump(s) as necessary to raise Pressurizer level to 30%.

b. Verify automatic control is maintaining Pressurizer level stable.

c. Increase 11 Charging Pump speed to raise Pressurizer level to 21%.

d. Isolate letdown as automatic isolation has failed to occur when expected.

ANSWER
b.
REFERENCE
1C1.3 AOP1 step 2.4.17
HSD-28
KA Statement:
Ability to determine and interpret the following as they apply to the Control Room Evacuation:
Pzr Level
MEMORY
MODIFIED

Question # 023
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A E02 EK1.1
QUESTION
Given the following conditions:

- Both SI and both CS pumps are running following a steamline break.
- Both RHR pumps have been stopped.
- Containment pressure is 32 psig and decreasing.
- SI Termination criteria are met and the crew transitions to 1ES-0.2 SI TERMINATION

What order of actions is directed for stopping pumps and establishing inventory control?

a. CS pumps are stopped, then charging flow is established, then SI pumps are stopped.

b. SI pumps are stopped, then charging flow is established, then CS pumps are stopped when containment pressure is less than 20 psig.

c. SI pumps are stopped, then CS pumps are stopped, then charging flow is established.

d. Charging flow is established, then SI pumps are stopped, then CS pumps are stopped when containment pressure is less than 20 psig.

ANSWER
d.
REFERENCE
1ES-0.2
KA Statement:
Knowledge of the operational implications of the following concepts as they apply to the (SI Termination): Components, capacity and function of emergency systems
HIGHER
BANK

Question # 024
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A E03 2.4.31
QUESTION
Given the following conditions:

- A small break LOCA has occurred on Unit 1.
- 1ES-1.1 POST-LOCA COOLDOWN AND DEPRESSURIZATION is in progress.
- 11 SI pump is running, 12 SI pump has been stopped.
- Annunciator 47016-0204 11 RWST LO LVL is received and acknowledged by you.
- You note RWST level is 33% and decreasing.
- The SS has been notified of the alarm.

Which one of the following describes the action required by ARP 47016-0204?

a. Transition to 1ES-1.2 TRANSFER TO RECIRCULATION to ensure core cooling is maintained.

b. Continue in 1ES-1.1 and stop the second SI pump when directed. Transfer to Recirculation is only required for a Large Break LOCA event.

c. Initiate a transfer to the Unit 1 RWST from the CVCS Holdup Tanks per C12 to increase level above the alarm setpoint.

d. Stop 12 SI pump and verify subcooling remains adequate, as pump damage may result from continued operation at this RWST level.

ANSWER
a.
REFERENCE
ARP 47016-0204
1ES-1.1
SWI-O-0 Att 1 Alarm Response
KA Statement:
LOCA cooldown and depressurization
Knowledge of annunciators alarms and indications, and the use of the response instructions.
MEMORY
MODIFIED

Question # 025
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A E07 EA1.1
QUESTION
Given the following:

- 1ECA-3.2 SGTR WITH LOSS OF REACTOR COOLANT: SATURATED RECOVERY is in progress.
- RCS Tave is 552°F and lowering.
- 12 SG is isolated with level 65% NR, rising at 2%/minute.
- Cooldown of the RCS is in progress using the Condenser Steam Dumps from 11 SG.
- A 95°F/hr cooldown rate has been established using steam dump MANUAL control.
- 11 SG steam flow is 0.75×10^6 lbm/hr.
- Pressurizer level is 30% and rising at 3%/minute.
- NO further operator action is taken.

Which ONE of the following conditions will occur FIRST assuming current trends continue?

a. 11 MSIV automatically closes.

b. 12 SG level goes offscale high.

c. Steam Dump flow is lost.

d. Pressurizer fills water solid.

ANSWER
c.
REFERENCE
ARP 47011-0203
2ECA-3.1, 2ECA-3.2
KA Statement:
Ability to operate and/or monitor the following as they apply to the (Saturated Core Cooling): Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.
HIGHER
MODIFIED

Question # 026
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A E08 EA1.3
QUESTION
Given the following:

- 1FR-P.1 RESPONSE TO IMMINENT PRESSURIZED THERMAL SHOCK has been entered following a steamline break.
- Both RCP's were tripped during 1E-0 Immediate Actions.
- RCS cold leg cooldown rate was 250°F/hr during the past hour.
- An RCS soak is required.

Which of the following actions is allowed during the soak?

a. Energizing pressurizer heaters to increase subcooling.

b. Starting one RCP to equalize loop temperatures and to restore normal pressurizer spray control.

c. Establishing Auxiliary Spray and operating pressurizer spray and heaters to maintain RCS pressure at or below current pressure.

d. Initiating an RCS cooldown of less than 50°F/hr and maintaining RCS temperature and pressure within the limits of Figure FRP1-1.

ANSWER
c.
REFERENCE
1FR-P.1 Step 23 and bases
KA Statement:
Ability to operate and/or monitor the following as they apply to (Pressurized Thermal Shock): Desired operating results during abnormal and emergency situations.
MEMORY
MODIFIED

Question # 027
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A E10 EK1.1
QUESTION
Given the following plant conditions:

- An earthquake causes a Reactor Trip with loss of power to RCP's.
- 2ES-0.3A NATURAL CIRCULATION COOLDOWN WITH CRDM FANS is in progress.
- A 25°F/hr cooldown rate has been established.
- RCS depressurization has been initiated using pressurizer PORVs.
- RCS voiding is detected by unexpected large changes in pressurizer level.
- The Shift Manager determines CST level is inadequate to support AFW flow for the expected cooldown duration.

Which of the following actions will allow the RCS to be placed on RHR cooling in the SHORTEST POSSIBLE time?

a. Actuating Safety Injection due to inadequate subcooling and transitioning to 2E-0 REACTOR TRIP OR SAFETY INJECTION.

b. Increasing steam dump flow to increase the cooldown rate to 100?F/hr, and remain in 2ES-0.3A.

c. Allowing the RCS to repressurize to collapse the voids, and swapping AFW to cooling water when CST level is lost.

d. Transitioning to 2ES-0.4 NATURAL CIRCULATION COOLDOWN WITH STEAM VOID IN VESSEL to increase the allowable cooldown rate to 100?F/hr.

ANSWER
d.
REFERENCE
2ES-0.3A
2ES-0.4
KA Statement:
Knowledge of the operational implications of the following concepts as they apply to the (Natural Circulation with Steam Void in Vessel with/without RVLIS): Components, capacity, and function of emergency systems.
HIGHER
MODIFIED

Question #	028
Exam Date	2005/18/05
Facility	282
Reactor Type	PWR-WEC2
Exam Level	RO
K/A	003 K2.01

QUESTION

Which of the following correctly describes ALL the transformers that can be aligned to supply Unit 2 Reactor Coolant Pumps per 2C20.5 UNIT 2- 4.16KV SYSTEM?

a. 2M, 2RX, 1R

b. 2M, 2RX, 1M

c. 2M, 2RY, 1R, 1M

d. 2M, 2RY

ANSWER

a.

REFERENCE

2C20.5 Table of Contents

Fig B20.5-1

KA Statement:

Knowledge of the power supplies to the following: RCP's

MEMORY

NEW

Question # 029
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 004 K4.07
QUESTION
Given the following:

- VCT Level Transmitter 1LT-112 is indicating 3% higher than 1LT-141.
- 1LT-141 level decreases to 2%.

The VCT outlet MOV will be ________ and the RWST to Charging MOV will be _________.

a. open; open

b. open; closed

c. closed; open

d. closed; closed

ANSWER
b.
REFERENCE
B12A p. 20
Fig B12A-3
KA Statement:
Knowledge of CVCS design feature(s) and/or interlock(s) which provide for the following:
Water supplies
HIGHER
NEW

Question # 030
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 005 K1.09
QUESTION
Given the following:

- Unit 1 RCS is solid.
- One Reactor Coolant Pump is running.
- Both RHR pumps and heat exchangers are in service with 4000 gpm total RHR flow.
- RHR is in a normal shutdown cooling lineup per 1C1.3 UNIT 1-SHUTDOWN.
- CV-31237 11/12 RHR HX BYPASS FLOW controller setpoint is 66%.
- CV-31235 11 RHR HX RC OUTLET FLOW (1HC-624) setpoint is 60%.
- CV-31236 12 RHR HX RC OUTLET FLOW (1HC-625) setpoint is 60%.
- RCS temperature is 295°F and stable.

12 RHR pump locks out and NO operator actions are taken.

What will be the response of the RCS and why? RCS temperature will...

a. remain the same, as CV-31237 will throttle CLOSED to reduce total flow to 2000 gpm, resulting in the same flow through the RHR heat exchangers.

b. increase, as 12 RHR heat exchanger is no longer receiving flow and total heat removal is cut in half.

c. decrease, as CV-31235 and CV-31236 will throttle OPEN to attempt to maintain total flow at 4000 gpm, resulting in more heat removal.

d. increase, as CV-31237 will throttle OPEN to attempt to maintain total flow at 4000 gpm, reducing the flow through the RHR heat exchangers.

ANSWER
d.
REFERENCE
1C1.3 step 5.8.5
1C15 steps 5.1.14, 5.1.36, 5.1.38
B15 p. 10
KA Statement:
Knowledge of the physical connections and/or cause-effect relationships between the RHRS and the following systems: RCS
HIGHER
NEW

Question # 031
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 006 A1.12
QUESTION
Given the following:

- Unit 2 is proceeding to MODE 5 due to repairs to 22 Component Cooling Pump that are expected to take longer than the allowed time by Technical Specifications.
- RCS temperature is 335°F and pressure is 375 psig.
- Engineering analyses to support cross-tying 12 CC pump to Unit 2 CC are expected to take another 36 hours to complete.
- LCO 3.7.7 COMPONENT COOLING WATER requires the unit to be in MODE 5 in the next 30 hours.

IF RHR is placed in service at this time, what would happen? How can this be prevented?

a. Train A RHR alone would not have the heat removal capacity to remove decay heat in MODE 4. Place RHR in service now, but maintain steam dump to the condenser to allow reaching Cold Shutdown within the LCO 3.7.7 time limit.

b. 21 Component Cooling Pump will operate in runout as the procedure requires both RHR HX CC supply and return valves open. Maintain current RCS temperature until a second CC pump is available and notify the SS that LCO 3.7.7 requirements cannot be met.

c. Boiling would occur in 22 RHR Heat Exchanger. Cool down the RCS below 225°F using steam dump prior to placing RHR in service.

d. Boiling would occur in 22 RHR Heat Exchanger. Maintain CV-31239 22 RHR HX RC OUTLET FLOW closed using 2HC-625 to stop RHR flow through the heat exchanger.

ANSWER
c.
REFERENCE
2C15
LCO 3.7.7
KA Statement:
Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the ECCS controls including: RHR heatup limits
HIGHER
NEW

Question # 032
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 006 2.2.22
QUESTION
Given the following:

- Fuel handling is in progress in the Unit 1 containment and the Spent Fuel Pool.
- Bus 16 is OOS for a bus inspection.
- Alarm 47016-0102 11 RHR PUMP LOCKED OUT is received and the pump breaker is tripped.
- The WIN team and Operators are investigating.

What is the Technical Specification impact (if any) of the above failure?

a. None, no RHR pump is required to be OPERABLE when pool level is >23 feet.

b. The required RHR loop is allowed to be OOS for up to 1 hour per 8 hours provided no dilutions of the RCS are allowed.

c. One hour is allowed to restore an RHR loop to service before fuel handling must be stopped and containment closure initiated.

d. Fuel handling and any operations that may dilute the RCS must be stopped immediately, and containment closure must be completed within 4 hours.

ANSWER
d.
REFERENCE
LCO 3.9.5
KA Statement:
RHR system
Knowledge of limiting conditions for operations and safety limits.
MEMORY
NEW

Question # 033
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 013 K5.02
QUESTION
SP 1032A SAFEGUARDS LOGIC TEST AT POWER- TRAIN A is in progress and annunciator 47018-0305 SAFEGUARD LOGIC TRAIN A TEST is ON.

IF the RO operates a Safety Injection control board switch to the ACTUATE position, what will occur?

a. No SI actuation or reactor trip will occur on either train.

b. SI actuation will occur on ‘B’ train immediately, the reactor will trip, then SI actuation will occur on ‘A’ train.

c. SI actuation will occur on 'B' train only, and the reactor will trip.

d. SI actuation will occur on both trains, and the reactor will trip.

ANSWER
d.
REFERENCE
SP1032A section 8.4
Fig B18C-6
KA Statement:
Knowledge of the operational implications of the following concepts as they apply to the ESFAS: Safety system logic and reliability
HIGHER
MODIFIED

Question # 034
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 008 K1.01
QUESTION
During the startup of Unit 2 from a refueling outage, the Component Cooling Heat Exchanger Outlet CV travel stops were NOT returned to their normal position for power operation.

IF a design basis accident occurs on Unit 1, what will be the effect of the travel stop position?

a. Excessive cooling water flows will result in cavitation of the safeguards Cooling Water Pumps and threaten the ultimate heat sink for decay heat removal.

b. Cooling water flows to Unit 1 and Unit 2 emergency diesel generators will be reduced below minimum flows to maintain OPERABILITY.

c. Component Cooling temperatures on Unit 1 will increase above design limits due to the reduced cooling availability in the CCHX, resulting in insufficient heat removal during the injection phase.

d. Cooling water flows to Unit 1 components such as Containment Fan Coil Units and Diesel Generators may NOT be adequate to support design bases requirements.

ANSWER
d.
REFERENCE
C35 precaution 3.2
1C15 section 5.8
DBD Component Cooling System p. 198
KA Statement:
Knowledge of the physical connections and/or cause-effect relationships between the CCWS and the following systems: Service water system
MEMORY
NEW

Question # 035
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 010 K6.02
QUESTION
Given the following:

- Unit 2 at 100% power.
- All systems in a normal at-power lineup.
- 2PT-431 (Blue) output fails LOW.

What will be the automatic response (if any) of the Pressurizer Pressure Control System with NO operator action?

a. Pressurizer heaters in AUTO energize
Pressurizer spray goes to minimum
Pressurizer pressure increases
PORV PCV-430 cycles to maintain pressure below the reactor trip setpoint.

b. Pressurizer heaters in AUTO energize
Pressurizer spray goes to minimum
Pressurizer pressure increases
PORV PCV-430 and PCV-431C open to prevent pressure from reaching the Pressurizer High Pressure Reactor Trip setpoint.

c. Pressurizer heaters in AUTO energize
Pressurizer spray goes to minimum
Pressurizer pressure increases
PORV PCV-430 opens but cannot prevent pressure from reaching the Pressurizer High Pressure Reactor Trip setpoint.

d. Pressurizer pressure remains the same
PORV PCV-430 will NOT open on an actual high pressure.

ANSWER
a.
REFERENCE
1C51.3
X-HIAW-1-7 RCS flow diagram
Fig B7-14 Pzr Pressure Control System
KA Statement:
Knowledge of the effect of a loss or malfunction of the following will have on the PZR PCS: PZR
HIGHER
MODIFIED

Question # 036
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 012 K5.01
QUESTION
Given the following:

- Reactor is at 100% power.
- Control Bank D rods are at 218 steps in AUTO.
- AFD is 0.
- Tavg is 560°F.

Which one of the following would REDUCE the margin to Departure from Nucleate Boiling (DNB)?

a. Auctioneered high Tavg signal fails LOW.

b. PT-485 First Stage Turbine Impulse Pressure fails LOW.

c. Rods are manually inserted to 200 steps while diluting to maintain Tavg constant.

d. Controlling Pressurizer Pressure channel fails LOW.

ANSWER
a.
REFERENCE
LCO 3.3.1 Table 3.3.1-1 p 7
COLR section 3.3.1
Fig B5-6
Fig B7-14
KA Statement:
Knowledge of the operational implications of the following concepts as they apply to the RPS:
DNB
HIGHER
BANK

Question # 037
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 013 K4.10
QUESTION
3.3
Imp. SRO

Given the following:

0145 Reactor trip and safety injection due to Pressurizer Pressure at 1810 psig.

0158 RCS pressure stabilized at 2021 psig.

0202 SI Train A&B reset pushbuttons depressed.

0208 Reactor trip breakers manually closed and immediately tripped back open.

0315 Reactor trip breakers manually closed and remained closed.

At what time did the automatic Safety Injection signals regain the ability to cause an SI?

a. 0158

b. 0202

c. 0208

d. 0315

ANSWER
c.
REFERENCE
1ES-0.2 step 8 and note
Fig B18C-6- top right RTA contact in SIR A relay circuit to reset auto SI
Note: Uses Fig B18C-6 previously provided for Question #33
KA Statement:
Knowledge of ESFAS design feature(s) and/or interlock(s) which provide for the following:
Safeguards equipment control reset
HIGHER
MODIFIED

Question # 038
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 022 A1.02
QUESTION
Given the following on Unit 1:

- The Unit was at 100% power.
- A steam line break occurred in Containment.
- The reactor and turbine tripped.

The following conditions are noted:

- Containment pressure is 28 psig and increasing.
- B Train Containment Spray failed to actuate automatically or manually.

What action (if any) is required to prevent exceeding Containment design pressure limits?

a. Locally start 12 Containment Spray Pump and manually open the discharge valve.

b. Reset Containment Spray and stop Train A Containment Spray.

c. Verify all four CFCU's are operating in Slow with full Cooling Water flow.

d. None, one train of Containment Spray is adequate.

ANSWER
d.
REFERENCE
Basis TS 3.6.5
KA Statement:
Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the CCS controls including: Containment pressure
HIGHER
NEW

Question # 039
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 026 A3.01
QUESTION
Given the following on Unit 2:

- Bus 25 and 26 are powered from CT12.
- A Large Break LOCA occurred.
- Containment pressure reached 38 psig.

10 minutes later

- CT 12 transformer locks out.
- D5 and D6 start and load on the Safeguards busses.

What is the response of the Containment Spray System?

Both Containment Spray pumps trip and . . .

a. lock out. The CS discharge valves fail closed.

b. the CS discharge valves close. Manual actuation of Containment Spray is required to restore CS flow.

c. must be manually restarted, and the CS discharge valves reopen.

d. restart 5 seconds after power is restored, and the CS discharge valves reopen.

ANSWER
d.
REFERENCE
B18D
KA Statement:
Ability to monitor automatic operation of the CSS, including: Pump starts and correct MOV positioning
HIGHER
NEW

Question # 040
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 039 A3.02
QUESTION
Given the following:

- Unit 1 is at 50% power during a power reduction to turbine offline per 1C1.4 POWER OPERATION.
- Turbine LP steam inlet temperature is 425°F and increasing.
- CS-43082,1 TURB RHTRS MS SPLY CL/HOLD/OP CS is in the HOLD position.

What has occurred, and what action is required in regard to Turbine LP Steam Inlet Temperature?

a. MSR heating is more effective due to higher supply pressure and lower turbine steam flow.
Momentarily place CS-43082 in CLOSE until Turbine LP Steam Inlet temperature is below 400°F. Repeat until closed without exceeding the 100°F/hr cooldown rate or 50°F step change limits.

b. MSR heating is more effective due to higher supply pressure and lower turbine steam flow.
Place CS-43082 to CLOSE. The ramp generator will automatically throttle closed the steam supply valves such that the 100°F/hr cooldown limit is NOT violated.

c. The MSR Steam Supply Controller has failed to maintain LP steam inlet temperature constant while in the HOLD position as designed.
Momentarily place CS-43082 in CLOSE until Turbine LP Steam Inlet temperature is below 400°F. Repeat until closed without exceeding the 100°F/hr cooldown rate or 50°F step change limits.

d. The MSR Steam Supply Controller has failed to maintain Turbine LP Steam Inlet Pressure constant while in the HOLD position as designed.
Trip the turbine. The Turbine LP Steam Inlet Temperature is outside allowed operating limits established to prevent blade rubbing and associated turbine damage.

ANSWER
a.
REFERENCE
1C1.4 step 5.2.15.C and note/caution prior
B22A p. 12
KA Statement:
Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the MRSS controls including: Isolation of the MRSS
HIGHER
NEW

Question # 041
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 039 K3.06
QUESTION
Given the following conditions:

- The plant is at 8% power.
- Main turbine rollup completed at 1800 rpm.
- Steam Dump Control is in Steam Pressure mode with AUTO setpoint at 1005 psig.
- Main Steam Line Pressure Transmitter PT-484 fails high.

Which action(s) will occur?

a. The Condenser Steam Dump ONLY opens and will remain open until manual action is taken.

b. The Condenser Steam Dump ONLY opens but re-closes when RCS temperature decreases to 540°F.

c. The Condenser and all Atmospheric Steam Dump valves open, but re-close when RCS temperature decreases to 540°F.

d. The Condenser and all Atmospheric Steam Dump valves open, and pressure continues to decrease until automatic MSIV closure occurs.

ANSWER
c.
REFERENCE
B7
Fig B7-8
Fig B7-12
KA Statement:
Knowledge of the effect that a loss or malfunction of the Main and Reheat Steam System (MRSS) will have on the following: Steam dump system
HIGHER
BANK

Question # 042
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 059 K4.02
QUESTION
Given the following:

- Unit 1 is at 35% power.
- 11 and 12 Condensate pumps are in service.
- 13 Condensate pump is OOS.
- 11 FW pump is in service, 12 FW pump is off.
- 11 FW pump lube oil pressure decreases to 4 psig.

What action will occur?

a. 12 FW pump will auto start on low FW pump discharge pressure prior to 11 FW pump trip.

b. 11 FW pump will immediately trip, causing a turbine trip, which in turn causes a reactor trip.

c. 11 FW pump will immediately trip, causing a reactor trip, which in turn causes a turbine trip.

d. 11 FW pump will eventually seize up and the reactor will trip on SG Lo-Lo level.

ANSWER
b.
REFERENCE
B7
B28A
1C1.4
B23
KA Statement:
Knowledge of the MFW design feature(s) and/or interlock(s) which provide for the following:
Automatic turbine/reactor trip runback
HIGHER
NEW

Question # 043
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 061 K1.09
QUESTION
Given the following:

- Unit 2 has a design basis Steam Generator Tube Rupture.
- The Reactor has been tripped.
- The Turbine Driven Aux Feed pump is running.
- TDAFW steam from the ruptured Steam Generator has NOT been isolated.

How is the radioactive steam release from the TDAFW pump monitored?

a. Shield Building Stack radiation monitoring.

b. Aux Building Stack radiation monitoring.

c. It is manually calculated based on steam line activity, as direct monitoring is NOT available.

d. ERCS estimates the release based on steam line activity and flow, as direct monitoring is NOT available.

ANSWER
d.
REFERENCE
B27
NF-39218
B11
B37A
KA Statement:
Knowledge of the physical connections and/or cause-effect relationship between the AFW and the following systems: Process radiation monitoring system
MEMORY
NEW

Question # 044
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 062 K3.02
QUESTION
Given the following:

- Unit 2 is at 100% with a normal electrical alignment.
- Alarm 47524-0704 BUS SEQUENCER - CHANNEL ALERT is received, shortly followed by 47524:0304, BUS 26 4.16KV DEGRADED VOLTAGE.
- No other annunciators are received.
- CT12 Substation voltage is 3850V.
- Bus 26 voltage is 3820V.

IF Bus 26 Voltage does NOT change, Emergency Diesel Generator D6 will . . .

a. start and its output breaker will close when the source from CT12 opens.

b. NOT start because Bus 26 voltage is still above the D6 auto-start setpoint for Bus 26 voltage.

c. NOT start because Bus 26 will LOCKOUT due to sustained degraded voltage.

d. start but its output breaker will remain open because Bus 26 will LOCKOUT.

ANSWER
a.
REFERENCE
B20.5
C47524-0304
C47524-0704
KA Statement:
Knowledge of the effect that a loss or malfunction of the AC distribution system will have on the following: ED/G
MEMORY
BANK

Question # 045
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 062 A4.03
QUESTION
Given the following:

- D1 Diesel generator is being paralleled to Bus 15.
- Incoming volts are 122, running volts 120.
- Synchroscope is rotating slowly in the clockwise direction.
- Synchroscope is approaching the 12 o'clock position.

When the D1 output breaker is closed, D1 will pick up à

a. less than the expected KW load and receive VAR load.

b. the expected KW load and deliver VAR load.

c. the expected KW load, and receive VAR load.

d. NO KW load, and deliver VAR load.

ANSWER
b.
REFERENCE
C20.7
KA Statement:
Ability to manually operate and/or monitor in the control room: Synchroscope, including an understanding of running and incoming voltages
HIGHER
MODIFIED

Question # 046
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 063 A1.01
QUESTION
During a loss of all AC power, 21 Battery is discharging to supply safeguards loads. Additional DC loads are being added to address emergent plant conditions.

With the battery discharging at a higher rate, what is the effect (if any) on remaining battery capacity and why?

a. Battery capacity will be increased, because the battery operates more efficiently at the higher discharge rate.

b. Battery capacity will be reduced, because the internal battery resistance combined with higher amp draw will waste more battery capacity as internal heating.

c. Battery capacity will NOT be affected, because the available power is dependent only on the characteristics of the cells and the number of cells in the battery bank.

d. Battery capacity will be reduced, because the battery is sized only to provide expected safeguards loading, and any additional loading will reduce battery voltage below 105VDC.

ANSWER
b.
REFERENCE
B20.9 section 3.1
SR 3.8.6.6 bases p. 3.8.6-10
KA Statement:
Ability to predict and/or monitor changes in parameters associated with operating the DC electrical system controls including: Battery capacity as it is affected by discharge rate
HIGHER
NEW

Question # 047
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 073 A4.03
QUESTION
You are performing the test of R-18 WASTE LIQUID DISPOSAL LIQUID EFFLUENT MONITOR in preparation for a release of the 121 ADT Monitor Tank.

What control board alarms are expected, and when are they expected?

When the Operational Selector Switch is taken to CHECK SOURCE, 47022-0209 RAD MONITOR CHECK SOURCE ACTUATED is received...

a. ONLY.
When the Operational Selector Switch is taken to PULSE CAL, no alarms are expected.

b. and 47022-0208, RAD MONITOR DOWNSCALE FAILURE is received.
When the Operational Selector Switch is taken to PULSE CAL, 47022-0108 HI RADIATION TRAIN B is received.

c. and 47022-0107 HI RADIATION TRAIN B is received.
When the Operational Selector Switch is taken to PULSE CAL, 47022-0108 HI RADIATION TRAIN B will reflash.

d. ONLY.
When the Operational Selector Switch is taken to PULSE CAL, 47022-0108 HI RADIATION TRAIN B is received.

ANSWER
d.
REFERENCE
C47022-0108, 0208, 0209
47048 R-18 ARP
C21.1-5.1 section 5.4
KA Statement:
Ability to manually operate and/or monitor in the control room: Check Source for Operability Demonstration
MEMORY
MODIFIED

Question # 048
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 064 K6.08
QUESTION
Given the following:

- A Loss of Offsite Power occurred 1.5 hours ago.
- D1, D2, D5 and D6 are powering their respective safeguards buses.
- C47024-1203, D1 EMERGENCY GENERATOR LOCAL ALARM is received in the Control Room.
- The Unit 1 Turbine Building Operator reports the alarm is D1 FUEL OIL LEVEL LOW DAY TANK.

What actions are required?

a. Close Bus Tie Breakers between Bus 15 and Bus 25 to prevent a power interruption, then trip D1 output breaker and stop D1.

b. Immediately trip open the D1 output breaker and stop D1 to prevent imminent damage as a result of a loss of fuel oil suction.

c. Transfer Safeguards loads to Train B to ensure no loss of required systems, then open D1 output breaker and stop D1. Restore power to Bus 15 from D5.

d. Cross connect Unit 2 Fuel Oil Transfer Pumps to D1 Emergency Diesel Generator Day Tank and manually operate as required to maintain level and continue D1 operation.

ANSWER
c.
REFERENCE
C47024-1203
C55300-0303
B38B
Fig B38B
1C20.5 AOP1
KA Statement:
Knowledge of the effect of a loss or malfunction of the following will have on the ED/G system:
Fuel oil storage tanks
HIGHER
NEW

Question # 049
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 064 2.2.22
QUESTION
Given the following:

- Unit 2 is in Mode 6.
- Fuel Handling is in progress.
- D5 is OOS for 5 year Preventative Maintenance.
- Water is found in the D5/D6 Fuel Oil tanks and D6 is declared INOPERABLE.

What action(s) are required?

a. Immediately suspend fuel handling and initiate action to restore D6 to Operable status.

b. Initiate SP-2118 within 1 hour and restore D6 to Operable within 7 days.

c. Enter LCO 3.0.3 immediately.

d. Initiate action to restore D5 or D6 to Operable status within 1 hour.

ANSWER
a.
REFERENCE
LCO 3.8.1
LCO3.8.2
ARP C47524-1004
KA Statement:
Emergency diesel generator
Knowledge of limiting conditions for operation and safety limits
MEMORY
NEW

Question # 050
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 078 K3.03
QUESTION
Given the following:

- Both units are at 100% power.
- 122 and 123 Instrument Air Compressors running in PREFERRED.
- 121 Instrument Air Compressor in FIRST STANDBY.
- A pipe break occurs on the outlet of the 123 Instrument Air Receiver.
- Attempts to start 121 Instrument Air Compressor are unsuccessful.

How will the Instrument Air System respond as header pressure decreases, and what effect will this have on the units?

Instrument Air header isolation valve(s) . . .

a. MV-32314 closes to align 122 Instrument Air Compressor to Unit 2.
Unit 1 Instrument Air header will be isolated and a reactor trip will be required.

b. MV-32315 closes.
122 Instrument Air Compressor will supply Unit 1 air header.
Unit 2 Instrument Air pressure will continue to decrease and a reactor trip will be required.

c. MV-32314 and MV-32315 close.
Unit 1 air header will be isolated and a unit trip will result.
122 Instrument Air Compressor will stop after running unloaded.
Unit 2 Instrument Air pressure will continue to decrease and a reactor trip will be required.

d. MV-32314 and MV-32315 close.
Service Air header isolation MV-32318 will open to supply Unit 1.
122 Instrument Air Compressor will stop after running unloaded.
Unit 2 Instrument Air pressure will continue to decrease and reactor trip will be required.

ANSWER
b.
REFERENCE
B34
Fig B34-8
KA Statement:
Knowledge of the effect that a loss or malfunction of the Instrument Air system will have on the following: Cross Tied Units
MEMORY
MODIFIED

Question #	051
Exam Date	2005/18/05
Facility	282
Reactor Type	PWR-WEC2
Exam Level	RO
K/A	076 A2.01

QUESTION

Given the following:

- 11 and 21 Cooling Water Pumps are in service.
- 121 Cooling Water Pump is OOS for discharge valve maintenance and is isolated from both cooling water headers.
- 11 Cooling Water Pump trips.
- Loop A cooling Water Pressure indicates 60 psig.
- Loop B cooling water pressure indicates 78 psig.

What automatic action has occurred OR failed to occur, and what action is required?

a. MV-32144, Loop A/B CLG WTR HDR XOVER VLV A has automatically closed; Manually start 12 or 22 Diesel Cooling Water Pumps and reopen MV-32144.

b. MV-32034 121 CL WTR HDR VLV A and MV-32035 121 CL WTR HDR VLV B have automatically closed; Manually start 12 Diesel Cooling Water Pump.

c. 12 Diesel Cooling Water Pump has failed to autostart on low pressure; Manually start 12 Diesel Cooling Water Pump.

d. 12 and 22 Diesel Cooling Water Pumps have failed to autostart on low pressure; Manually start one Diesel Cooling Water Pump.

ANSWER

c.

REFERENCE

B35

C35 AOP2

KA Statement:

Ability to (a) predict the impacts of the following malfunctions or operations on the SWS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations. Loss of Service Water System

HIGHER

NEW

Question #	052
Exam Date	2005/18/05
Facility	282
Reactor Type	PWR-WEC2
Exam Level	RO
K/A	078 K2.01

QUESTION

What is the power supply to 123 Air Compressor?

a. 480V MCC 1A2

b. 480V MCC 2A1

c. 480V Bus 160

d. 480V Bus 260

ANSWER

b.

REFERENCE

B34

KA Statement:

Knowledge of bus power supplies to the following: Instrument air compressor

MEMORY

NEW

Question # 053
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 059 2.2.22
QUESTION
Which of the following would result in LCO 3.7.3 "Main Feedwater Regulation Valves and MFRV Bypass Valves" being NOT MET if it occurred?

a. Diaphragm leakage on the MFRV actuator that prevents full opening of the valve.

b. A control card failure that prevents AUTO or MANUAL operation from the Control Room.

c. A MFRV manual handwheel is used to control SG level locally.

d. A MFRV Manual Loading Station is used to control SG level locally.

ANSWER
c.
REFERENCE
LCO 3.7.3
1C28.2 AOP1
Fig B7-28
KA Statement:
Main Feedwater System: Knowledge of limiting conditions for operations and safety limits
MEMORY
NEW

Question # 054
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 103 A2.04
QUESTION
You are an extra operator performing a post-LLRT lineup on a containment penetration.

You hear a variable tone siren (wailing, like a police siren) with about a 4-second cycle, but due to noise in the area are unable to hear the announcement that follows.

What has occurred, and what action is required?

a. Containment Evacuation Alarm. Immediately evacuate containment using the nearest airlock and card out of containment.

b. Fire Alarm. Complete the valve lineup to ensure the containment penetration is isolated, then exit containment and assist the Fire Brigade or Control Room as directed.

c. High Flux at Shutdown Alarm. Immediately evacuate containment using the nearest airlock and card out of containment.

d. Site Evacuation Alarm. Complete the valve lineup to ensure the containment penetration is isolated, then exit containment and report to the North Warehouse.

ANSWER
a.
REFERENCE
NMC Outage Handbook
F5 Firefighting section 3.5
KA Statement:
Ability to (a) predict the impacts of the following malfunctions or operations on the containment system and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations. Containment evacuation (including recognition of the alarm)
MEMORY
MODIFIED

Question #	055	
Exam Date	2005/18/05	
Facility	282	
Reactor Type	PWR-WEC2	
Exam Level	RO	
K/A	007 A3.01	

QUESTION

Given the following on Unit 1:

	1000 hrs	1100 hrs
PRT level	72%	78%
PRT temperature	96°F	94°F
Pressurizer level	45%	45%
Tavg	570°F	570 °F
Containment temp	102°F	108 °F

What is the cause of the PRT level increase?

a. Expansion due to containment heatup

b. Pressurizer PORV leakage

c. Letdown relief valve (inside containment) leakage

d. Reactor Makeup to PRT leakage

ANSWER

d.

REFERENCE

Tank Book

ERCS

B4A

B12A

KA Statement:

Ability to monitor automatic operation of the PRTS, including: Components which discharge to the Pressurizer Relief Tank

HIGHER

MODIFIED

Question # 056
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 011 2.1.32
QUESTION
Given the following on Unit 1:

- The Unit is in Mode 4.
- Filling the Pressurizer Solid steps are in progress.
- 11 and 12 Charging pumps are running.
- All three Letdown orifices are in service.
- Pressurizer level (Cold Cal) is 78% and increasing slowly.

What action is required when Pressurizer level indicates 80% (Cold Cal)?

a. Reduce the speed of the operating Charging pumps to maintain RCS pressure constant.

b. Stop all but one Charging pump to ensure CVCS addition will NOT cause RCS overpressure.

c. Reduce the operating Charging pump speed until charging and seal injection flow are slightly greater than Letdown flow as solid operation is IMMINENT.

d. De-energize all Pressurizer heaters as the pressurizer spray line is now submerged and is no longer effective for pressure control.

ANSWER
b.
REFERENCE
C12
1C1.3
KA Statement:
Pressurizer level control: Ability to explain and apply all system limits and precautions
MEMORY
NEW

Question #	057
Exam Date	2005/18/05
Facility	282
Reactor Type	PWR-WEC2
Exam Level	RO
K/A	014 K4.06

QUESTION

The RO is increasing power from 20% to 100% with Control Bank D (CBD) rods currently at 100 steps.

The lift coil fuse for CBD rod C-7 blows.

The RO begins to withdraw rods 2 steps at a time towards 218 steps as power is raised. Which alarm will FIRST alert the operator to the malfunction?

a. COMPUTER ALARM ROD DEVIATION/SEQUENCING

b. ROD AT BOTTOM

c. COMPUTER ALARM DELTA I CHECK TYPER

d. NIS POWER RANGE LOWER DETECTOR HI FLUX DEVIATION OR AUTO DEFEAT

ANSWER

a.

REFERENCE

B6 p. 6

ARP C47013-0507, 0407, 0603, 0303

KA Statement:

Knowledge of RPIS design feature(s) and/or interlock(s) which provide for the following: Individual and group misalignment

HIGHER

NEW

Question # 058
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 015 K2.01
QUESTION
Which NIS channels will be available following a loss of Instrument Bus 112?

a. Source Range N31, Intermediate Range N35, Power Ranges N41, N43, and N44

b. Source Range N32, Intermediate Range N36, Power Ranges N42, N43, and N44

c. Source Range N31, Intermediate Range N35, Power Ranges N42, N43, and N44

d. Source Range N32, Intermediate Range N36, Power Ranges N41, N43, and N44

ANSWER
b.
REFERENCE
B9A
KA Statement:
Knowledge of bus power supplies to the following: NIS channels, components, and interconnections
MEMORY
BANK

Question # 059
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 016 K5.01
QUESTION
A short circuit occurs internally on the Master Pressurizer Pressure Controller (HC-431K).

What is the effect of this fault on the Reactor Protection System?

The controller short circuit will...

a. NOT feed back into the protection circuit due to the use of isolation amplifiers.

b. feed back into the protection circuit, causing the associated channel to trip.

c. NOT feed back into the protection circuit since completely separate sensors (pressure transmitters) are used for control and protection.

d. feed back into the protection circuit, preventing the associated channel from tripping.

ANSWER
a.
REFERENCE
Fig B7-14
KA Statement:
Knowledge of the operational implication of the following concepts as they apply to the Non-Nuclear Instrumentation System: Separation of control and protection circuits
HIGHER
BANK

Question # 060
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 028 K3.01
QUESTION
The following exist on Unit 2:

- A LOCA has occurred.
- 2FR-C.1, Response to Inadequate Core Cooling, is in progress
- Containment Hydrogen Concentration is 3% and increasing at 1%/hour.
- 21 Hydrogen Recombiner has been in operation for 12 hours.
- The Aux Building operator reports Hydrogen Recombiner temperature is 1025 ! F and stable.
- NO operator action is taken.

What is the expected containment hydrogen concentration in four (4) hours and why?

Assume hydrogen generation rate remains constant and recombiner operation is only means of hydrogen control.

a. Much less than 7%, as significant hydrogen burns will result from recombiner operation once hydrogen concentration reaches 6%.

b. Slightly less than 7%, as recombiner efficiency will increase with hydrogen concentration.

c. 7%, as 21 Recombiner is NOT functioning to remove any hydrogen now and will NOT begin to remove hydrogen as concentration increases.

d. Slightly more than 7%, as the recombiner will become less efficient at removing hydrogen at higher hydrogen concentrations.

ANSWER
c.
REFERENCE
C19.8 section 5.2, note at 5.2.2
FR-C.1 Step 8 bases
KA Statement:
Knowledge of the effect that a loss or malfunction of the Hydrogen Recombiner and Purge Control System (HRPS) will have on the following: Hydrogen concentration in containment
HIGHER
NEW

Question # 061
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 034 A4.02
QUESTION
Given the following:

- Unit 1 is in Mode 6 for a refueling outage.
- Refueling of the reactor core is complete.
- Source Range channel N-31 is INOPERABLE.

What indication is available to the control room operators, and what instrumentation is providing input to the containment "High Flux at Shutdown" alarm?

a. Indication is provided by SR channel N-32 and IR channels N-35 and N-36.
Alarm function is provided by SR channel N-32.

b. Indication is provided by Gamma-Metrics channels N-51, N-52, and SR channel N-32.
Alarm function is provided by SR channel N-32.

c. Indication is provided by SR channel N-32, IR channels N-35 and N-36.
Alarm function is provided by Gamma-Metrics channels N-51, N-52, and SR channel N-32.

d. Indication is provided by Gamma-Metrics channels N-51, N-52, and SR channel N-32.
Alarm function is provided by Gamma-Metrics channels N-51, N-52, and SR channel N-32.

ANSWER
b.
REFERENCE
B9A
B9B
Tech Spec Basis 3.9.3
KA Statement:
Fuel Handling Equipment System
Ability to manually operate and/or monitor in the control room: Neutron levels
HIGHER
BANK

Question # 062
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 035 A2.04
QUESTION
Given the following:

- C47511-0101, 21 STM GEN FW/STM FLOW MISMATCH alarm is received
- 21 Steam Generator Water Level is 56% and increasing.
- 22 Steam Generator Water Level is 44% and steady.
- Reactor power is 99.94% and increasing at 1% per minute.

What protective signal will be directly generated if NO action is taken, and what is the action required to prevent the signal?

a. Reactor trip
Take manual control of 21 MFRV at the Control Board and reduce FW flow.

b. Steam Line Isolation
Reduce main turbine load in MANUAL at the EH control panel.

c. Feedwater Isolation
Take manual control of 21 MFRV at the Control Board and reduce FW flow.

d. Feedwater Isolation
Take manual control of 21 MFRV at the Manual Loading Station and reduce FW flow.

ANSWER
c.
REFERENCE
C47511-0101
2C28.2 AOP1
Fig. B18C-4
Fig B18C-3
KA Statement:
Ability to (a) predict the impacts of the following malfunctions or operations on the Steam Generators, and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations. Steam flow/feed mismatch
HIGHER
NEW

Question # 063
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 055 K1.06
QUESTION
The following plant conditions exist on Unit 1:

- Unit 1 is in Hot Shutdown with secondary plant startup in progress.
- The Main Air Ejectors are in service.
- One Hogger Air Ejector is operating to assist in drawing a vacuum in the condenser.
- The Ventilation systems are in their normal alignment and operation.
- 1R-15 Condenser Air Ejector Radio Gas Monitor is OOS.

Which of the following describes the relationship between the Condenser Air Removal System and the Process Radiation Monitoring System?

ALL non condensable gases discharged from the Main Air Ejector . . .

a. are being monitored by the Auxiliary Building Vent Stack Monitors. The Hogger discharge is unmonitored.

b. and the Hogger discharge is being monitored by the Auxiliary Building Vent Stack Monitors.

c. and the Hogger discharge are unmonitored releases.

d. are being monitored by the Shield Building Vent Stack Monitors. The Hogger discharge is unmonitored.

ANSWER
a.
REFERENCE
B26
B11
KA Statement:
Knowledge of the physical connections and/or cause-effect relationships between the Condenser Air Removal System and the following systems: Process radiation monitoring system
HIGHER
MODIFIED

Question # 064
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 068 K6.10
QUESTION
Given the following on Unit 1:

- A Steam Generator Tube Rupture occurred 5 days ago.
- The Main Condenser is being drained to the Turbine Building Sump to reduce hotwell level.
- The Turbine Building Compositor is OOS.

What action is required to continue operation of the Turbine Building Sump Pumps?

a. Pump the Turbine Building Sump directly to the Waste Liquid system for processing and release via 1R-18 WASTE LIQUID DISPOSAL LIQUID EFFLUENT MONITOR.

b. The Duty Chemist must perform periodic sampling of the Turbine Building Sump prior to and during sump pump operation to estimate the total release.

c. Line up the Turbine Building Sump Pump discharge to Landlock vice Cooling Water discharge to prevent a release.

d. The Duty Chemist must sample the hotwell and perform a calculation based on condenser activity to estimate the total release.

ANSWER
b.
REFERENCE
C11
B21B
KA Statement:
Knowledge of the effect of a loss or malfunction on the following will have on the Liquid Radwaste System: Radiation monitors
MEMORY
NEW

Question # 065
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 072 A1.01
QUESTION
The following conditions exist on Unit 1:

- A valid 1R-23 CONTROL RM AIR SUPPLY MONITOR A alarm occurs and all automatic actions have occurred.
- 1R-24 CONTROL RM AIR SUPPLY MONITOR B has an elevated reading and is in alarm.
- The automatic actions per the ARP for 1R-24 have NOT occurred.

What are the expected RO actions?

a. Stop the 122 Control Room Chiller and Air Handler, as outside air has NOT been isolated to the system.

b. Use the Test Jack on 1R-24 to force the actuation of the automatic actions.

c. Manually bug the 1R-24 detector to force the actuation of the automatic actions.

d. Manually start the122 Control Room Clean-up Fan as the 1R-23 actuation has isolated outside air.

ANSWER
d.
REFERENCE
Fig B37B-01
ARP 47047 R-23
ARP 47048 R-24
B11
KA Statement:
Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the ARM system controls including: Radiation levels
MEMORY
NEW

Question # 066
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 2.1.8
QUESTION
Given the following:

- You are an extra RO during a Unit 2 outage.
- You have been assigned to complete SP2269 SI ACCUMULATOR CHECK VALVES REFUELING LEAK TEST.
- Two outplant operators are working under your direction for the test.
- You have verified initial conditions for the test are MET (RCS pressure is between 900 and 1000 psig).

Part of the surveillance involves opening 2SI-20-16 TEST LINE SHUT-OFF UPSTREAM OF 2FI-929, a non-automatic Containment Isolation Valve that is normally locked closed.

When the procedure directs opening of this valve, what action is required?

a. Direct one operator to maintain constant radio communications with you and be capable of closing 2SI-20-16 within one minute of an accident.

b. Direct one operator to remain in the vicinity of the valve and be capable of closing 2SI-20-16 within six minutes of an accident announcement.

c. Notify the Shift Supervisor to declare Containment inoperable per LCO 3.6.1 CONTAINMENT as manual closure can NOT be credited for OPERABILITY.

d. Notify the Shift Supervisor that an opening has been created, and logging per C19.9 CONTAINMENT BOUNDARY CONTROL DURING COLD SHUTDOWN AND REFUELING SHUTDOWN is required.

ANSWER
a.
REFERENCE
SP 2269 sections 3.0, 6.0
2C1.2 Appendix D
TS 3.6.1, 3.6.3, 3.7.2 and bases
KA Statement: Ability to coordinate personnel activities outside the control room.
MEMORY
NEW

Question # 067
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 2.1.16
QUESTION
A fire is in progress in the Turbine Building and the Fire Brigade has been activated.

What is the preferred means of communication with the Fire Brigade Chief?

a. Runner

b. Telephone

c. Portable radio selected to Channel 14 "PT-PT"

d. Portable radio selected to Channel 1 "OPS 1"

ANSWER
d.
REFERENCE
47022-0611 F
F5 section 3.5
KA Statement: Ability to operate plant phone, paging system, and two-way radio.
MEMORY
MODIFIED

Question # 068
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 2.1.32
QUESTION
During power operation, Technical Specification LCO 3.2.1 requires that the Heat Flux Hot Channel Factor be maintained within the limits set by the Core Operating Limits Report (COLR).

How can the RO be assured that the Heat Flux Hot Channel Factor is being maintained within limits under transient power conditions? The Heat Flux Hot Channel Factor . . .

a. is controlled by maintaining the core within the limits of AFD, QPTR and control rod insertion limits.

b. will cause an alarm if it goes above the COLR limit and the ARP will require operators to reduce power to return it to within limits.

c. is not directly measurable, but is inferred from the most recent power distribution map using the incore detectors. The acceptance criteria within the surveillance procedure for the flux map being met verifies that it has been within limits since last performance.

d. is part of the core design performed during the last refueling outage, and is not called into question during the fuel cycle unless a calculation or fuel loading error is discovered.

ANSWER
a.
REFERENCE
LCO 3.2.1 and bases, SR 3.2.1.1
KA Statement: Ability to explain and apply all system limits and precautions.
MEMORY
BANK

Question # 069
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 2.2.11
QUESTION
Which of the following is an acceptable method to determine if a Temporary Change Notice (TCN) is in effect for a procedure?

a. Search T-track for the procedure to determine if an action is issued to track the TCN.

b. Verify the TCN status using the electronic document search feature (Google search) on the LAN.

c. Refer to a controlled procedure and determine if any TCN's are attached.

d. Refer to the Control Room or Shift Manager Office TCN file.

ANSWER
c.
REFERENCE
5AWI 1.11.2
KA Statement: Knowledge of the process for controlling temporary changes.
MEMORY
NEW

Question # 070
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 2.2.34
QUESTION
Given the following:

- Unit 1 has been operating at full power for 3 months.
- A reactor trip occurs from 80% power during a load reduction for turbine valve testing.
- The Nuclear Engineer calculated an ECC for a reactor startup 15 hours after the reactor trip.
- The startup was suspended as criticality based on ICRR was predicted below the +/- 100 step band around the critical rod height with ICRR less than 0.2.

Which of the following could explain the error?

a. Actual RCS boron concentration is 3 ppm below that assumed in the ECC.

b. Auxiliary Feedwater flow was reduced just prior to criticality.

c. The computer code overestimated the amount of xenon reactivity in the core.

d. Criticality was earlier than the +/- 3 hour band around the expected critical time.

ANSWER
c.
REFERENCE
C1A Limitation 4.1, 4.4
Fig C1A-3
App. C1B 3.3
KA Statement: Knowledge of the process for determining the internal and external effects on core reactivity.
HIGHER
NEW

Question #	071
Exam Date	2005/18/05
Facility	282
Reactor Type	PWR-WEC2
Exam Level	RO
K/A	2.3.9

QUESTION

You are the RO during a shutdown for a refueling outage. The Containment HP requests that Containment In-Service Purge be placed in service "as soon as possible" to reduce dose to workers.

Which of the following is the EARLIEST plant mode reached that will allow for establishment of Containment In-service Purge?

a. Entry into MODE 3 Hot Standby.

b. Entry into MODE 4 Hot Shutdown.

c. Entry into MODE 5 Cold Shutdown.

d. Entry into MODE 6 Refueling.

ANSWER

c.

REFERENCE

1C19.2
Fig B19-9
C1.1.19-1 penetration 42B, 43A
KA Statement: Knowledge of the process for performing a containment purge.
MEMORY
NEW

Question # 072
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 2.3.11
QUESTION
11 Steam Generator has known primary to secondary leakage and has been isolated per 1C4 AOP2, STEAM GENERATOR TUBE LEAK.

What action is taken to limit the spread of contamination to the Turbine Building?

a. Draining the 11 SG via the SGB system to the river and refilling 11 SG with clean water.

b. Isolating the Turbine Building Sump, then draining the Main Condenser Hotwell to the sump and refilling the Main Condenser Hotwell with clean water.

c. Realigning the 11 SG Safety Relief Header drains from the Unit 2 Turbine Building sump to the Aerated Sump Tank.

d. Realigning the 11 SG Safety Relief Header drains from the Unit 2 Condenser to the Unit 2 Turbine Building Sump.

ANSWER
c.
REFERENCE
C4 AOP2 Attachment A, B
KA Statement: Ability to control radiation releases.
MEMORY
NEW

Question # 073
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 2.4.5
QUESTION
A unit startup is in progress per 1C1.2 UNIT 1- STARTUP with power stable at 10-8A.

All available instrument air compressors trip. The operators are performing actions in C34 AOP1 LOSS OF INSTRUMENT AIR when a reactor trip occurs.

Which of the following describes the procedure transitions for this event?

a. C34 AOP1 actions are completed, then 1E-0 REACTOR TRIP OR SAFETY INJECTION is entered and exited when directed to another specific procedure.

b. 1E-0 REACTOR TRIP OR SAFETY INJECTION is entered and exited when directed to another specific procedure. C34 AOP1 is performed in parallel to aid in plant recovery.

c. 1E-0 REACTOR TRIP OR SAFETY INJECTION is entered. C34 AOP1 actions are not required to be completed unless specifically directed by the EOPs.

d. 1E-0 REACTOR TRIP OR SAFETY INJECTION is entered. When the EOP network directs a return to normal operating procedures, C34 AOP1 is re-entered and completed.

ANSWER
b.
REFERENCE
C34 AOP1 step 2.4.1
1E-0 entry procedure
KA Statement:
Knowledge of the organization of the operating procedures network for normal, abnormal and emergency evolutions.
MEMORY
BANK

Question # 074
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 2.4.20
QUESTION
1E-3 STEAM GENERATOR TUBE RUPTURE is in progress when you enter the control room as an extra RO.

A depressurization of the RCS using Auxiliary Spray has just commenced.

You note that CV-31328 REGEN HX OUTLET CV is OPEN.

Is this correct and why or why not?

a. Yes, as the tap for the Auxiliary Spray line is downstream of this valve.

b. Yes, as the valve should be open to prevent exceeding the ΔT limit between charging flow and the pressurizer steam space.

c. No, the valve should be closed to maximize the effectiveness of auxiliary spray.

d. Either position is acceptable as the Auxiliary Spray line taps off upstream of CV-31198 Charging Line Flow Control Valve.

ANSWER
c.
REFERENCE
1E-3 and basis
KA Statement: Knowledge of the operational implications of EOP warnings, cautions and notes.
MEMORY
NEW

Question # 075
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level RO
K/A 2.4.27
QUESTION
Given the following:

- The Turbine Building Operator reports a fire on the Unit 1 Hydrogen Seal Oil Skid.
- The local deluge system has actuated.
- 121 Motor Driven Fire Pump has automatically started.
- The Fire Brigade has just been called out.

The Auxiliary Building APEO reports that there is a break on the fire header to the Auxiliary Building sprinklers. You notice fire header pressure is decreasing.

What action should be taken?

a. Manually start 121 Screenwash Pump and align it to the fire header to maintain fire header pressure, and isolate fire protection to the Auxiliary Building from the control room.

b. Stop all pumps supplying the Fire Header to reduce damage from flooding in the Auxiliary Building, and inform the Red Wing Fire Department that your fire header is not available.

c. Stop all pumps supplying the Fire Header to reduce damage from flooding in the Auxiliary Building, and fight the fire using dry chemical extinguishers.

d. Direct isolation of the fire header to the Auxiliary Building and allow the system to respond automatically to the lowering header pressure.

ANSWER
d.
REFERENCE
ARP C47022-0611
B31A
C31
KA Statement: Knowledge of fire in the plant procedure.
MEMORY
NEW

Question # 076
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 026 AA2.06
QUESTION
Given the following conditions:

- A Large Break LOCA has occurred on Unit 1.
- RCS and Containment pressures are both at 31 psig.
- 11 Component Cooling pump has locked out.
- Bus 16 has locked out.
- Multiple Low CC Flow alarms are received.
- Train A SI, RHR and CS pumps are running.
- Immediate actions of 1E-0 REACTOR TRIP OR SAFETY INJECTION have been completed.

What action is required and why?

a. Direct entry into C47 Alarm Response Procedures for Low CC Flow alarms received. These will direct tripping of 11 SI Pump and 11 RHR Pump ONLY as they may be damaged within minutes without CC flow.

b. Enter 1C14 AOP1 "LOSS OF COMPONENT COOLING", which will direct tripping 11 SI pump when SI flow is not required. 11 RHR pump may operate during injection mode without CC, and 11 CS pump can run indefinitely without CC.

c. Enter 1C14 AOP1 "LOSS OF COMPONENT COOLING", which will not direct any pump trip now as all pumps are needed. 11 SI pump and 11 CS pump are expected to fail within an hour, and local actions may extend this time. 11 RHR pump can operate indefinitely without CC.

d. Assign an operator to 1E-0 Attachment L, SI ALIGNMENT VERIFICATION, which will direct starting of all Train B ECCS pumps. Once Attachment L is complete, all Train A pumps should be stopped to prevent damage from running without CC.

ANSWER
b.
REFERENCE
1C14 AOP1 Table 1 p. 9-10
KA Statement:
Ability to determine and interpret the following as they apply to the Loss of Component Cooling Water: The length of time after the loss of CCW flow to a component before that component may be damaged.
HIGHER
MODIFIED

Question # 077
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 038 EA2.02
QUESTION
Given the following conditions on Unit 1:

- Reactor trip and safety injection from 100% power.
- 12 SG has been diagnosed as faulted to containment, and actions of 1E-2 FAULTED STEAM GENERATOR ISOLATION have been completed.
- 1E-1 LOSS OF REACTOR OR SECONDARY COOLANT has just been entered.
- 12 SG is at 35 psig and 2% WR level.
- Steam Dump is controlling RCS temperature at current temperature.
- Radiation monitors 1R-15 CONDENSER AIR EJECTOR alarms at 2550 cps.

What has occurred, and what is the implication of this?

a. 12 Steam Generator is faulted and ruptured, so primary to secondary leakage cannot be stopped until cold shutdown is reached. Cooldown and SI termination will be done in 1ECA-3.1 SGTR WITH LOSS OF REACTOR COOLANT: SUBCOOLED RECOVERY.

b. The insurge of steam to the condenser has caused 1R-15 to alarm from the N-16 gamma radiation expected to be in the steam. Transition to 1E-3 STEAM GENERATOR TUBE RUPTURE is only made if intact SG level increases uncontrollably.

c. 11 Steam Generator is ruptured, and 12 SG is NOT available for cooldown so primary to secondary leakage cannot be stopped until cold shutdown is reached. Cooldown and SI termination will be done in 1ECA-3.1 SGTR WITH LOSS OF REACTOR COOLANT: SUBCOOLED RECOVERY.

d. 11 Steam Generator is ruptured, and if a cooldown is required, 12 SG can be used provided feedwater flow is initiated slowly. Cooldown and SI termination can be done in 1E-3 STEAM GENERATOR TUBE RUPTURE.

ANSWER
d.
REFERENCE
E-3 Step 7, bases
E-1 Information Page- E-3 transition criteria
E-2
1FR-H.5 step 4 guidance for establishing flow to dry SG
KA Statement:
Ability to determine and interpret the following as they apply to a Steam Generator Tube Rupture: Existence of SGTR and its consequences.
HIGHER
NEW

Question # 078
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 027 AA2.16
QUESTION
Given the following conditions:

- Unit 1 is at 2% power during unit startup.
- The RO has been directed to raise power to 6% in order to place the generator online.
- RED channel Pressurizer Pressure PT-429 fails LOW.
- Actions of 1C51 INSTRUMENT FAILURE GUIDE for PT-429 failure are completed EXCEPT for repair and restoration of PT-429.

What additional Technical Specifications actions OR restrictions (if any) now apply?

a. Reactor power cannot be raised above 10% until PT-429 is repaired, as it is required for the Low Pressure Reactor Trip LCO 3.3.1.

b. The RO must hold power below 5%, as a mode change is NOT allowed with PT-429 OOS per LCO 3.0.4.

c. None, the bistable trips are complete per 1C51, and LCO 3.0.4 allows a mode change if the Required Actions allow operation for an unlimited period of time.

d. The unit must be placed in MODE 3 in 12 hours and MODE 4 in 18 hours per LCO 3.3.2 as the Low Pressure SI channel is INOPERABLE.

ANSWER
c.
REFERENCE
LCO 3.0.4, 3.3.1, 3.3.2
KA Statement: Ability to determine and interpret the following as they apply to the Pressurizer Pressure Control Malfunction: Actions to be taken if PZR pressure instrument fails low.
HIGHER
NEW

Question # 079
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 029 2.4.30
QUESTION
Given the following conditions:

- Unit 2 reactor startup is in progress per Appendix C1B REACTOR STARTUP GUIDELINES.
- Reactor power increases uncontrollably to above 10^6 cps.
- 47017:0103 SOURCE RANGE HI FLUX LVL REACTOR TRIP is LIT.
- The Shift Supervisor directs a manual reactor trip.
- The reactor trip breakers OPEN.
- You are assigned to evaluate current plant conditions for potential emergency classification and reportability.

What are ALL the outside agency/agencies that should be notified and why?

a. The NRC using PINGP 666 EVENT NOTIFICATION WORKSHEET as a press release will be issued per 5AWI 3.6.4 NOTIFICATIONS REGARDING PLANT MEDIA SENSITIVE EVENTS OR CONDITIONS.

b. The NRC via the Resident Inspector ONLY as LCO 3.0.3 was entered momentarily due to inoperability of both trains of Reactor Protection, per SWI-O-28 NOTIFICATION OF OPERATIONS MANAGER & RESIDENT INSPECTOR.

c. The NRC using PINGP 666 EVENT NOTIFICATION WORKSHEET as ALERT conditions were met during the short period of the ATWS. If the ED desires, an NUE based on 'plant conditions warranting increased awareness' can be declared and sent to state and local agencies per F3-2 CLASSIFICATION OF EMERGENCIES.

d. State and Local agencies using PINGP 577 EMERGENCY NOTIFICATION REPORT FORM as an ALERT must be declared for the ATWS per F3-2 CLASSIFICATION OF EMERGENCIES. The NRC using PINGP 666 EVENT NOTIFICATION WORKSHEET for the emergency class declaration and RPS failure.

ANSWER
c.
REFERENCE
F3-2 section 5.5, Condition 12K
SWI-O-28
KA Statement: ATWS: Knowledge of which events related to system operations/status should be reported to outside agencies.
HIGHER
NEW

Question # 080
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 040 2.4.49
QUESTION
Given the following:

- Reactor Physics testing is in progress per D30 POST-REFUELING STARTUP TESTING.
- Both MSIV's are open and steam lines are heated up per 1C1.2 STARTUP OPERATION.
- 47022-0103 AUX BLDG STM EXCLUSION ACTUATED is received.
- 47012-0204 REACTOR COOLANT SYSTEM LO-LO TAVG is received.
- Tavg is 534°F and decreasing.
- Reactor power is 1.8% and increasing.

What action(s) should be directed and why?

a. Direct manual insertion of control rods per 1C1.2 UNIT 1- STARTUP to turn reactor power, as the unit is about to make a mode change without verification that all prerequisites have been completed.

b. Direct a manual reactor trip and closure of both MSIV's per F9 HIGH ENERGY LINE BREAK to protect Auxiliary Building personnel.

c. Direct a manual reactor trip per D30 to comply with LCO 3.1.8 PHYSICS TESTS-EXCEPTIONS- MODE 2 as the reactor is below minimum temperature for criticality, and the LCO requires immediate entry into MODE 3.

d. Direct closure of both MSIV's per ARP 47012-0204 to stop the temperature transient, and if this is not successful trip the reactor per F9 HIGH ENERGY LINE BREAK.

ANSWER
b.
REFERENCE
ARP 47022-0103, 47012-0204
LCO 3.1.8
F9 steps 2.4.1, 2.4.5
KA Statement: Steam Line Rupture- Excessive Heat Transfer: Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.
HIGHER
NEW

Question # 081
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 008 AA2.01
QUESTION
Given the following:

- Unit 1 Reactor Trip with Loss of Offsite Power from 100% power.
- 1E-0 "Reactor Trip or Safety Injection" is in progress.
- An automatic Safety Injection actuation on Low Pressurizer Pressure occurs
- The following indications are noted:
- Tavg is 554°F and slowly decreasing.
- RCS pressure is 1400 psig and decreasing.
- Pressurizer level is 65% and increasing.
- Both SI pumps are running with flow indicated.
- Containment pressure is 2.3 psig and increasing.

What actions will be taken to address the above conditions?

a. Manually close the open Pressurizer PORV or close its block valve per 1E-0, then transition to 1ES-0.2 SI TERMINATION when RCS pressure returns to SI pump shutoff head.

b. Manually close the spray valves or trip both RCP's per 1E-0 to correct the open spray valve(s), then transition to 1ES-0.2 SI TERMINATION when RCS pressure returns to SI pump shutoff head.

c. Reset SI and stop both SI pumps to prevent the RCS from going solid per 1E-0. Transition to 1E-1 LOSS OF REACTOR OR SECONDARY COOLANT and then 1ES-1.1 POST-LOCA COOLDOWN AND DEPRESSURIZATION to reach MODE 5 Cold Shutdown.

d. Trip both RCP's per the 1E-0 information page in response to the Small Break LOCA, then transition to 1E-1 LOSS OF REACTOR OR SECONDARY COOLANT and then 1ES-1.1 POST-LOCA COOLDOWN AND DEPRESSURIZATION to reach MODE 5 Cold Shutdown.

ANSWER
a.
REFERENCE
1E-0 and bases
KA Statement: Ability to determine and interpret the following as they apply to the Pressurizer Vapor Space Accident: RCS pressure and temperature indicators and alarms
HIGHER
NEW

Question #	082
Exam Date	2005/18/05
Facility	282
Reactor Type	PWR-WEC2
Exam Level	SRO
K/A	069 AA2.01

QUESTION

Unit 2 is at 100% power and the following log entries have been made:

0700 Received unexpected alarm 47519-0601 CONTAINMENT CONDENSATE HI LEAK RATE.

0705 22 CFCU weir tank drained per C19.3 LEAKAGE WITHIN CONTAINMENT and level immediately returned, 2 gpm leakrate indicated.

0706 Entered C35 AOP4 COOLING WATER LEAKAGE IN CONTAINMENT.

0830 Containment entry team reports 22 CFCU has through-wall leakage from an H-bend on the north face.

0850 22 CFCU cooling water supply and return valves are CLOSED with breakers OPEN per C35 AOP4. Cooling water temperature is 86°F.

0900 2CL-22-4 is throttled OPEN per C35 AOP4. 22 CFCU outlet pressure is 48 psig.

Which of the following correctly states the Technical Specification status of the CFCU's and Containment during the time period above?

a. Containment was INOPERABLE per LCO 3.6.1 at 0700. Containment Cooling Train B was INOPERABLE per LCO 3.6.5 at 0700. Containment was restored to OPERABLE at 0900. 24 CFCU had sufficient cooling capacity in this configuration to be considered an operable train at 0900, restoring Containment Cooling Train B to OPERABLE at 0900.

b. Containment was INOPERABLE per LCO 3.6.1 at 0830. Containment Cooling Train B was INOPERABLE per LCO 3.6.5 at 0830. Containment was restored to OPERABLE at 0900. Unit 2 remains in a 7 day required action per LCO 3.6.5 Condition C.

c. Containment was INOPERABLE per LCO 3.6.1 at 0830. Containment Cooling Train B was INOPERABLE per LCO 3.6.5 at 0850. Containment was restored to OPERABLE at 0900. Unit 2 remains in a 7 day required action per LCO 3.6.5 Condition C.

d. Containment has remained OPERABLE per LCO 3.6.1 during the entire time. Containment Cooling Train B was INOPERABLE per LCO 3.6.5 at 0830. Containment Cooling Train B was OPERABLE at 0850 as 24 CFCU has sufficient cooling capacity in this configuration to be considered an operable train.

ANSWER

b.
REFERENCE
LCO 3.6.1 and bases, 3.6.5
C35 AOP4
NF-39217-2, 3
KA Statement: Ability to determine and interpret the following as they apply to the Loss of Containment Integrity: Loss of Containment Integrity
HIGHER
NEW

Question # 083
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 036 AA2.02
QUESTION
Fuel handling is ongoing in the SFP in preparation for an upcoming outage.

When the SFP crane begins to lift an assembly from its storage location, an unusually large number of bubbles are noticed rising from the upper nozzle. The bubbles continue for about 30 seconds.

What has occurred, and what action is required (if any) by the SRO in charge of fuel handling?

a. Damage to the fuel assembly, lower the assembly back into the storage grid and notify the Unit 1 Shift Supervisor to enter D5.2 AOP1, DAMAGE FUEL ASSEMBLY.

b. Damage to the fuel assembly, initiate an evacuation of the SFP using D5.1 AOP1, SFP AREA EVACUATION-NON-REFUELING.

c. Movement has dislodged bubbles on the outside of the assembly, continue fuel handling provided area radiation monitors are not in alarm.

d. A localized criticality event has caused steam bubbles to form, lower the assembly back into the storage grid then evacuate the SFP per D5.1 AOP1, SFP AREA EVACUATION-NON-REFUELING.

ANSWER
b.
REFERENCE
D5.2 AOP1 Symptoms, Immediate Manual Actions
KA Statement: Ability to determine and interpret the following as they apply to the Fuel Handling Accident: Occurrence of a fuel handling incident
MEMORY
NEW

Question # 084
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 037 2.1.2
QUESTION
Given the following:

- 21 Steam Generator has a 45 gpd stable tube leak.
- It is 0200 on a Sunday morning.
- 2R-15 CONDENSER AIR EJECTOR RADIO GAS MONITOR detector fails.

What priority should be assigned to the repair of 2R-15, and what compensatory actions are required?

a. Priority 1 Work Order (begin immediately and work 24/7 until resolved). Sample the air ejector and calculate the leak rate every 2 hours until repaired.

b. Priority 1 Work Order (begin immediately and work 24/7 until resolved). Repair 2R-15 within 1 hour or Place Unit 2 in MODE 3 HOT STANDBY in the following 6 hours.

c. Priority 2 Work Order (prepare and conduct work within 3 weeks). Sample both steam generators and calculate leakage every 6 hours until repaired.

d. Priority 3 Work Order (schedule in next Component/System week in Work Week Process). Sample the air ejector and calculate the leak rate every 6 hours until repaired.

ANSWER
a.
REFERENCE
2C4 AOP2
5AWI 15.1.1 section 6.4
5AWI 15.0.2 Table 3
KA Statement:
Steam Generator Tube Leak: Knowledge of operator responsibilities during all modes of plant operation.
MEMORY
NEW

Question # 085
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A E16 2.4.4
QUESTION
Given the following:

- Unit 2 Reactor Trip on low pressurizer pressure.
- A LOCA in containment has been diagnosed.
- 2ES-1.1, POST-LOCA COOLDOWN AND DEPRESSURIZATION is in progress.
- 21 SI pump has been stopped per 2ES-1.1.
- Containment pressure is 12 psig and stable.
- Containment radiation is 220 R/hr and rising.

What has occurred and what procedure should be performed in response?

a. The core is partially uncovered but fuel damage has not occurred, remain in 2ES-1.1 but restart 21 SI pump to restore cooling.

b. Containment radiation is expected to reach this level in this accident without fuel damage, evacuate the Auxiliary Building of unnecessary personnel per F3-9, EMERGENCY EVACUATION.

c. Fuel failure has occurred, enter 2FR-C.2, RESPONSE TO DEGRADED CORE COOLING on the ORANGE CSF to restore cooling to the partially uncovered core.

d. Fuel failure has occurred, enter 2FR-Z.3, RESPONSE TO HIGH CONTAINMENT RADIATION on the YELLOW CSF to start containment cleanup fans.

ANSWER
d.
REFERENCE
2FR-Z.3
2ES-1.1 Information Page
F-0.2, F-0.5 CSF status trees
KA Statement: High Containment Radiation: Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.
HIGHER
NEW

Question # 086
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 004 A2.06
QUESTION
Given the following:

- A new 11 Mixed Bed Ion Exchanger is being flushed prior to being placed in service.
- VCT level control is being maintained in AUTOMATIC.
- HC-110 BORIC ACID FLOW CONT is in AUTO at 25%.
- An automatic makeup is in progress.

The following then occurs:

- HC-110 controller setpoint fails to 0%.
- Five seconds later, the deviation meter reads 0% and the output meter reads 100%.

What will occur, and what actions are directed by the Shift Supervisor as a result of the above malfunction?

a. The inadvertent dilution will continue as long as the automatic makeup continues. Stop the makeup and enter C12.5 AOP2 MALFUNCTION OF AUTOMATIC MAKEUP, which will direct performance of manual makeups as necessary per C12.5 CVCS BORON CONCENTRATION CONTROL.

b. The inadvertent boration will automatically stop when alarm 47015-0403 BORIC ACID FLOW CONTROLLER DEVIATION is received. Alternate between Emergency Borations per C12.5 AOP1 EMERGENCY BORATION OF THE REACTOR COOLANT SYSTEM and manual dilutions per C12.5 CVCS BORON CONCENTRATION CONTROL.

c. The inadvertent boration will continue as long as the automatic makeup continues. Stop the makeup. Alternate between Emergency Borations per C12.5 AOP1 EMERGENCY BORATION OF THE REACTOR COOLANT SYSTEM and manual dilutions per C12.5 CVCS BORON CONCENTRATION CONTROL.

d. The inadvertent dilution will automatically stop when alarm 47015-0403 BORIC ACID FLOW CONTROLLER DEVIATION is received. Enter C12.5 AOP2 MALFUNCTION OF AUTOMATIC MAKEUP, which will direct performance of manual makeups as necessary per C12.5 CVCS BORON CONCENTRATION CONTROL.

ANSWER
a.
REFERENCE
ARP 47015-0403

C12.5 AOP2 section 2.4.3
C12.5 section 5.5
KA Statement: Ability to (a) predict the impacts of the following malfunctions or operations on the CVCS; and (b) based on these predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Inadvertent boration or dilution
HIGHER
NEW

Question # 087
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 013 2.1.33
QUESTION
Given the following:

- Unit 1 is at 80% power.
- Red Channel Tavg Loop 1B failed HIGH at 1400.
- Actions of 1C51.1 have been completed.
- It is now 1930 and you observe the bistable conditions indicated on panels 44178, 44205 and 44179.

What action (if any) is required?

a. None, the required bistable trips have been completed and allow operation without restriction.

b. LCO 3.3.2 ESFAS INSTRUMENTATION required actions for Main Feedwater Regulation Valve closure are NOT met. Reduce power to <40% power and close and deactivate both Main Feedwater Regulating Valves within 12 hours.

c. LCO 3.3.2 ESFAS INSTRUMENTATION required actions for Main Steamline Isolation are NOT met. Trip the LO LO TAVG MN STM ISOL bistable 1TC-401-D within 30 minutes OR be in MODE 3 by 0200.

d. LCO 3.3.2 ESFAS INSTRUMENTATION required actions for Main Steamline Isolation are NOT met. Initiate actions to shut down Unit 1 within 1 hour, and be in MODE 3 by 0130.

ANSWER
c.
REFERENCE
LCO 3.3.2, Table 3.3.2-1
LCO 3.3.1, Table 3.3.1-1
KA Statement: Engineered Safety Features Actuation System: Ability to recognize indications for system operating parameters which are entry level conditions for technical specifications.
HIGHER
NEW

Question # 088
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 059 2.2.22
QUESTION
Given the following:

- Unit 1 is holding power at 15% for an extended period of time following a refueling outage.
- 12 Main Feedwater Regulation Valve (MFRV) is 5% open.
- Per 1C28.2 UNIT 1 FEEDWATER SYSTEM, the RO attempts to close 12 MFRV Bypass valve in MANUAL to reduce erosion of 12 MFRV surfaces.
- 12 MFRV Bypass valve sticks 10% open and cannot be closed.
- You are evaluating the status of LCO 3.6.3 Containment Isolation Valves and LCO 3.7.3 MFRVs and MFRV Bypass Valves.

Which of the following correctly describes the LCOs NOT MET and their Required Actions (if any), and why this completion time is appropriate?

a. No LCO's are NOT met. Operation of the unit is not restricted.

b. LCO 3.6.3 is NOT met. Close and deactivate the bypass valve OR isolate flow through the bypass valve within 72 hours. 72 hours is acceptable as the valve provides a Containment Isolation function, but feedwater is a closed system within containment.

c. LCO 3.6.3 and LCO 3.7.3 are NOT met. Reduce power and isolate Main Feedwater flow to 12 SG within 6 hours. 6 hours is acceptable as the valve cannot be isolated at power, and 6 hours is sufficient time to perform a controlled power reduction.

d. LCO 3.7.3 is NOT met. Close and deactivate the bypass valve OR isolate flow through the bypass valve within 72 hours. 72 hours is acceptable as the valve provides a Feedwater Isolation function, but there is a low probability of an event requiring isolation and other valves in the line provide redundancy.

ANSWER
d.
REFERENCE
LCO 3.7.3 and bases B.1 and B.2
KA Statement: Main Feedwater: Knowledge of limiting conditions for operations and safety limits.
MEMORY
NEW

Question # 089
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 062 2.4.31
QUESTION
Given the following:

- Unit 1 at 100% power.
- 12 RHR pump is OOS due to a seal leak

Alarm 47024-1001 BUS 15 SEQUENCER NOT IN SERVICE alarm is received. Investigation shows a power supply failure that cannot be repaired for 12 hours.

The Bus 15 Load Sequencer is declared INOPERABLE and LCO 3.3.4 4KV SAFEGUARDS BUS VOLTAGE INSTRUMENTATION Condition C is entered.

The only operator actions have been to place D1 in PULLOUT and align Bus 15 for block loading per 1C20.7 AOP2, BUS 15 LOAD SEQUENCER NOT IN SERVICE.

Which of the following correctly states the additional Technical Specifications and Required Actions entered as a result of the above?

a. D1 and all equipment supported by D1 are INOPERABLE per LCO 3.8.1 AC SOURCES- OPERATING, but conditions and required actions for equipment supported by D1 are NOT required to be entered per LCO 3.0.6. However, LCO 3.3.4 requires declaring 11 RHR pump INOPERABLE in 4 hours. This will cause entry into LCO 3.0.3 per LCO 3.5.2 ECCS-OPERATING.

b. Bus 15 is INOPERABLE per LCO 3.8.9 DISTRIBUTION SYSTEMS-OPERATING, and D1 is INOPERABLE per LCO 3.8.1 AC SOURCES-OPERATING. However, the Conditions and Required Actions are NOT required to be entered per LCO 3.0.6. LCO 3.0.3 will NOT be entered.

c. D1 and all equipment supported by D1 are INOPERABLE per LCO 3.8.1 AC SOURCES- OPERATING. However, per LCO 3.0.6 the Conditions and Required Actions for supported equipment are NOT required to be entered. LCO 3.0.3 will NOT be entered.

d. D1 is INOPERABLE per LCO 3.8.1 AC SOURCES- OPERATING. All equipment supported by D1 are declared INOPERABLE immediately, as OPERABILITY requires normal AND emergency power. LCO 3.0.3 is entered immediately per LCO 3.5.2 ECCS-OPERATING.

ANSWER
a.
REFERENCE
LCO 3.0.3, 3.0.6, 3.5.2, 3.8.1, 3.8.9
5AWI 3.
KA Statement: AC Electrical Distribution: Knowledge of annunciators alarms and indications,

and the use of response instructions.
HIGHER
NEW

Question # 090
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 073 A2.01
QUESTION
Given the following:

- Unit 1 is at 100% power.
- The power supply for the paper motor drive to 1R-11 CNTMT/SHIELD BLDG VENT AIR PARTICLE MONITOR begins to operate intermittently, causing the paper filter to stop and start at erratic intervals.

What alarm(s) will be received, and what actions (if any) are required?

a. 47022-0309 RAD MONITOR SAMPLING EQUIP PANEL ALARM. No further actions are required, as the intermittent failure of the paper drive will conservatively result in higher 1R-11 readings, and the monitor remains OPERABLE.

b. 47022-0108 HI RADIATION TRAIN B PANEL ALARM. Declare 1R-11 and 1R-12 INOPERABLE and perform actions per C11 RADIATION MONITORING SYSTEM to isolate the sample inlets and outlets. Per H4 ODCM, no releases may be made via the Shield Building stack until the monitor is repaired.

c. 47022-0309 RAD MONITOR SAMPLING EQUIP PANEL ALARM and 47022-0108 HI RADIATION TRAIN B PANEL ALARM. Declare 1R-11 INOPERABLE and perform actions per C11 RADIATION MONITORING SYSTEM to maintain Containment Inservice Purge valves CLOSED per LCO 3.3.5 CONTAINMENT VENTILATION ISOLATION INSTRUMENTATION.

d. 47022-0309 RAD MONITOR SAMPLING EQUIP PANEL ALARM. Declare 1R-11 INOPERABLE and perform actions per C11 RADIATION MONITORING SYSTEM to perform RCS water inventory balance or analyze containment grab samples every 24 hours per LCO 3.4.16 RCS LEAKAGE DETECTION INSTRUMENTATION.

ANSWER
d.
REFERENCE
C11 section 6.3
ARP 47022-0309 3.A
LCO 3.3.5, 3.4.16 and bases
KA Statement: Process Radiation Monitoring: Ability to (a) predict the impacts of the following malfunctions or operations on the PRM system; and (b) based on these predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Erratic or failed power supply
HIGHER
NEW

Question # 091
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 034 A2.03
QUESTION
You are the Fuel Handling SRO during Unit 1 core reload operations.

A twice-burned assembly is being lowered into a core location using the HOIST JOG SWITCH. The slack cable light and tube down lights are LIT, but the Z-axis/digital readout indexing shows the assembly is 3/4" above the full down position noted for new and once-burned assemblies.

What action should be taken?

a. Notify the Nuclear Engineer, as the assembly may not be aligned properly with the index pins and may be damaged if not corrected. Release the assembly once full insertion is verified with a submersible camera.

b. Notify the Nuclear Engineer, as the assembly may have been damaged by contact with an adjacent assembly. Return the fuel assembly to the SFP to allow for a detailed inspection with a submersible camera.

c. Release the assembly as the light indications are sufficient to verify the assembly is on the bottom. Direct a work request be written to calibrate the Z-axis/digital readout.

d. Release the assembly as the twice-burned assembly is expected to be elongated by this much due to irradiation, and continue with fuel handling.

ANSWER
a.
REFERENCE
C17
KA Statement: Ability to (a) predict the impacts of the following malfunctions or operations on the Fuel Handling System and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Mispositioned fuel element
MEMORY
NEW

Question # 092
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 017 A2.02
QUESTION
Given the following:

- A Small Break LOCA is in progress on Unit 1.
- ERCS failed during the event and is not available.
- You have been assigned to perform manual Critical Safety Function (CSF) status trees.
- When checking the ICCM Thermocouple Page per F-0.2 CORE COOLING, you note the following Core Exit Thermocouple (CETC) readings:
- 5 highest CETC's: E6- 2128°F, I8- 2011°F, F6- 1942°F, D7- 1885°F, H5- 1780°F
- Average of all CETC's: 1162°F
- 5 lowest: C3- 594°F, J3- 599°F, G13- 600°F, E12- 605°F, C3- 619°F
- Subcooling is -20°F.
- RVLIS full range indicates 41%.

What can you determine about the core status, and which procedure will be required to be implemented NEXT for the above conditions?

a. Some liquid inventory has already been removed from the core and operator action is required to prevent a challenge to core cooling per 1FR-C.2, RESPONSE TO DEGRADED CORE COOLING. No cladding damage is occurring yet.

b. Most liquid inventory has already been removed from the core and extraordinary operator action is required to prevent core damage from occurring per 1FR-C.1, RESPONSE TO INADEQUATE CORE COOLING. No cladding damage is occurring yet.

c. Most liquid inventory has already been removed from the core and cladding damage is already occurring in some areas of the core. Extraordinary operator action is required to recover the core per 1FR-C.1, RESPONSE TO INADEQUATE CORE COOLING.

d. All liquid inventory has been removed from the core and cladding damage is occurring in all areas of the core. Extreme operator action is required to recover the core per 1SACRG-1, SEVERE ACCIDENT CONTROL ROOM GUIDELINE INITIAL RESPONSE.

ANSWER
c.
REFERENCE
1F-0.2 and bases
1FR-C.1
KA Statement: Ability to (a) predict the impacts of the following malfunctions or operations on the Incore Temperature Monitoring System; and (b) based on these predictions, use

procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Core Damage
HIGHER
NEW

Question # 093
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 071 2.2.22
QUESTION
A planned gaseous radioactive release is to occur on August 1. Which of the following is a disallowed wind direction for making the release AND the reason this wind direction is disallowed? (Wind speed is 5 mph)

a. From 278 degrees, to prevent gaseous effluents from settling directly into the river.

b. From 178 degrees, to prevent gaseous effluents from settling on plant buildings due to scrubbing by water vapor from the cooling towers.

c. From 148 degrees, to prevent gaseous effluents from settling over the nearsite special population (reservation and casino).

d. From 358 degrees, to prevent gaseous effluents from entering the river by cooling tower scrubbing.

ANSWER
d.
REFERENCE
ODCM H4 3.7.3, p. 73
TS 5.5.1
Note: Provide copy of Fig B25-1
KA Statement: Waste Gas Disposal System: Knowledge of limiting conditions for operation and safety limits.
MEMORY
BANK

Question # 094
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 2.1.10
QUESTION
Given the following conditions:

- The Thermal Power Monitoring (TPM) screen shows reactor power has exceeded 100% during the shift.
- You note the following on the TPM screen:
- Last minute average power 99.52%
- Last 5 minute average power 99.52%
- Shift Average power is 100.12%
- Shift Maximum power is 102.11%
- One hour remains before the 8 hour shift ends on the TPM display.

The RO questions whether the operating license limits for the unit have been or will be violated.

The maximum power limit _______ , and the SS should _______ to maintain compliance with the shift average power limit.

a. has been met; maintain power at 100% or less

b. has been exceeded; immediately reduce power to 99.0% or less

c. has been met; immediately reduce power to 99.0% or less

d. has been exceeded; maintain current power level or less

ANSWER
b.
REFERENCE
SWI-O-50 section 6.8
Prairie Island Unit 1 Operating License Section (C)1
KA Statement: Knowledge of conditions and limitations in the facility license.
HIGHER
BANK

Question # 095
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 2.2.8
QUESTION
Given the following:

- You are the Work Control Center Shift Supervisor.
- A Temporary Change Notice (TCN) has been written to a surveillance procedure to run 21 Safety Injection (SI) Pump with the discharge valve throttled to collect motor data.
- The test is NOT described in current procedures or the Updated Safety Analysis Report.
- The System Engineer has brought the TCN to you for review prior to the scheduled surveillance run this shift.
- The TCN has been OC approved.

The TCN review should...

a. be signed as the SI pump will not be considered OPERABLE during the test.

b. be signed ONLY if an approved 50.59 screening or evaluation is attached.

c. be signed ONLY if the duty Shift Supervisor concurs with the change.

d. NOT be signed under any circumstances.

ANSWER
b.
REFERENCE
5AWI 3.3.5 App B #22
PINGP 436 1300 (TCN)
KA Statement: Knowledge of the process for determining if the proposed change, test, or experiment involves an unreviewed safety question.
MEMORY
BANK

Question # 096
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 2.2.31
QUESTION
Unit 2 is being refueled following a complete core offload.

Any deviation from the specified order of the approved Fuel Transfer Log, while transporting fuel to or from the Spent Fuel Pool or the core, requires the approval of ___________ before any changes are made.

a. Two Nuclear Engineers

b. Two Senior Reactor Operators

c. One Nuclear Engineer and One Senior Reactor Operator

d. the Engineering Shift Outage Coordinator and the Outage Director.

ANSWER
c.
REFERENCE
D5.2 Section 5.1.2
KA Statement: Knowledge of procedures and limitations involved in an initial core loading.
SRO level as involves fuel handling procedures.
MEMORY
BANK

Question # 097
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 2.3.8
QUESTION
Given the following:

- Procedure C21.3-10.7 RELEASING RADIOACTIVE GAS FROM 127 LOW LEVEL GAS DECAY TANK actions through section 7.6 "Release Procedure" are complete and a release is in progress.
- 127 LLWGDT pressure has been reduced from 90 to 85 psig.

It begins to rain, and rain is expected to continue for about 2 hours.

Which of the following actions is required to be directed by the Shift Supervisor?

a. Continue with the release provided wind conditions remain within allowable limits.

b. Suspend the release due to the rain per section 7.7 "Suspending a Waste Gas Release." When it stops raining, direct performance of steps in section 7.6 "Release Procedure," provided the release can be completed within 24 hours. The release may continue under the previously approved release authorization form.

c. Terminate the release due to the rain per section 7.8 "Terminating a Waste Gas Release." If it is desired to release the remainder of the tank, attach the release authorization form on the current procedure to a new procedure and repeat the procedure in its entirety.

d. Terminate the release due to the rain per section 7.8 "Terminating a Waste Gas Release." Prior to releasing gas from the tank again, a new release authorization form must be generated and approved by the Radiation Protection Manager. The release procedure must be performed again in its entirety.

ANSWER
b.
REFERENCE
C21.3-10.4 Precautions 3.1, Special Consideration 5.1-5.3 and Note Step 7.6.1, 7.6.4 and 7.6.11
KA Statement: Knowledge of the process for performing a planned gaseous radioactive release.
MEMORY
NEW

Question # 098
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 2.3.10
QUESTION
You are the Emergency Director (ED) during a LOCA outside containment.

A worker is critically injured and unconscious in the RHR pit. The Duty Chemist estimates that each of the two proposed rescue team members will receive 30 REM while rescuing the injured person.

Which of the following describes the correct course of action in accordance with F3-11 SEARCH AND RESCUE and F3-12 EMERGENCY EXPOSURE CONTROL?

a. The ED can authorize only volunteers to rescue the injured person.

b. The ED can assign personnel to rescue the injured person.

c. The ED must receive the Plant Manager's permission to exceed the 25 REM dose limit for the volunteer rescuers.

d. The ED cannot authorize the entry with this expected dose. Direct the rescue team to pursue alternate means of rescue to reduce the dose to the rescuers below 25 REM.

ANSWER
a.
REFERENCE
F3-12 section 8.0
F3-11 3.6.3, 3.6.4
KA Statement: Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure.
MEMORY
BANK

Question # 099
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 2.4.32
QUESTION
Unit 1 is in Mode 1 when a BOP System Field Contact Power Supply problem results in a loss of ALL of the BOP annunciators. Maintenance estimates 1 hour to repair.

This condition __________ an Emergency Plan EAL threshold and requires __________ monitoring of plant status.

a. meets; increased

b. meets; hourly

c. does NOT meet; increased

d. does NOT meet; hourly

ANSWER
c.
REFERENCE
C47.0 AOP1 2.4.1.A, 2.4.1.F.2, 2.4.2
F3-2 EAL 12B
KA Statement: Knowledge of operator response to loss of all annunciators.
MEMORY
MODIFIED

Question # 100
Exam Date 2005/18/05
Facility 282
Reactor Type PWR-WEC2
Exam Level SRO
K/A 2.4.1
QUESTION
Given the following:

- 47011-0401 11 STM GEN HI WATER LVL TURBINE TRIP has alarmed.
- PZR level is lowering.
- PZR pressure is lowering.
- All but 5 control rods have rod bottom light indications.
- Reactor power is 7%.
- NO operator actions have been taken.

The Reactor Operators will first enter procedure _____________ and perform Step 1 to verify ____________. These actions are NOT successful in changing the above conditions. When completion of immediate actions is reported, the Shift Supervisor will begin his read-through with Step 1 of procedure ______________.

a. 1FR-S.1 RESPONSE TO NUCLEAR POWER GENERATION/ATWS; automatic rod insertion OR manual rod insertion. 1FR-S.1 RESPONSE TO NUCLEAR POWER GENERATION/ATWS.

b. 1FR-S.1 RESPONSE TO NUCLEAR POWER GENERATION/ATWS; the turbine is tripped to prevent an uncontrolled cooldown of the RCS. 1FR-S.1 RESPONSE TO NUCLEAR POWER GENERATION/ATWS.

c. 1E-0 REACTOR TRIP OR SAFETY INJECTION; the reactor is tripped. 1E-0 REACTOR TRIP OR SAFETY INJECTION.

d. 1E-0 REACTOR TRIP OR SAFETY INJECTION; the reactor is tripped. 1FR-S.1 RESPONSE TO NUCLEAR POWER GENERATION/ATWS.

ANSWER
d.
REFERENCE
E-0 and FR-S.1 Entry Conditions, Steps 1-2
SWI-O-10 7.8.4.a.1, 7.8.4.f.1
KA Statement: Knowledge of EOP entry conditions and immediate action steps.
MEMORY
MODIFIED