U.S. Nuclear Regulatory Commission

Site-Specific RO Written Examination

Applicant Information	
Name:	
Date: March 26, 2007	Facility/Unit: D.C. Cook U1/U2
Region: I ☐ II ☐ III ☒ IV ☐	Reactor Type W ☐ CE ☐ BW ☐ GE ☒
Start Time:	Finish Time:

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. To pass the examination, you must achieve a final grade of at least 80.00 percent. Examination papers will be collected 6 hours after the examination begins.

Applicant Certification

All work done on this examination is my own. I have neither given nor received aid.

_____
Applicant's Signature

Results	
Examination Value	75 Points
Applicant's Score	_____ Points
Applicant's Grade	_____ Percent

U.S. Nuclear Regulatory Commission

Site-Specific SRO Written Examination

Applicant Information	
Name:	
Date: March 26, 2007	Facility/Unit: D.C. Cook U1/U2
Region: III	Reactor Type: Westinghouse
Start Time: 0800	Finish Time:

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. To pass the examination you must achieve a final grade of at least 80.00 percent overall, with 70.00 percent or better on the SRO-only items if given in conjunction with the RO exam; SRO-only exams given alone require a final grade of 80.00 percent to pass. You have 8 hours to complete the combined examination, and 3 hours if you are only taking the SRO portion.

Applicant Certification

All work done on this examination is my own. I have neither given nor received aid.

_____
Applicant's Signature

Results				
RO/SRO-Only/Total Examination Values	75	25	100	Points
Applicant's Scores	_____	_____	_____	Points
Applicant's Grade	_____	_____	_____	Percent

POLICIES AND GUIDELINES FOR TAKING NRC EXAMINATIONS

Each examinee shall be briefed on the policies and guidelines applicable to the examination category (written, operating, walk-through, and/or simulator test) being administered. The examinees may be briefed individually or as a group. Facility licensees are encouraged to distribute a copy of this appendix to every examinee before the examination begins. All items apply to both initial and requalification examinations, except as noted.

Part A: General Guidelines

1. ***[Read Verbatim]*** Cheating on any part of the examination will result in a denial of your application and/or action against your license.

2. If you have any questions concerning the administration of any part of the examination, do not hesitate to ask them before starting that part of the test.

3. SRO applicants will be tested at the level of responsibility of the senior licensed shift position (i.e., shift supervisor, senior shift supervisor, or whatever the title of the position may be).

4. You must pass every part of the examination to receive a license or to continue performing license duties. Applicants for an SRO-upgrade license may require remedial training in order to continue their RO duties if the examination reveals deficiencies in the required knowledge and abilities.

5. The NRC examiner is not allowed to reveal the results of any part of the examination until they have been reviewed and approved by NRC management. Grades provided by the facility licensee are preliminary until approved by the NRC. You will be informed of the official examination results about 30 days after all the examinations are complete.

Part B: Written Examination Guidelines

1. ***[Read Verbatim]*** After you complete the examination, sign the statement on the cover sheet indicating that the work is your own and you have not received or given assistance in completing the examination.

2. To pass the examination, you must achieve an overall grade of 80.00 percent or greater, with 70.00 percent or greater on the SRO-only items, if applicable. If you only take the SRO portion of the exam (as a retake or with an upgrade waiver of the RO exam), you must achieve an overall grade of 80.00 percent or better to pass. SRO-upgrade applicants who do take the RO portion of the exam and score below 80.00 percent on that part of the exam can still pass overall, but may require remediation. Grades will not be rounded up to achieve a passing score. Every question is worth one point.

3. The nominal time limit for completing the examination is 6 hours for the RO exam; 3 hours for the 25-question, SRO-only exam; 8 hours for the combined RO/SRO exam; and 4 hours for the SRO exam limited to fuel handling. Notify the proctor if you need more time.

4. You may bring pens, pencils, and calculators into the examination room; however, programable memories must be erased. Use black ink to ensure legible copies; dark pencil should be used only if necessary to facilitate machine grading.

5. Print your name in the blank provided on the examination cover sheet ***and*** the answer sheet. You may be asked to provide the examiner with some form of positive identification.

6. Mark your answers on the answer sheet provided, and do not leave any question blank. Use only the paper provided, and do not write on the back side of the pages. If you are using ink and decide to change your original answer, draw a single line through the error, enter the desired answer, and initial the change. If you are recording your answers on a machine-gradable form that offers more than four answer choices (e.g., "a" through "e"), be careful to mark the correct column.

7. If you have any questions concerning the intent or the initial conditions of a question, do *not* hesitate to ask them before answering the question. Note that questions asked during the examination are taken into consideration during the grading process and when reviewing applicant appeals. Ask questions of the NRC examiner or the designated facility instructor *only.* A dictionary is available if you need it.

   When answering a question, do *not* make assumptions regarding conditions that are not specified in the question unless they occur as a consequence of other conditions that are stated in the question. For example, you should not assume that any alarm has activated unless the question so states or the alarm is expected to activate as a result of the conditions that are stated in the question. Similarly, you should assume that no operator actions have been taken, unless the stem of the question or the answer choices specifically state otherwise. Finally, answer all questions based on actual plant operation, procedures, and references. If you believe that the answer would be different based on simulator operation or training references, you should answer the question based on the *actual plant*.

8. Restroom trips are permitted, but only one applicant at a time will be allowed to leave. Avoid all contact with anyone outside the examination room to eliminate even the appearance or possibility of cheating.

9. When you complete the examination, assemble a package that includes the examination questions, examination aids, answer sheets, and scrap paper, and give it to the NRC examiner or proctor. Remember to sign the statement on the examination cover sheet indicating that the work is your own and that you have neither given nor received assistance in completing the examination. The scrap paper will be disposed of immediately after the examination.

10. After turning in your examination, leave the examination area as defined by the proctor or NRC examiner. If you are found in this area while the examination is still in progress, your license may be denied or revoked.

11. Do you have any questions?

QUESTION: 001 (1.00)

In Unit 2, the function of Low Tavg at 554°F, coincident with permissive P-4 (Reactor Trip) is to generate a:

a. main steam line isolation signal to prevent excessive reactivity during the trip due to rapid RCS cooldown.

b. feedwater isolation signal to prevent excessive reactor coolant system cooldown due to overfeeding of the steam generators.

c. main turbine trip signal to prevent excessive cooldown of the steam generators and the reactor coolant system.

d. feedwater flow conservation signal to ensure equal distribution of water to the steam generators.

QUESTION: 002 (1.00)

Operators suspect a vapor space leak through either a Pressurizer Safety or PORV. What indication combinations are available to help the operator determine which valve is faulted?

	ACOUSTIC MONITOR	TAILPIPE TEMPERATURE
a.	each safety each PORV	each safety common PORV line
b.	common safety line each PORV	common safety line each PORV
c.	each safety common PORV line	each safety common PORV line
d.	common safety common PORV line	each safety line each PORV

QUESTION: 003 (1.00)

Given the following Unit 1 conditions:

- A small break LOCA is in progress.
- Only one train of SI has actuated.
- RCS Pressure is 1290 psig.
- RCS Temperature is 703°F.

In order to prevent fuel damage from inadequate core cooling, what is the reason for maintaining a secondary heat sink?

a. To provide an alternate means of RCS pressure control.

b. Reflux boiling is the primary means of heat removal prior to voiding in the hot legs.

c. To ensure removal of RCS heat since the RCPs are expected to be running.

d. RCS pressure may remain so high that cooling from injection flow alone is inadequate.

QUESTION: 004 (1.00)

Given the following plant conditions:

- The operating shift has just entered ES-1.2, Post-LOCA Cooldown and Depressurization following a large break LOCA.
- Current Containment pressure is 2.0 psig.
- The shift is confirming that Natural Circulation exists.

Which one of the following conditions provides indication that natural circulation exists?

a. RCS subcooling based on core exit TCs is 40°F and slowly rising.

b. The delta-T (Thot-Tcold) across the SGs are 10°F and slowly lowering.

c. SG pressures are slowly rising.

d. RCS Hot leg temperatures are trending to saturation temperature for steam pressure.

QUESTION: 005 (1.00)

QRV-200, RCP Seal Backpressure Valve is operating at 60% open.

Assuming QRV-251, Charging Line Flow Control Valve is NOT adjusted, IF QRV-200 fails to 30% open, THEN:

	Charging Pump Discharge Press	RCP Seal Injection Flow	Charging Flow to Regen Hx
a.	Lowers	Rises	Lowers
b.	Rises	Lowers	Rises
c.	Rises	Rises	Lowers
d.	Lowers	Lowers	Rises

QUESTION: 006 (1.00)

During a drain down of Unit 2 to half loop conditions, RCS level began to lower uncontrollably near half loop conditions. The operators have stabilized level and are implementing 2-OHP-4022-017-001, Loss of RHR Cooling.

The following conditions exist:

- RCS level on NLI-122 is 614.35 ft and stable.
- The West RHR pump is in operation with the East RHR pump available.
- RHR flow is through ICM-321 to loops 2 and 3 cold legs.
- Control Board indication of RHR flow is 3400 gpm on IFI-321.

The crew is implementing step 15c to verify proper RHR flow for operating RHR Pumps Based on the conditions provided RHR flow is aligned to the ____(1)_____ flow path and flow is in the ____(2)_____ Region.

(Refer to Attached portion of 2-OHP-4022-017-001)

a. 1) Injection 2) Acceptable

b. 1) Injection 2) Unacceptable

c. 1) Normal Cooldown 2) Acceptable

d. 1) Normal Cooldown 2) Unacceptable

QUESTION: 007 (1.00)

02-OHP-4022-016-004, Loss of CCW, Attachment B Split Train CCW Cross-Tie Using 1E CCW, is being performed by the AEO due to a loss of both Unit 2 CCW pumps. The Unit 1 East CCW pump is the only CCW pump available.

Which one of the following describes the directions you will provide to the AEO concerning CCW flow and the associated reason?

Direct the AEO to ...

a. verify that CCW flow is at least 9000 gpm total to ensure sufficient flow to Unit 1's normal loads and Unit 2's emergency loads.

b. verify that CCW flow does NOT exceed 9000 gpm total to prevent overloading the operating CCW pump.

c. verify that CCW flow does NOT exceed 9000 gpm total to minimize thermal transients on the Unit 2's equipment.

d. verify that CCW flow is at least 9000 gpm total to ensure that the flow requirements are met for BOTH unit's RHR Heat Exchangers.

QUESTION: 008 (1.00)

Unit 2 was operating at steady state full power when a loss of off-site power occurred. The following indications were observed during the performance of Step 1 of 02-OHP-4023-E-0, Reactor Trip or Safety Injection:

- WR Neutron flux is less than 5% and lowering.
- Prior to RCP Bus transfer, the operator noted that Rod H8 was at 50 steps.
- RTB is closed.
- RTA, BYA, and BYB are open.
- All Auxiliary Feedwater Pumps are Running.

The above indications remained constant when the operators actuated the manual reactor trip breaker switch.

Which one of the following actions should the crew take?

a. Go to 2-OHP-4023-FR-S.1, Response to Nuclear Power Generation/ATWS

b. Continue in 2-OHP-4023-E-0, Reactor Trip or Safety Injection

c. Go to 2-OHP-4023-ECA-0.0, Loss of all AC Power

d. Go to 2-OHP-4023-FR-S.2, Response to Loss of Core Shutdown

QUESTION: 009 (1.00)

A Unit 2 Reactor trip occurs, but Intermediate Range N-35 detector fails such that current does NOT go below 5.0E-5 amps.

Which of the following describes how the source range instruments will be energized as actual reactor power lowers below P-6?

a. The source range manual reset switches will be used to manually re-energize the source range detectors.

b. One source range detector will automatically re-energize and the other will be manually re-energized using the reset switch.

c. The failed IR detector will be bypassed allowing the source range detectors to energize.

d. P-6 will be unblocked and the source range detectors will automatically unblock.

QUESTION: 010 (1.00)

Given the following events and conditions:

- A loss of condenser vacuum occurred on Unit 2.
- Reactor power is less than P-8.
- Turbine load is 25%.
- The operators are rapidly lowering turbine load.

Which ONE of the following statements describes the required action(s)?
(2-OHP-4024-218 Drops 12, 13, & 14 attached)

a. When condenser vacuum is less than 24.8 inches Hg, trip the turbine then shutdown the reactor.

b. When condenser vacuum is less than 24.8 inches Hg, trip the reactor then trip the turbine.

c. When condenser vacuum is less than 21.0 inches Hg, trip the reactor then trip the turbine.

d. When condenser vacuum is less than 21.0 inches Hg, trip the turbine then shutdown the reactor.

QUESTION: 011 (1.00)

A screen collapse has resulted in debris intrusion into the circulating water system in Unit 2. As a result, the following conditions exist in Unit 2:

- A Reactor Trip/Turbine Trip was initiated due to the need to trip both Main Feedwater Pumps on lowering vacuum.
- A loss of ESW has occurred due to high delta-p on the pump strainers.
- The crew is implementing the following procedures in parallel:
  - 2-OHP-4022-019-001, ESW System Loss/Rupture
  - 12-OHP-4022-057-001, Response to Degraded Forebay

All three AFW pumps are operating and supplying SGs. Which of the following actions is required as a result of the current conditions.

a. Stop the East and West Motor Driven AFW Pumps and ensure the TDAFP remains operating.

b. Verify both Motor Driven AFW pumps are supplying SGs and stop the Turbine Driven AFW Pump.

c. Leave the AFW pumps running and open the doors to the Motor Driven AFW Pump rooms.

d. Stop all but one AFW pump and ensure AFW flow is maintained to at least two Steam Generators.

QUESTION: 012 (1.00)

A loss of offsite power has occurred. During the recovery phase it was discovered that complete loss of the switchyard 125V DC distribution systems occurred.

How will this affect the restoration of power to the plant?

a. The 4 kV circuit breakers CAN NOT be operated in auto or manual.

b. The 345 kV and 765 kV switchyard circuit breakers CAN NOT be opened or closed from the control room.

c. Heat tracing and cooling is lost for TR4 and TR5, reducing their load carrying capacity.

d. The air compressors for the 345 kV and 765 kV circuit breakers have lost power.

QUESTION: 013 (1.00)

Given the following:

- Unit 2 Plant Air Compressor (PAC) is operating with Unit 1 PAC in Standby.
- Both Units are operating at 100% when a tornado causes a Loss of All Offsite Power.
- Both Units' EDGs started and are supplying their respective buses.

Which ONE of the following describes the expected indication of the Unit 1 Plant & Control Air System Pressure gauges and the reason for this response. (Assume NO operator action)?
Plant Air Gauge is ...

a. lowering since the PA Compressor is locked out on load shed signal.
Control Air Gauge is lowering since the CA Compressor is locked out on load shed signal.

b. lowering since the PA Compressor is locked out on load shed signal.
Control Air Gauge is rising since the CA Compressor will auto start if pressure lowers below auto start setpoint.

c. rising since the PA Compressor will start and load.
Control Air Gauge is rising since the crosstie valves will reopen.

d. rising since the PA Compressor will start and load.
Control Air Gauge is rising since the CA Compressor will auto start on low pressure because the crosstie valves have closed.

QUESTION: 014 (1.00)

The following plant conditions exist:

- Unit 1 is in Hot Standby.
- Reserve Feed Breaker 12AB has tripped due to a fault.
- 1AB Emergency Diesel Generator failed to start.
- Ann.119, Drop 9, BATTERY CHARGER 1AB1 FAILURE is LIT

Which ONE of the following describes the condition of the Control Room Instrument Distribution (CRID) system resulting from these conditions?

a. 120 VAC power to CRID III and CRID IV from inverters has been lost.

b. 250 VDC Battery AB is supplying all power for CRID III and CRID IV.

c. 250 VDC Battery CD is supplying all power for CRID III and CRID IV.

d. CRID III and CRID IV Inverters are being supplied with power from the regulated 600/120VAC transformer.

QUESTION: 015 (1.00)

Unit 2 is at 89% power. The unit has just stabilized following an instrument malfunction which caused a rod withdrawal from the original positions. All rods moved from their original positions.

Control Bank D Group 1 step counter position is 201 with RPIs indicating the following:

- Control Rod D4: 194 steps.
- Control Rod D12: 205 steps.
- Control Rod M12: 182 steps.
- Control Rod M4: 180 steps.

Flux mapping confirmed the rod positions as listed above.

Which ONE of the following describes the action(s) required by Technical Specifications? (Technical Specifications Sections 3.1.4 & 3.1.7 attached)

a. Verify shutdown margin is within the limits within 1 hour AND be in Hot Standby within 6 hours.

b. Restore control rods to within alignment in 30 minutes OR be in Hot Standby within 6 hours.

c. Reduce thermal power to less than 75% within 1 hour AND restore control rods to within alignment within 2 hours.

d. Immediately trip the reactor AND emergency borate the RCS.

QUESTION: 016 (1.00)

Given the following conditions:

- Unit 2 tripped from 29% power.
- 21 RCP breaker tripped open when the busses swapped.

Which one of the following describes the response of Thot and Tcold in Loop 21?

a. Tcold rises to approximately equal Thot.

b. Thot lowers to approximately equal Tcold.

c. Tcold lowers, Thot remains approximately stable.

d. Thot rises, Tcold remains approximately stable.

QUESTION: 017 (1.00)

Given the following:

- Unit 1 is in Mode 4.
- The Containment Purge System was aligned for full flow purge operation with the following lineup:

  Purge Supply Fan 1-HV-CPS-1 - RUNNING
  Purge Exhaust Fan 1-HV-CPX-2 - RUNNING
  Purge Supply to Upper Containment 1-VCR-105 and 1-VCR-205 OPEN
  Purge Exhaust from Upper Containment 1-VCR-106 and 1-VCR-206 OPEN

Following a HIGH alarm on VRS-1101, Upper Containment Area Radiation Monitor, the Containment Purge System is aligned as follows:

Purge Supply Fan 1-HV-CPS-1 - RUNNING
Purge Exhaust Fan 1-HV-CPX-2 - RUNNING
Purge Supply to Upper Containment 1-VCR-105 and 1-VCR-205 OPEN
Purge Exhaust from Upper Containment 1-VCR-206 OPEN
Purge Exhaust from Upper Containment 1-VCR-106 CLOSED

Which ONE of the following describes the required operator actions?

Stop 1-HV-CPS-1 and 1-HV-CPX-2, Close 1-VCR-105, 205, and 206 and ...

a. declare 1-VCR-105 and Purge Isolation System inoperable.

b. declare 1-VCR - 206, 1-HV-CPX-2, and Purge Isolation System inoperable.

c. log completion of the purge. Containment Purge Isolation is NOT required to be operable in this mode.

d. initiate an eSAT to investigate why 1-VCR-106 incorrectly closed from Lower Containment Radiation.

QUESTION: 018 (1.00)

Given the following conditions:

- Unit 1 is at 100% power.
- The crew has entered 01-OHP-4022-019-001, ESW System Loss/Rupture, due to a large leak just downstream of the U1 East ESW Pump Discharge Valve (WMO-701).
- The control room crew has closed WMO-707 (Unit 2 ESW Header Crosstie) as directed by the procedure.
- The 1E ESW pump is NOT running.

Which of the following components have completely lost ESW flow capability due to these actions?

a. DG1CD Cooling Water Supply
East MDAFP Emergency Suction
North Control Room Air Conditioning ESW Supply
East CCW Hx Cooling Water Supply

b. DG1AB Cooling Water Supply
West MDAFP Emergency Suction
South Control Room Air Conditioning ESW Supply
West CCW Hx Cooling Water Supply

c. West MDAFP Emergency Suction
East MDAFP Emergency Suction
North Control Room Air Conditioning ESW Supply
East CCW Hx Cooling Water Supply

d. TDAFP Emergency Suction
West MDAFP Emergency Suction
South Control Room Air Conditioning ESW Supply
West CCW Hx Cooling Water Supply

QUESTION: 019 (1.00)

Which ONE of the following lists the Unit 1 Control Room Ventilation system damper alignment for operation during a fire located in the Control Room Cable Vault?

	1-HV-ACR-DA-1/1A Outside air to CR	1-HV-ACR-DA-2 Outside air to CR PRZN	1-HV-ACR-DA-2A Outside air to CR PRZN	1-HV-ACR-DA-3 CR air to PRZN
a.	OPEN	PARTIAL OPEN	CLOSED	OPEN
b.	CLOSED	CLOSED	PARTIAL OPEN	OPEN
c.	OPEN	CLOSED	PARTIAL OPEN	CLOSED
d.	CLOSED	PARTIAL OPEN	CLOSED	CLOSED

QUESTION: 020 (1.00)

Unit 2 was operating at 20% power when a Control Bank A rod dropped into the core. During recovery of the dropped rod, an URGENT FAILURE alarm was received.

Which ONE of the following is the reason for this alarm?

a. Output voltage to the moveable and stationary grippers has excessive ripple.

b. Moveable and stationary grippers attempt to energize at the same time.

c. Current signals to moveable and stationary grippers are lost at the same time.

d. Current to the moveable and stationary grippers does NOT match the current command signal.

QUESTION: 021 (1.00)

The control room operators are performing 01-OHP-4023-FR-C.1, Inadequate Core Cooling . They are NOT able to establish high head ECCS flow.

The following conditions exist:

- SG depressurization proves to be ineffective.
- SG NR levels are stable at 20%.
- All core exit TCs are greater than 1250°F and slowly rising.

The operators were attempting to establish conditions for RCP restart, but are unable to establish RCP seal injection or 200 psid across the #1 seal.

What actions are appropriate for these conditions?

a. Start one RCP at a time until core exit TCs are less than 1200°F.

b. Do NOT start the RCP's. Open all PRZ PORVs and block valves.

c. Start all RCPs simultaneously to reduce core exit TC's to less than 1200°F.

d. Do NOT start the RCPs. Continue attempts to establish high head injection.

QUESTION: 022 (1.00)

The following plant conditions exist on Unit 2:

- Loop flow measurement determined the Reactor Coolant Pump 4 impeller has degraded such that its Reactor Coolant System (RCS) loop flow has lowered by 5% from its original value.
- The other three RCS loop flows remain UNCHANGED.
- The Reactor is operating at 100% Power.

Based on these conditions, which one of the following would be a result of the lowered flow rate in the RCS loop 4?

a. Delta temperature in RCS loop 4 at full power will be lower.

b. Demand on the pressurizer variable heaters at 2235 psig will be higher.

c. Steam pressure in the Steam Generator 4 at full power will be higher.

d. The reactor core margin to Departure from Nucleate Boiling will be lower.

QUESTION: 023 (1.00)

Unit 1 is operating at 80% power with Tavg at 554°F. All systems are functioning in AUTOMATIC mode EXCEPT ROD CONTROL which is in MANUAL.

If Loop 2 Tcold fails HIGH, what would be the effect on RCP seal injection flows? (Assume No Operator Action)

a. The change in pressurizer reference (setpoint) level will cause RCP Seal Injection flow to lower.

b. Since there is no actual change in Tavg, RCP Seal injection flow will remain the same.

c. The change in pressurizer reference (setpoint) level will cause RCP Seal Injection flow to rise.

d. Since 1-QRV- 200 is operated in manual, there will be no change in RCP Seal injection flow.

QUESTION: 024 (1.00)

Given the following plant conditions on Unit 1:

- Reactor power - 100%
- PRZ level at program level
- All controls are in AUTOMATIC with Boric Acid Controller set at 14.7
- 120 gpm Letdown is in service
- Charging and letdown are balanced

Which ONE of the following describes the effect on the plant if 1-QRV-251, Charging Flow Controller, loses control air? (USFAR Table 9.2-2 CVCS Design Parameters is attached)

a. VCT level will lower to the Refueling Water Sequence setpoint.

b. Pressurizer level will lower to the 17% letdown isolation setpoint then rise to the high level reactor trip setpoint.

c. Pressurizer level will lower to the 17% letdown isolation setpoint then continue to lower until reactor trips on low pressurizer pressure.

d. Pressurizer level will rise to the high level reactor trip setpoint.

QUESTION: 025 (1.00)

Given the following plant conditions:

- Refueling is in Progress
- The Refueling Cavity Level is 644.5 ft elevation
- Reactor Coolant System (RCS) temperature is 90°F.
- The East Residual Heat Removal (RHR) train is in the Shutdown Cooling Mode.
- The East RHR heat exchanger suddenly develops a 50 gpm tube leak.

Based on these conditions and assuming no operator action is taken, what will be the result of this event?

a. Refueling Cavity Level rises and the RHR Hx primary side (RCS) Delta-T rises.

b. Refueling Cavity Level lowers and the RHR Hx primary side (RCS) Delta-T lowers.

c. CCW surge tank level will rise, until overflowing to the Waste Gas Header.

d. CCW surge tank level will lower, until the CCW pumps trip, resulting in a loss of shutdown cooling.

QUESTION: 026 (1.00)

Unit 2 is performing a normal cooldown in accordance with 02-OHP-4021-001-004, Plant Cooldown From Hot Standby To Cold Shutdown.

Power for 2-IMO-128/ICM 129 (RHR Suctions from Loop 2) is:

a. removed when reaching Mode 4 with RHR in service to ensure RHR cooling is maintained during the remainder of the cooldown.

b. maintained when in Mode 4 to allow RHR to be isolated in the event of a Mode 4 LOCA

c. removed when reaching Mode 4 to ensure that the RHR suction relief is maintained for LTOP.

d. maintained when Mode 4 is reached, but will be removed when RCS cold leg temperatures are less than 300°F for LTOP controls.

QUESTION: 027 (1.00)

A LOCA occurs which results in all core exit temperatures thermocouples reading about 1200°F.

Which method is the preferred and most effective means of cooling the core?

a. Reduce RCS pressure by dumping steam from the secondary to inject the accumulators.

b. Start reactor coolant pumps one at a time.

c. Establish ECCS flow to the core.

d. Reduce RCS pressure by opening the pressurizer PORVs to inject the accumulators.

QUESTION: 028 (1.00)

Unit 2 is in Mode 5 preparing to drain the RCS.

During the drain down, the level in the PRT is maintained _____(1)_____ for the purpose of_____(2)_____.

a. 1) greater than 25% 2) covering the sparge line to allow for nitrogen to aid in RCS draining.

b. 1) greater than 5% 2) covering the sparge line to prevent nitrogen in the PRT from getting into the steam generator tubes.

c. 1) less than 5% 2) keeping the sparge line uncovered to allow nitrogen to aid in RCS draining.

d. 1) less than 25% 2) keeping the sparge line uncovered to allow nitrogen to aid in draining the steam generator tubes.

QUESTION: 029 (1.00)

Given the following:

- Unit 1 was operating at 100% power when the turbine tripped.
- The reactor failed to automatically trip but was manually tripped.
- All other systems operated as expected.
- The Emergency procedures have been performed and the plant stabilized.
- It was noted that on the transient RCS pressure reached 2370 psig.

Which ONE of the following represents the expected status of the PRT and the actions that must be taken to restore it to normal limits?

a. PRT Temperature = 100°F, Level = 15%, and Pressure = 14 psig
Open the Vent to depressurize and add water to cool the tank.

b. PRT Temperature = 140°F, Level = 84%, and Pressure = 12 psig
Reduce level and add water to cool & depressurize the tank

c. PRT Temperature = 280°F, Level = 82%, and Pressure = 34 psig
Open the Vent to depressurize and add water to cool the tank.

d. PRT Temperature = 240°F, Level = 95%, and Pressure = 3 psig
Reduce level and add water to cool & depressurize the tank.

QUESTION: 030 (1.00)

Unit 1 has just experienced a spurious safety injection. Which ONE of the following automatic actions are expected to occur in the CCW system?

1) CCW from the RHR Hx throttles to approximately 3,000 gpm.
2) CCW to CEQ fan motors open.
3) Standby CCW pump auto starts.
4) Letdown Hx CCW return valve 1-CRV-470 closes.

a. 1, 2, 3

b. 1, 3, 4

c. 2, 3, 4

d. 1, 2, 4

QUESTION: 031 (1.00)

A small break LOCA has occurred outside containment in Unit 1. Actions of 1-OHP-4023-ECA-1.2, LOCA Outside Containment, have been completed and RCS pressure continued to lower. A transition was made to 1-OHP-4023-ECA-1.1, Loss of Emergency Coolant Recirculation.

Which of the following is the reason a transition was made to ECA-1.1?

a. To terminate offsite release.

b. To recover after the break was isolated.

c. To take compensatory actions for lack of inventory in the containment sump.

d. To re-verify that all automatic actions have been completed.

QUESTION: 032 (1.00)

The operators are instructed to stop ALL running RCPs during the initial steps of 2-OHP-4023-FR-H.1, Loss of Secondary Heat Sink.

This action is required to allow the operators to:

a. establish a higher flow rate for high pressure SI thus increasing the RCS cooldown rate.

b. control the over-cooling via natural circulation when feedwater is established.

c. depressurize the intact SGs in order to reduce RCS pressure and inject accumulators.

d. reduce the heat addition to the RCS and extend the time to depletion of the steam generator inventory.

QUESTION: 033 (1.00)

A LOCA is in progress, and the control room operators are attempting to stabilize plant conditions. The following plant conditions exist:

- Core Exit TCs: 450°F.
- RCS Pressure: 400 psig.
- RVLIS Narrow Range: 76%.
- RVLIS Wide Range: 27%.
- ALL RCPs: OFF.

Which ONE of the following describes current core conditions and operational requirements? (Refer to attached 02-OHP-4023-F-0.2, Core Cooling status tree as needed.)

a. Subcooled. Operator action is NOT required because core cooling is satisfactory.

b. Saturated. At their discretion, the operators may perform 02-OHP-4023-FR-C.3, Response to Saturated Core Cooling to restore subcooled core cooling.

c. Degraded. Prompt action must be taken as per 02-OHP-4023-FR-C.2, Response to Degraded Core Cooling or conditions could degrade to an inadequate core cooling condition.

d. Inadequate. Immediate action must be taken as per 02-OHP-4023-FR-C.1, Response to Inadequate Core Cooling or core uncovery and fuel damage could occur.

QUESTION: 034 (1.00)

Following a small break LOCA, the crew is performing the actions contained in FR-P.1, Response To Imminent Pressurized Thermal Shock Conditions. Which ONE of the following describes the difference in SI termination criteria for 2-OHP-4023-FR-P.1 as opposed to the criteria in 2-OHP-4023-ES-1.1, Safety Injection Termination?

The criteria in 2-OHP-4023-FR-P.1 is...

a. more restrictive to ensure adequate ECCS flow and allow for a more controlled reduction in RCS pressure.

b. less restrictive to limit cooldown from ECCS and allow for a faster reduction in RCS pressure.

c. more restrictive because subsequent RCP restart is likely to cause propagation of any existing flaw in the reactor vessel walls.

d. less restrictive because subsequent RCP restart is likely to cause propagation of any existing flaw in the reactor vessel walls.

QUESTION: 035 (1.00)

The following plant conditions exist:

- The unit has tripped from 100% power when a switchyard failure caused a loss of offsite power.
- 02-OHP-4023-ES-0.2, Natural Circulation Cooldown, is in progress to perform a natural circulation cooldown and depressurization of the reactor coolant system (RCS).
- The crew is about to perform the step to initiate RCS depressurization following the block of SI actuation.

For which one of the following situations should a transition to 02-OHP-4023-ES-0.3, Natural Circulation Cooldown with Steam Void in Vessel, occur?

a. The Safety Injection accumulators are unable to be isolated.

b. Pressurizer Auxiliary Spray becomes unavailable for use in depressurizing the RCS.

c. NO Reactor Coolant Pumps will be able to be restarted prior to cooling down the RCS to less than 200°F.

d. A high rate of plant cooldown and depressurization is required due to a reduced Condensate Storage tank level.

QUESTION: 036 (1.00)

During implementation of 02-OHP-4023-FR-Z.1, Response to High Containment Pressure, the operators are directed to check for 02-OHP-4023-ECA-1.1, Loss of Emergency Coolant Recirculation, actions NOT in effect.

The reason for this verification is that in procedure 02-OHP-4023-ECA-1.1:

a. the initiation of RHR spray is performed prior to 50 minutes following the event to aid in reducing containment pressure.

b. containment pressure is allowed to rise slightly to account for reduced operation of containment spray pumps.

c. containment pressure is allowed to rise to 12 psig with NO containment spray pumps operating.

d. the steam generators are NOT isolated even if faulted to allow for additional RCS cooldown.

QUESTION: 037 (1.00)

Operators are performing 02-OHP-4023-ECA-2.1, Uncontrolled Depressurization of All Steam Generators, due to a steam leak inside containment along with failure of all SG stop valves to close.

During recovery actions, which ONE of the following is the minimum AFW flow rate to each SG during an uncontrolled depressurization of all SGs, and the reason for this flow rate?

a. 25 kpph, provide minimum flow for decay heat removal.

b. 25 kpph, prevent complete dryout of the SG tubes.

c. 60 kpph, provide minimum flow for decay heat removal.

d. 60 kpph, prevent complete dryout of the SG tubes.

QUESTION: 038 (1.00)

Given the following conditions:

- Unit 1 is at 100% power
- Pressurizer PORV NRV-151 opens and sticks open.
- The associated PORV block valve CANNOT be closed
- PRT pressure rises to the point that the PRT Rupture Disc ruptures

What is the effect of the disc rupturing?

a. N2 Supply to the PRT automatically isolates.

b. Pressurizer PORV outlet temperature lowers.

c. PRT Drain Valve opens to lower level.

d. PRT level drains below the sparging nozzles.

QUESTION: 039 (1.00)

Unit 2 is at 50% power with all controls in Automatic. A failure of turbine first stage pressure instrumentation causes rods to slowly withdraw. Rods continue to withdraw slowly when placed in Manual.

Assuming NO operator actions, which one of the following trips is designed to ensure DNB parameters are NOT exceeded for this transient?

a. Overpower-Delta Temperature

b. Power Range High Flux (high setpoint)

c. Overtemperature-Delta Temperature

d. Pressurizer High Level

QUESTION: 040 (1.00)

The following conditions exist:

- Containment pressure instrument Channel #4, 2-PPP-300 declared inoperable.
- Required actions per 02-OHP-4022-013-011 Containment Instrumentation Malfunction have been completed.
- Required Technical Specification Actions have been taken for Channel #4, 2-PPP-300.

Which ONE of the following describes the SI and CTS, and Containment Isolation Phase A (CIA) and B (CIB) response to a subsequent failure of CRID 3 power supply.

	SI ACTUATES	CTS ACTUATES	CIA ACTUATES	CIB ACTUATES
a.	YES	NO	YES	NO
b.	YES	YES	YES	YES
c.	NO	YES	NO	YES
d.	NO	NO	NO	NO

QUESTION: 041 (1.00)

Which one of the following contains BOTH conditions that will result in indicated reactor flux level counts being LOWER than actual reactor flux level counts?

a. Source Range pulse height discrimination set too HIGH.
Intermediate Range compensating voltage set too HIGH.

b. Source Range pulse height discrimination set too HIGH.
Intermediate Range compensating voltage set too LOW.

c. Source Range pulse height discrimination set too LOW.
Intermediate Range compensating voltage set too HIGH.

d. Source Range pulse height discrimination set too LOW.
Intermediate Range compensating voltage set too LOW.

QUESTION: 042 (1.00)

Unit 2 is operating at 50% power. Control rods are operating in automatic at 175 Steps on Bank D.

- Loop #21 Hot Leg RTD fails High.
- The Control rods insert 15 steps before rods are placed to Manual.
- The Rod Bank D Low Low alarm is received.
- The Rod Insertion Limit Recorder indicates that the Rod Insertion Limit for CB D is 189 Steps.

Which of the following describes the required actions?

a. The RIL recorder is correct. Immediately initiate Emergency Boration until Shutdown Margin is restored.

b. The RIL recorder is correct. Initiate actions to withdraw Control Rods to the pre-transient position.

c. The RIL recorder is NOT correct. The RIL is met. Placing the Delta T Defeat switch to Loop #1 will correct the RIL recorder Indication.

d. The RIL recorder is NOT correct. The RIL is met. Placing the Tavg Defeat switch to Loop #1 will correct the RIL recorder Indication.

QUESTION: 043 (1.00)

Unit 2 is operating at 100% power. The 43-TSAT-2 Thermocouple Selector Switch is selected to use the Auctioneering function.

An OPEN has developed in one of the thermocouples used by the Saturation Meter. What impact will the failed thermocouple have on the Saturation Meter Subcooling indication?

a. The Saturation Meter subcooling monitor will indicate a reduced subcooling since meter selects the highest of the train A or train B thermocouples average.

b. The Saturation Meter subcooling monitor will indicate maximum subcooling since meter selects the highest of the train A or train B thermocouples average.

c. The Saturation Meter subcooling monitor will indicate normal subcooling since the meter selects the auctioneered high thermocouple.

d. The Saturation Meter subcooling monitor will indicate inadequate subcooling since the meter selects the auctioneered high thermocouple.

QUESTION: 044 (1.00)

Unit 2 is operating at 100% power. Control Rod Drive Mechanism Cooling Fan HV-CRD-3A trips due to overcurrent.

Which of the following describes the required actions?

a. Start the standby CRDM Cooling Fan. Operation may continue as long as CRDM temperatures remain less than 170°F.

b. Start the standby CRDM Cooling Fan. Begin a shutdown since less than 4 fans are available for natural circulation head cooling.

c. Verify the standby CRDM Cooling Fan automatically started. Begin a shutdown since less than 4 fans are available for natural circulation head cooling.

d. Verify the standby CRDM Cooling Fan automatically started. Operation may continue as long as CRDM temperatures remain less than 170°F.

QUESTION: 045 (1.00)

Which ONE of the following correctly describes operation of the Ice Condenser Air Handling Unit Fans?

The Air Handling Unit fans are:

a. manually stopped before a defrost cycle but will automatically trip when DIS is placed in service.

b. automatically stopped by a defrost cycle and when DIS is placed in service.

c. manually stopped before a defrost cycle and when DIS is placed in service.

d. automatically stopped by a defrost cycle but must be manually stopped when DIS is placed in service.

QUESTION: 046 (1.00)

Prior to aligning the Containment Purge System for Clean-up operation, 01-OHP-4021-028-005, Operation Of The Containment Purge System, requires the Upper Containment Purge Supply valves to be opened if Containment Pressure is less than 0 psig.

Which ONE of the following describes the basis for this step?

a. Technical Specifications require Containment pressure to be greater than 0 psig at all times.

b. Prevent a negative pressure from adversely affecting the radiation monitor readings.

c. Containment Purge Exhaust Valves are interlocked to close when containment pressure is less than 0 psig.

d. Prevent Ice Condenser doors from opening when initiating containment purge.

QUESTION: 047 (1.00)

Unit 1 has experienced a large break LOCA. Thirty (30) minutes after the LOCA initiated, the RWST Low level annunciator alarmed. Which ONE of the following describes the operator actions for cold leg recirculation alignment using Train-A ECCS Equipment?

a. Maintain the West RHR and CTS pumps running
Open the West Containment Recirculation Sump Valve, 1-ICM-306
Close West CTS and RHR pump suction valves (1-IMO-320 and 225)

b. Maintain the East RHR and CTS pumps running
Open the East Containment Recirculation Sump Valve, 1-ICM-305
Close East CTS and RHR pump suction valves (1-IMO-310 and 215)

c. Place the West CTS and RHR pumps in Pull To Lock
Close the West CTS and RHR pump suction valves (1-IMO-320 and 225)
Open the West Containment Recirculation Sump Valve, 1-ICM-306
Start the West CTS and RHR pumps

d. Place the East CTS and RHR pumps in Pull To Lock
Close the East CTS and RHR pump suction valves (1-IMO-310 and 215)
Open the East Containment Recirculation Sump Valve, 1-ICM-305
Start the East CTS and RHR pumps

QUESTION: 048 (1.00)

Which ONE of the following Unit 2 design features minimizes the potential for debris plugging the spray nozzles when the Containment Spray System takes a suction from the Recirc Sump following a LOCA?

a. Water entering the Recirc Sump must flow over a curb, which removes large debris. A strainer at the outlet of each CTS Heat Exchanger removes small debris.

b. A trash screen over the Recirc Sump inlet removes large debris. A CTS Pump suction strainer on each pump inlet line removes small debris.

c. A sloped trash screen over the Recirc Sump exit prevents large debris from entering the suction lines. Strainers in the suction lines just before the 2-ICM-305/306 valves remove small debris.

d. A trash curb ahead of the Recirc sump removes large debris. Large grating and fine screens over the Recirc Sump provide for removal of small debris.

QUESTION: 049 (1.00)

A reactor trip and safety injection occurred due to a LOCA. There are several ECCS system failures. The following plant conditions exist:

- Containment pressure is 7.2 psig and rising.
- Containment (PACHMS) hydrogen concentration is 5.8% and rising.

Which ONE of the following describes the correct mitigating strategy for hydrogen control?

a. A hydrogen recombiner should be placed in service if 6 hours have elapsed since the start of the LOCA.

b. Both hydrogen recombiners should be started immediately.

c. Contact the Plant Evaluation Team to evaluate PACHMS for failed analyzers because containment hydrogen is never expected to exceed 5% during any accident.

d. Contact the Plant Evaluation Team to evaluate the condition because operation of the hydrogen recombiners may cause an explosion.

QUESTION: 050 (1.00)

The following conditions exist:

- There is a Unit 2 core off-load in progress.
- An irradiated fuel assembly was accidentally dropped while being moved to a location in the spent fuel pool.
- Bubbles are seen rising from the assembly.
- R-5, Spent Fuel Pit Radiation monitor indicates High Alarm.

Which of the following describes the expected automatic actions, if any and the required operator actions as per 12-OHP-4022-018-006, Irradiated Fuel Handling Accident in Spent Fuel Storage Area - Control Room Actions?

a. No Automatic Actions are expected.
The Crew must manually align the Fuel Hdlg Area and Control Room Ventilation Systems to place the Charcoal Filters in Service.
The Fuel Hdlg Area Supply fans must be stopped.

b. The Fuel Hdlg Area Supply Fans will automatically trip.
The Fuel Hdlg Area Charcoal Filters must be verified aligned.
The Crew must manually align the Control Room Ventilation Systems to place the Charcoal Filters in Service.

c. The Fuel Hdlg Area Supply Fans will automatically trip.
The Fuel Hdlg Area and Control Room Ventilation Systems Charcoal Filters must be verified aligned.
The Crew must direct the personnel on the Containment Penetration Breach List to set Containment Closure.

d. No Automatic Actions are expected.
The Crew must manually align the Fuel Hdlg Area to place the Charcoal Filters in Service and stop the Fuel Hdlg Area Supply fans.
Personnel on the Containment Penetration Breach List must be directed to set Containment Closure.

QUESTION: 051 (1.00)

During the final stages of an RCS heatup, a SG Safety begins to leak at an RCS temperature of 495°F. The Unit Supervisor directs you to cooldown to 480°F and stabilize RCS Temperature and SG pressure.

Which ONE of the following is the correct Steam Dump Pressure Controller setpoint required to maintain RCS temperature at approximately 480°F?

a. 447 psig

b. 551 psig

c. 566 psig

d. 581 psig

QUESTION: 052 (1.00)

Which ONE of the following power supply failures would allow the steam dump system to continue to operate?

a. CRID II

b. CRID III

c. 250 VDC Bus VDAB

d. 250 VDC Bus VDCD

QUESTION: 053 (1.00)

Given the following plant conditions:

- Unit 2 is at 8% power, Unit startup in progress.
- OHP-4021-001-006, Power Escalation, is in use.
- The operator is directed to maintain Cold Gas temperatures between 40°C and 30°C, and to maintain Cold Gas temperature 3 to 5°C less than Stator Cooling inlet temperature.

Which ONE of the following describes the method and the reason for maintaining Cold Gas temperature 3 to 5°C less than Stator Cooling inlet temperature?

a. The RO will adjust the control room Hydrogen Cooler temperature controller to minimize condensation on the outside of the teflon hoses and conduction of current along the hoses.

b. The RO will adjust the control room Hydrogen Cooler temperature controller to minimize the hydrogen diffusion across the teflon hoses and in the Stator Cooling System expansion tank.

c. The AEO must locally throttle Hydrogen Cooler TACW outlet valves to minimize condensation on the outside of the teflon hoses and conduction of current along the hoses.

d. The AEO must locally throttle Hydrogen Cooler TACW outlet valves to minimize the hydrogen diffusion across the teflon hoses and in the Stator Cooling System expansion tank.

QUESTION: 054 (1.00)

If the Unit 2 Turbine Bypass Header Pressure Transmitter 2-UPC-101 fails LOW during normal plant operation the MFP Speed Control System will generate an indicated FW Delta-P signal ____(1)_____ than required, causing the main feed pump(s) to _____(2)_____.

(Assume the failover circuit does NOT function)

	(1)	(2)
a.	larger	speed up
b.	larger	slow down
c.	smaller	speed up
d.	smaller	slow down

QUESTION: 055 (1.00)

The following conditions exist:

- Unit 2 tripped from 100% power.
- Steam Generator (S/G) #24 is faulted and completely depressurized.
- The West Motor Driven AFW pump Flow Retention Switches have failed (CANNOT Actuate).
- NO operator action has been taken.

Which of the following lists the expected positions of the AFW to SG FMOs?

MDAFP (2-FMO-)	211	221	231	241
TDAFP (2-FMO-)	212	222	232	242
a.	CLOSED	OPEN	OPEN	CLOSED
	OPEN	OPEN	OPEN	OPEN
b.	THROTTLED	OPEN	OPEN	THROTTLED
	THROTTLED	THROTTLED	THROTTLED	THROTTLED
c.	OPEN	THROTTLED	THROTTLED	OPEN
	THROTTLED	THROTTLED	THROTTLED	THROTTLED
d.	OPEN	THROTTLED	THROTTLED	OPEN
	OPEN	OPEN	OPEN	THROTTLED

QUESTION: 056 (1.00)

Unit 2 was operating at 100% power when a reactor trip occurred. The following conditions currently exist:

- 2CD Emergency Diesel Generator running
- RCP23, Circ Water Pump 21, North Hotwell, North Condensate, and North Heater Drain Pumps are NOT running
- West CCP, CCW, ESW, NESW and MDAFW Pumps are all running
- East CCW, ESW, NESW and MDAFW Pumps are all running

Which ONE of the following failures is the cause?

a. RCP Bus 2D supply breaker tripped

b. RCP Bus 2C supply breaker tripped

c. Loss of ALL power to 250V DC Bus 2CD

d. Bus T21D Degraded Bus Voltage

QUESTION: 057 (1.00)

Unit 2 is at 100% power, steady state conditions. A POSITIVE 250V ground exists on DC Bus 2CD. If a NEGATIVE 250V ground also occurs on Bus 2CD, which one of the following describes the Plant response and the required operator actions? (Assume ground is on the bus bar.)

a. The DC bus fuses will blow causing a complete loss of DC 2CD busses resulting in a Reactor Trip.
Perform actions of 02-OHP-4023-E-0, 02-OHP-4023-ES-0.1 and 02-OHP-4022-082-002CD to stabilize the plant.

b. The Positive and Negative ground will balance out the circuit, however many relays will actuate causing a Reactor Trip.
Perform actions of 02-OHP-4023-E-0, 02-OHP-4023-ES-0.1 and 02-OHP-4022-082-002CD to stabilize the plant.

c. The DC bus fuses will blow causing a complete loss of DC 2CD busses.
The Reactor will NOT Trip.
Perform actions of 02-OHP-4022-082-002CD to stabilize the plant.

d. The Positive and Negative ground will balance out the circuit, however many relays will fail to actuate if required.
The Reactor will NOT Trip.
Perform actions of 02-OHP-4022-082-002CD and begin a Unit shutdown.

QUESTION: 058 (1.00)

A Small Break LOCA occurred with a loss of offsite power. The diesel generators have started and all the required loads have sequenced on. Safety injection has been reset and the RHR pumps were stopped as directed in 02-OHP-4023-ES-1.2. Offsite Power was restored to Bus T21A & T21B. The BOP was directed to shutdown the 2AB EDG and inadvertently depressed the Emergency Trip Pushbutton for the 2CD EDG.

Which one of the following describes the plant response and the required actions to restore the EDG and associated equipment?

The HEA relay will need to be reset ...

a. locally to restart the EDG and re-energize T21C & T21D.
The associated CCP, SI, and RHR pumps will automatically Restart.
The Crew will need to Shutdown the RHR pump.

b. locally to restart the EDG and re-energize T21C & T21D.
The associated CCP, SI, and RHR pumps will NOT automatically Restart.
The Crew will need to Start the associated CCP and SI pump.

c. in the control room to restart the EDG and re-energize T21C & T21D.
The associated CCP, SI, and RHR pumps will then automatically Restart.
The Crew will then need to Shutdown the RHR pump.

d. in the control room to restart the EDG and re-energize T21C & T21D.
The associated CCP, SI, and RHR pumps will NOT automatically Restart.
The Crew will need to Start the associated CCP and SI pump.

QUESTION: 059 (1.00)

While performing a liquid release through Unit 2, all Circulating Water Pumps trip.

Which ONE of the following will occur FIRST?

a. The selected Monitor Tank pump trips off.

b. The Data Acquisition Module alarms due to high flow.

c. The Liquid Waste Effluent Discharge Header Shutoff valve, 12-RRV-285, closes.

d. The Liquid Waste Effluent to U-2 Circ Water Discharge valve, 2-RRV-286, closes.

QUESTION: 060 (1.00)

Which ONE of the following describes the Control Room Ventilation System pressurization fan alignment following receipt of an ERS 8401 Control Room Radiation Monitor High alarm?

a. Both Unit 1 Control Room Pressurization Fans are RUNNING
Both Unit 2 Control Room Pressurization Fans are RUNNING

b. Both Unit 1 Control Room Pressurization Fans are STOPPED
Both Unit 2 Control Room Pressurization Fans are RUNNING

c. Both Units West Control Room Pressurization Fans are RUNNING
Both Units East Control Room Pressurization Fans are STOPPED

d. Both Units West Control Room Pressurization Fans are STOPPED
Both Units East Control Room Pressurization Fans are RUNNING

QUESTION: 061 (1.00)

Which ONE of the following is the proper response to a HIGH radiation alarm on VRS-1505, Unit 1 Vent Effluent Radiation Monitor - Low Range Noble Gas, during a release of #1 Gas Decay Tank?

a. If VRS-2505, Unit 2 Vent Effluent Radiation Monitor - Low Range Noble Gas, has NOT alarmed, then Shutdown the Unit 1 Aux Building Exhaust Fans and continue to monitor the release.

b. Verify 12-RRV-306, GDT Release Header To Aux Bldg Vent Stack Shutoff Valve automatically closed.
If VRS-2505, Unit 2 Vent Effluent Radiation Monitor - Low Range Noble Gas, has NOT alarmed, then bypass VRS-1505, reopen 12-RRV-306 and continue with the release through the Unit 2 Vent.

c. Verify 12-RRV-306, GDT Release Header To Aux Bldg Vent Stack Shutoff Valve automatically closed.
Print a release history of VRS-1505 and analyze to determine if the release is stopped.

d. Manually close 12-RRV-306, GDT Release Header To Aux Bldg Vent Stack Shutoff Valve.
Print a release history of VRS-1505 and analyze to determine if the release is stopped.

QUESTION: 062 (1.00)

Both Units are in Mode 1. The Unit 1 East Essential Service Water (ESW) pump tripped and could NOT be restarted. Which ONE of the following describes the operability and Technical Specification (TS) applicability associated with the ESW System?

a. Enter Technical Specification 3.7.8 on Unit 1 and Unit 2. The Unit 2 ESW TS may be exited if the Unit Header Crosstie valves have been verified closed.

b. Enter Technical Specification 3.7.8 on Unit 1 and Unit 2. The Unit 2 ESW TS may NOT be exited even if the Unit Header Crosstie valves are verified closed.

c. Enter Technical Specification 3.7.8 on Unit 1 ONLY. The Unit 2 ESW TS entry is NOT required since the Unit Header Crosstie valves are capable of being closed.

d. Technical Specification 3.7.8 entry is NOT required on either Unit since the Unit Header Crosstie valves may be opened.

QUESTION: 063 (1.00)

Given the following:

- U1 'W' ESW Pump is Running
- U2 'W' ESW Pump is Running
- U1 'E' ESW Pump is in Standby
- U2 'E' ESW Pump is in Standby

If the U2 'W' ESW Pump motor fails, the _____ will be supplied with cooling water from the _____.

a. 2E CCW Hx, 2E ESW pump

b. 2E CCW Hx, 1E ESW pump

c. 2W CCW Hx, 2E ESW pump

d. 2W CCW Hx, 1E ESW pump

QUESTION: 064 (1.00)

Unit 2 was operating at 50% power for several days due to the West Main Feedwater Pump being OOS for maintenance. A severe plant transient occurred. Several automatic trip signals were generated without the reactor trip breakers opening. A manual trip was successfully performed. After stabilizing the plant, a Post Trip Review indicated the following simultaneous panel readings occurred during the transient:

- RCS pressure: 2400 psig
- Reactor power: 52%
- RCS TAVG: 640°F
- RCPs: All running

Using the given Tech Spec and COLR references, which of the following statements is correct?

a. Both Reactor Core and the RCS Pressure Safety Limits were exceeded.

b. Only the RCS Pressure Safety Limit was exceeded.

c. Only the Reactor Core Safety Limit was exceeded.

d. No safety limits were exceeded.

QUESTION: 065 (1.00)

Given the following conditions in Unit 2:

- Unit 2 is in MODE 6
- Refueling is in progress
- Source Range Audible Count Rate in containment and Control Room just became INOPERABLE.

Which ONE of the following describes the required Technical Specification actions for these conditions?

a. Immediately initiate actions to isolate unborated water sources to the RCS.

b. Within one hour verify adequate SHUTDOWN MARGIN and suspend all core alterations.

c. No action is required as long as both Source Range Flux Monitors remain OPERABLE.

d. Within 15 minutes, return Control Room Audio Count Rate to OPERABLE and return the containment Audio Count Rate to OPERABLE within one hour.

QUESTION: 066 (1.00)

The Plant and Control Air Systems are aligned as follows:

- U-1 Plant Air Compressor (PAC) is loaded in auto.
- U-2 PAC is in standby alignment.
- Both Control Air Compressors (CACs) are in standby alignment.

If U-1 Plant Air Compressor (PAC) trips and Air header pressure drops continuously, in what order will the following automatic actions/alarms occur?

1) Plant Air Header Crosstie Valves CLOSE
2) Plant Air alarm PAC fail/low press' Annunciates
3) Control Air Compressors (CACs) Start
4) U-2 Plant Air Compressor (PAC) Starts

a. 2, 4, 3, 1

b. 2, 1, 4, 3

c. 4, 2, 1, 3

d. 4, 2, 3, 1

QUESTION: 067 (1.00)

The following conditions exist:

- Refueling is underway in Unit 2.
- Used fuel assemblies are being moved from Containment into the Spent Fuel Pit.
- The Equipment Hatch is installed with four bolts in place.
- Both upper containment airlock doors are open with cables running through the upper airlock.
- Quick disconnects are installed on each line running through the upper airlock and all procedural requirements for lines through the airlock are met.
- All containment penetrations directly to the outside atmosphere are isolated with a manual valve or are blind flanged.

Which ONE of the following describes the containment / refueling integrity status?

a. Containment Operability exists, refueling may continue.

b. Refueling Integrity exists, refueling may continue.

c. Containment Closure capability does NOT exist, refueling must be stopped.

d. Refueling Integrity does NOT exist, refueling must be stopped.

QUESTION: 068 (1.00)

At 0600, the following conditions are noted:

- Unit 1 is shutdown, preparing for refueling.
- Initial RCS temperature was 175°F.
- Initial RCS pressure was 100 PSIG.
- Normal Cooldown Alignments.
- Subsequently, RHR is lost and the RCS heats up at 4 deg F/minute.

Which of the following correctly identifies the Initial MODE and MODE at 0640?

	Initial MODE	MODE at 0640
a.	MODE 6	MODE 5
b.	MODE 5	MODE 4
c.	MODE 5	MODE 3
d.	MODE 6	MODE 3

QUESTION: 069 (1.00)

Unit 2 is performing 02-OHP-4022-064-002 Loss of Control Air Recovery procedure. All RCPs have been tripped. You are told to initiate a cooldown. Which one of the following describes the method used to perform a RCS cooldown and the concerns?

Nitrogen must be locally aligned to the SG PORVs and then the cooldown is performed by...

a. evenly steaming all 4 SGs from the Control Room SG PORV Controllers to prevent uneven cooling which could lead to a SI.

b. steaming SGs #21 & 22 from the Control Room SG PORV Controllers to prevent excessive cooldown in the Pressurizer loop which could lead to loss of level.

c. directing operators stationed at #21/24 & #22/23 SG PORV Emergency Control Loader valves to evenly steam all 4 SGs to prevent uneven cooling which could lead to a SI.

d. directing an operator to steam SGs #21 & 24 from the SG PORV Emergency Control Loader valves to prevent excessive cooldown in the Pressurizer loop which could lead to loss of level.

QUESTION: 070 (1.00)

Which one of the following is required to identify/track Tech Spec status of equipment that is made Inoperable for planned maintenance during Modes 1 through 4? (Assume Inoperability will continue through shift turnover)

a. A Control Room Log entry and Shift Manager Log entry

b. An AR (eSAT) and Control Room Log entry

c. An AR (eSAT) and an Abnormal Position Log entry

d. A Control Room Log entry and an Open Items Log entry

QUESTION: 071 (1.00)

The following radiological conditions exist for a room in the plant: General dose rate levels range from 25 - 45 mrem/hr. Measurements taken on pipes and valves include:

- Point 1: 80 mrem/hr at 30 cm.
- Point 2: 490 mrem/hr at 30 cm.
- Point 3: 1100 mrem/hr at 30 cm.

The room is accessible to plant personnel.

Based on these conditions what is the radiological posting required for this room and who can authorize an individual to exceed Federal Annual TEDE limits while working in this room during a NON-emergency situation?

a. High Radiation Area, Plant Manager.

b. Locked High Radiation Area, Site Vice-President.

c. High Radiation Area, Nobody can authorize exceeding the Federal Limits.

d. Locked High Radiation Area, Nobody can authorize exceeding the Federal Limits.

QUESTION: 072 (1.00)

Per DC Cook Radiation Limits, each individual has an Administrative dose guideline of (1) mrem TEDE per year (at Cook). This guideline can be raised to (2) REM for lifesaving missions.

	(1)	(2)
a.	2000	5
b.	1000	25
c.	1000	5
d.	2000	25

QUESTION: 073 (1.00)

Which ONE of the following describes the Operation of the Containment Purge System (in Ventilation Mode) while the Containment equipment Hatch is open?

a. Air flow must be OUT of Containment to prevent to minimize radiation levels.

b. Air flow must be INTO Containment to prevent the spread of contamination.

c. Containment Purge Exhaust and Supply flows must be matched to ensure the Containment and Aux Building are maintained at the same pressure.

d. Containment Purge Exhaust and Supply flows must be balanced to prevent Ice Condenser doors from opening.

QUESTION: 074 (1.00)

Given the following Unit 2 plant conditions:

- Reactor power: 58% and rising
- RCS pressure: 2235 PSIG and lowering
- Auctioneered High Tavg: 562°F and lowering
- Turbine power: 605 MWE and lowering

Based on the above plant indications, what event is occurring?

a. Steamline Break.

b. RCS Dilution Event.

c. Small Break RCS LOCA.

d. Steam Generator Tube Rupture.

QUESTION: 075 (1.00)

The plant has experienced a major plant transient. An ORANGE path Functional Restoration Procedure (FRP) is currently being implemented.

The implementation of the ORANGE path FRP must be suspended for all of the following conditions EXCEPT when...

a. a higher priority ORANGE path FRP is identified.

b. a RED path FRP is identified.

c. the ORANGE path condition clears.

d. a total loss of onsite and offsite AC power occurs.

QUESTION: 076 (1.00)

Per the TRM 8.1.1 Boration System - Operating, which of the following conditions would result in the Boration System being OPERABLE?

(Refer to TDB 12-Figure 18.10 and 12-Figure 19.17 as appropriate.)

	RWST Level	RWST Boron Conc.	BAST Level	BAST Temp	BAST Boron Conc.
a.	25%	2350 ppm	70%	60°F	6600 ppm
b.	25%	2550 ppm	75%	90°F	6600 ppm
c.	20%	2350 ppm	70%	90°F	6400 ppm
d.	20%	2550 ppm	75%	60°F	6400 ppm

QUESTION: 077 (1.00)

Given the following conditions:

- Unit 2 is operating at 70% power.
- Panel 208, Drop 7; PZR PRESS HIGH DEVIATION is received in the control room.
- Pressurizer Pressure Transmitter NPP-151, indicates 2310 psig and RISING.
- Pressurizer Pressure Transmitter NPP-152, indicates 2225 psig and LOWERING.

The RO reports that NPP-151 appears to be failing high.

The Unit Supervisor will direct which of the following?

Enter 2-OHP-4022-013-009, Pressurizer Pressure Instrument Malfunction and direct the RO to...

a. place pressurizer spray valves in manual, lower demand to restore pressure, and select Channel 4 for Control.

b. place pressurizer spray valves in manual, lower demand to restore pressure, and select Channel 2 for Control.

c. place Pressurizer Master Pressure Controller in manual, raise demand to restore pressure, and select Channel 3 for Control.

d. place Pressurizer Master Pressure Controller in manual, lower demand to restore pressure, and select Channel 3 for Control.

QUESTION: 078 (1.00)

Given the following conditions on Unit 2:

- Leakage into #23 steam generator is determined to be 0.5 gpm
- NO leakage is detectable into the other steam generators
- Other RCS leakage whose source CANNOT be identified is determined to be 0.9 gpm
- RCS leakage from known sources other than steam generator leakage is determined to be 8.0 gpm

Which one of the operational limitations in Unit 2 Technical Specifications has been exceeded and the consequences of exceeding this limit?

a. Unidentified leakage.
Magnifies the severity of a Loss of Coolant Accident (LOCA).

b. Primary to Secondary Leakage.
May cause plant to exceed exposure limits defined in 10 CFR 100

c. Identified leakage.
Raises the potential for a containment overpressurization.

d. Pressure Boundary Leakage
Increases the likelihood of a Design Basis Accident (DBA)

QUESTION: 079 (1.00)

Unit 2 was operating at 40% power and experienced a severe Feedwater Break. SG 22 has completely depressurized and 02-OHP-4023-E-2, Faulted Steam Generator Isolation, has been entered.

The following conditions exist:

- RCS Tcolds are 500°F and slowly lowering.
- All Main Feedwater Isolation valves are closed.
- All SG Stop valves and Stop Valve Dump valves are closed.
- Pressure in SGs 21, 23, and 24 are lowering.
- SG 21, 23, and 24 Steam Gen Steam Line Pressure Low annunciators just alarmed.

Which ONE of the following procedural transitions, if any, is required based on these conditions?

a. 02-OHP-4023-FR-H.1, Response to Loss of Secondary Heat Sink.

b. 02-OHP-4023-ECA-2.1, Uncontrolled Depressurization of all Steam Generators.

c. Do NOT transition, remain in 02-OHP-4023-E-2, Faulted Steam Generator Isolation.

d. 02-OHP-4023-FR-H.5, Response to Steam Generator Low Level.

QUESTION: 080 (1.00)

Unit 2 was operating at 100% power when the following occurred:

- Reactor Trip due to a Loss of Offsite Power.
- Neither Diesel Generator started.
- Crew entered 02-OHP-4023-ECA-0.0, Loss of ALL AC Power.
- Reactor Coolant Pump seal injection valves have been closed.

Twenty minutes later electrical power is restored to T21A from EP, and the crew transitioned to 02-OHP-4023-ECA-0.1, Loss of ALL AC Power Recovery Without SI Required.

Which ONE of the following best describes the restoration or non-restoration of RCP seal injection and the associated reason as required in 02-OHP-4023-ECA-0.1?

a. Slowly restore seal injection cooling limiting the cooldown rate to 1°F per minute to minimize potential for warping the RCP shaft.

b. Do NOT restore seal injection cooling due to potential damage to the CCW thermal barrier heat exchanger.

c. Restore seal injection cooling as rapidly as possible to minimize the potential for seal degradation.

d. Do NOT restore seal injection cooling due to potential damage from thermal shock to the reactor coolant pump seals.

QUESTION: 081 (1.00)

You are the Unit Supervisor. Unit 2 is at 100% power.

Panel 215 Drop 48 - BATTERY N UNDERVOLTAGE has just alarmed. Investigation revealed that N Train Battery Voltage reads 0 Volts.

Which ONE of the following identifies the effects on the operability and capability of the Auxiliary Feedwater System? (Assume no Local Actions)

a. The TDAFW Pump will NOT start and the FMO-211, 221, 231, & 241 TDAFW to SG Isolation valves are failed in the open position. Declare the N Train battery and TDAFW train inoperable.

b. The TDAFW Pump will start and the FMO-211, 221, 231, & 241 TDAFW to SG Isolation valves are failed in the open position. Declare the N Train battery ONLY inoperable.

c. The TDAFW Pump will start but the MCM-221 SG Steam supply to TDAFW Pump Isolation valve is failed in the closed position. Declare the TDAFW Pump ONLY inoperable.

d. The TDAFW Pump will NOT start and the FMO-211, 221, 231, & 241 TDAFW to SG Isolation valves are failed in the closed position. Declare the N Train battery and TDAFW train inoperable.

QUESTION: 082 (1.00)

Given the following in Unit 1:

- Steam Generator 11 is being drained through the Blowdown System for an inspection when the R-19, Steam Generator Blowdown Monitor, fails terminating the (batch) release.
- DRS 3100, Steam Generator Blowdown Monitor, is out-of-service.

Which ONE of the following provides an acceptable method to recommence draining the Steam Generator per the attached copy of PMP-6010-OSD-001, Off-site Dose Calculation Manual?

Draining may recommence provided...

a. grab samples have been analyzed at the lower limit of detection of 10 E-7 uCi/ml at least once per shift for a period of up to 30 days.

b. grab samples have been analyzed and found to be <0.01 uCi/gram Dose Equivalent I-131 at least once per 24 hours.

c. at least 2 independent samples have been analyzed and the discharge lineup has been independently verified by 2 AEOs.

d. the flow rate has been estimated using pump curves and valve settings.

QUESTION: 083 (1.00)

Given the following conditions:

- Unit 2 at 100% power
- Air header pressure is slowly lowering
- 02-OHP-4022-064-001, Control Air Malfunction is in progress

The Unit Supervisor will direct a _____(1)_____ when _____(2)_____.

a. 1) Controlled Power Reduction
   2) Control Air Header reaches 80 psig

b. 1) Controlled Power Reduction
   2) Plant Air Header Pressure reaches 80 psig

c. 1) Reactor Trip
   2) Control Air Header reaches 80 psig

d. 1) Reactor Trip
   2) Plant Air Header Pressure reaches 80 psig

QUESTION: 084 (1.00)

After a Unit 1 accident, the crew has implemented FR-C.1, Response to Inadequate Core Cooling, with the following conditions:

- RCS pressure is 622 psig.
- SG pressures are 500 psig.
- CETC temperatures are 766°F and rising.
- RCPs are stopped
- SI flow is NOT available from either U1 or U2 (CVCS Crosstie).
- RVLIS Narrow Range level is 38% and lowering.

Which of the following methods should be used FIRST to maintain core cooling?

a. Depressurize SGs to inject SI accumulators.

b. Open RCS head vent valves to raise vessel level.

c. Open PRZ PORVs to allow RHR injection.

d. Start one RCP to establish forced RCS flow.

QUESTION: 085 (1.00)

Consider the following Unit 1 conditions:

- A Unit 1 Reactor Trip and Safety Injection has occurred.
- 01-OHP-4023-E-0, Reactor Trip or Safety Injection, Step 8 "Check If Ruptured SG Is Suspected" is being implemented
- SG 13 NR level is 20% and rising in an uncontrolled manner.
- SG 13 pressure is 1000 PSIG and rising in an uncontrolled manner.
- All other SG NR levels are offscale low
- Pressurizer level is 7% and lowering.
- Containment pressure is 0.1 PSIG.

Which of the following actions should the Unit Supervisor direct at this time?

a. Direct RO to isolate flow from the SG 13 by closing SG 13 MSIV and securing blowdown from SG 13.

b. Direct RP Tech to immediately conduct radiation survey of SG 13. If SG 13 has verified abnormal radiation, immediately transition to 01-OHP-4023-E-3, Steam Generator Tube Rupture.

c. Direct RO to isolate feed flow to the SG 13 since its level is rising in an uncontrolled manner.

d. Immediately transition to 01-OHP-4023-E-3, Steam Generator Tube Rupture, since SG 13 level is rising in an uncontrolled manner.

QUESTION: 086 (1.00)

The following plant conditions exist:

- Unit 2 has experienced a loss of both CCW pumps in MODE 3
- Unit 2 East CCP is tagged out for maintenance
- NEITHER Unit 2 CCW pump can be restarted
- 02-OHP-4022-016-004, Loss of CCW, is in progress

Under these conditions the Unit 2 West CCP is:

a. left running until failure to provide seal injection to the RCPs.

b. stopped and placed in Pull-to-Lock to ensure pump is available once CCW is restored.

c. operated intermittently to maintain RCP lower bearing temperatures less than 200°F.

d. run until locally monitored bearing metal temperature exceeds 175°F

QUESTION: 087 (1.00)

You are the Unit 1 SRO. Given the following plant conditions:

- Unit 1 is at 100% power with all plant equipment in AUTOMATIC.
- West CCP is running.
- East CCP in Neutral.
- An electrical fault results in the West CCP tripping on motor overload.

Which of the following describes the required directions to the RO to restore Pressurizer Level Control to normal status?

a. Verify that the East CCP has AUTO started, stabilize charging and reopen the letdown orifice isolation valves.

b. Verify that the East CCP has AUTO started, stabilize charging and reset CCW flow to the letdown heat exchanger.

c. Manually start the East CCP , restore charging and reopen the letdown orifice isolation valves.

d. Manually start the East CCP , restore charging and reset CCW flow to the letdown heat exchanger.

QUESTION: 088 (1.00)

Given the following conditions in Unit 2:

- The Plant is at 100% power
- Reactor trip breaker testing is being performed with Reactor Trip Bypass Breaker B (52/BYB) racked in and closed
- Both Reactor Trip Breakers (52/RTA and 52/RTB) are closed
- Reactor Trip Bypass Breaker A (52/BYA) is open and racked out

What would be the consequences and required actions if the Train A Output Bay Mode Selector Switch was placed to TEST instead of the Train B switch?

a. A General Warning on Train B only. Reactor would NOT trip. Enter TS 3.0.3 due to 2 Trains of Reactor Trip being inoperable.

b. A General Warning on Train A only. Reactor would NOT trip. Initiate a Manual reactor trip and enter 02-OHP-4023-E-0, Reactor Trip or Safety Injection since 2 Trains of Reactor Trip are inoperable.

c. A General Warning on both RPS trains causing all Reactor Trip and Bypass Breakers to receive a trip signal. Enter 02-OHP-4023-E-0, Reactor Trip or Safety Injection to stabilize the plant.

d. A General Warning on Train B only which would result in opening the Reactor Trip A and Bypass B breakers only. Enter 02-OHP-4023-E-0, Reactor Trip or Safety Injection to stabilize the plant.

QUESTION: 089 (1.00)

Given the following:

- A small fire has damaged the Plant Services Panel in the Unit 2 Control Room.
- The fire has been extinguished and the reactor tripped.
- The Plant Air Header Crosstie Isolation Valves PRV-10, 11, 20, and 21 are all closed.
- Unit 1 is at 100% power with normal Plant and Control Air pressures.
- The Unit 2 Plant Air Compressor and Control Air Compressor Control Room control switches are damaged.
- An extra RO has been assigned to help restore Unit 2 Control Air.

Which ONE of the following actions would be the fastest method to have the RO restore Unit 2 Control Air?

a. Open PRV-20 and PRV-21 using the Unit 2 Main Control Room switches.

b. Start the Unit 2 Control Air Compressor from the Unit 2 Hot Shutdown Panel.

c. Open PRV-10 and PRV-11 using the Unit 1 Main Control Room switches.

d. Start the Backup Plant Air Compressor from the local control panel.

QUESTION: 090 (1.00)

Unit 2 is in a refueling outage. The following events occur:

- A used fuel assembly is being returned to the core and is currently in the manipulator crane mast near the core.
- The conveyer cart cable comes loose on the containment side and the cart CANNOT be returned.

A leak develops in the reactor cavity seal resulting in the implementation of 02-OHP-4022-018-002, Loss of Refueling Water Level During Refueling Operations - Local Actions.

1) What is the preferred location for placing the used fuel assembly, and

2) What actions are required to maintain the level in the Spent Fuel Pit during this transient?

a. 1) Place the used fuel assembly in the reactor core.
2) The Reactor Cavity and the SFP will be isolated from each other by closing the transfer tube gate valve.

b. 1) Lower the used fuel assembly until the bottom of the mast resting on the refueling cavity floor.
2) The Reactor Cavity and the SFP will be isolated from each other by closing the transfer tube gate valve.

c. 1) Place the used fuel assembly in the reactor core.
2) The SFP weir gate must be closed and plant air aligned to the weir gate seal.

d. 1) Lower the used fuel assembly until the bottom of the mast resting on the refueling cavity floor.
2) The SFP weir gate must be closed. The air supply to the weir gate is NOT required as is only used as a backup seal for the weir gate.

QUESTION: 091 (1.00)

The following conditions exist:

- A LOCA occurred 30 minutes ago
- RCS pressure is 125 psig
- RCS Core Exit TCs read 380°F
- RCS Cold Leg temperatures are 250°F
- 1N SI Pump is running providing 325 gpm flow
- 1E RHR Pump is running providing 1150 gpm flow

What is the appropriate action taken in response to the above conditions?

Entry into 01-OHP-4023-FR-P.1 Response to Pressurized Thermal Shock Condition is...

a. made but NO actions are implemented before returning to procedure in effect.

b. made and cooldown will continue within a limit of 50°F in any 60 minute period.

c. made and a RCS temperature soak for a ONE hour period will be completed.

d. NOT required since RCS pressure is below 300 psig.

QUESTION: 092 (1.00)

Given the following conditions:

- You are the Shift Manager.
- The Unit 2 Control Room is being evacuated due to a fire.
- The Reactor and Turbine have been verified Tripped.
- You are assigning responsibilities in the Shift Manager's office in accordance with 02-OHP-4025-001 Emergency Remote Shutdown.

Which ONE of the following actions will you direct the Turbine Tour Operator to perform FIRST?

a. Proceed to the Unit 2 EDG rooms to locally trip any unloaded EDGs.

b. Proceed to the Turbine Building, Unit 2 MDAFP room and locally open the Unit 1 Crosstie to align the Unit 1 MDAFP to supply AFW flow to Unit 2.

c. Proceed to the Auxiliary Building, Start-Up Flash Tank Area and locally open SG 22 & 23 FMO valves to establish AFW flow.

d. Proceed to the Unit 2 4 KV Switchgear rooms to locally trip any ECCS Pumps that have spuriously started.

QUESTION: 093 (1.00)

Given the following:

- An On The Spot Change (OTSC) has been written to a surveillance procedure to run the North Safety Injection pump with the discharge valve throttled 75% open and collect motor data.
- The plant conditions required for the above evolution are NOT described in current procedures or the Updated Safety Analysis Report.

The OTSC author is the System Engineer, who has brought it to you for review and approval. The SRO can...(PMP-2010-PRC-002 Figures 2, 4, & 5 attached)

a. NOT approve the OTSC under any conditions. A Temporary or Special Use Procedure with a 50.59 screening/evaluation is required.

b. review and approve the OTSC without restriction.

c. NOT approve the OTSC until the Qualified Technical Reviewer has reviewed and approved.

d. review and approve the OTSC ONLY if a 50.59 screening/evaluation has been approved.

QUESTION: 094 (1.00)

The plant is in MODE 6. Fuel movement was suspended for repairs to the Spent Fuel Bridge Crane. Repairs to the Spent Fuel Bridge Crane are complete.

- Source Range Channel N31 is INOPERABLE
- Source Range Channels N32 and N23 are OPERABLE.
- The West RHR pump has just been placed in service due to the failure of the East RHR pump seal.
- The Reactor Cavity Water Level is 644' 6".

The refueling team has established communications with the control room, and has requested permission to move the next fuel bundle from the fuel building to the core.

Are administrative conditions met to recommence fuel movement?

a. Yes, but only if the Reactor Cavity Water Level is raised to greater than 644' 9"

b. No, the East RHR pump must be restored to OPERABLE.

c. No, Source Range Channel N31 must be restored to OPERABLE.

d. Yes, provided that the Audible count rate circuit is selected to N32.

QUESTION: 095 (1.00)

You are the Unit Supervisor and are briefing two operators on a system startup lineup. The system requires dual verification. The operators note that a drain valve on the lineup is located in a Locked High Radiation Area (LHRA). No maintenance has been performed on this portion of the system. The dose rate in the area of the valve is 1.5 Rem/hr. The task is expected to take 10 minutes.

Which ONE of the following methods will result in the LOWEST exposure AND still meet procedural requirements?

a. Direct one operator to perform the initial valve position check, waive the independent verification and note the exemption on the lineup sheet.

b. Waive both the initial check and independent verification and note the exemption on the lineup sheet.

c. Submit a request to the ALARA committee to grant a waiver to both the initial check and independent verification.

d. Submit a request to Radiation Protection to have shielding installed to reduce the dose rate prior to conducting the verification.

QUESTION: 096 (1.00)

Unit 2 has experienced a NESW rupture inside containment. The crew has entered 02-OHP-4022-020-001, NESW System Loss/Rupture.

Which ONE of the following describes the required action(s) and the reason(s) for this/ these action(s)?

The Unit Supervisor should direct the crew to trip the Reactor and ...

a. stop all RCPs to minimize the risk of fire since RCP fire protection has been lost.

b. stop all RCPs to prevent pump damage since all RCP cooling has been lost.

c. stop three RCPs. A containment pressure relief is performed to minimize the risk of a safety injection actuation since containment cooling has been lost.

d. stop three RCPs. A containment pressure relief is performed to allow containment purge supply to be started since ice condenser cooling has been lost.

QUESTION: 097 (1.00)

The following plant conditions exist on Unit 2:

Unit 2 is at 50% power

- East and West Main Feed Pumps (FWPs)are running
- North and South Condensate Booster Pumps (CBPs)are running
- Middle Condensate Booster Pump (CBP) is in Auto

The following alarm is received in the Main Control Room:

Ann. 216, Drop 82, CNDST BOOSTER PUMP MOTOR OVERHEATED

While addressing the alarms, the following events occur:

- Ann. 216, Drop 72, CNDST BOOSTER PUMP MOTOR OVERLOAD TRIP - LIT
- Ann. 216, Drop 73, CNDST BOOSTER PUMP DISCH PRESSURE LOW - LIT
- Ann. 215, Drop 41, FEEDPUMP SUCTION HEADER PRESSURE LOW alarmed for approximately 3 seconds then cleared.

The following breaker indicating light conditions exist:

- North CBP: Red
- Middle CBP: Green
- South CBP: Green

Procedurally, the Unit Supervisor will direct the BOP to _____(1)_____, and locally have an operator _____(2)_____.

a. 1) trip one Main Feedwater pump
   2) close the South CBP recirculation valve manual isolation.

b. 1) start the Middle CBP
   2) check the position of 2-CRV-224, Low Pressure Heater Bypass Valve

c. 1) start the Middle CBP
   2) verify CBP recirculation valve manual isolation valves are throttled.

d. 1) trip one Main Feedwater pump
   2) open 2-CRV-224, Low Pressure Heater Bypass Valve

QUESTION: 098 (1.00)

Given the following:

- Unit 2 is at 100% power.
- One of the 4 KV Bus "Loss of Voltage" undervoltage relays on Bus T21D fails to the tripped condition.

Which one of the following describes the effect of this malfunction on the plant?

a. The Loss of Voltage Relays are arranged in a 2 of 3 coincidence, so this failure places the logic in a 1 of 2 coincidence. Initiate corrective actions to MTI to repair faulty relay. No actuation occurs.

b. A Load Shed signal for Bus T21D ONLY is initiated. Have operator verify loads are tripped off the 21D bus, the CD Diesel starts, and the Bus T21D loads are sequenced on to the diesel using the Black Out Sequence.

c. A Load Shed signal for Buses T21C and D is initiated. Have operator verify loads are tripped off both T21C and T21D, the CD Diesel starts, and the Bus T21C and T21D loads are sequenced on to the diesel using the Black Out Sequence.

d. A Load Shed signal for Bus T21D ONLY is initiated after 2 minutes. Have operator verify loads are tripped off the T21D bus, the CD Diesel starts, and the Bus T21D loads are sequenced on to the diesel using the Black Out Sequence.

QUESTION: 099 (1.00)

Unit 1 is at 100% power. The following plant conditions exist:

- Both Supplemental DGs are out of service due to an electrical control problem
- The 1CD Emergency Diesel Generator (EDG) was declared INOPERABLE today (Monday) at 0600.
- Engineering can NOT rule out EDG common mode failure
- It is estimated that 1 CD DG will not be returned to Operable status for 7 days.

What action is required?

(TS 3.8.1 is provided.)

a. Perform an operability run on the 1AB EDG by 0600 tomorrow AND restore one Supplemental DG by 0600 Thursday.

b. The unit must be in at least HOT STANDBY by 1200 today.

c. Perform an operability run on the 1AB EDG by 0600 tomorrow AND restore both Supplemental DGs by 0600 Thursday.

d. Restore both Supplemental DGs by 1800 today OR perform an operability run on the 1AB EDG by 0600 tomorrow.

QUESTION: 100 (1.00)

The following plant conditions exist:

- A valid reactor trip signal has been received.
- The crew has entered OHP-4023-FR-S-1, Response to Nuclear Power Generation, from step 1 of OHP-4023-E-0, Reactor Trip Or Safety Injection.
- The main turbine is tripped.
- Emergency boration is in progress.
- All SG Narrow Range levels are offscale low.
- RCS pressure is 2285 psig.
- The Operators have just completed step 4 of OHP-4023-FR-S-1 and were UNABLE to start any AFW pumps.

Which ONE of the following is the required crew response to the above conditions?

a. Open Pressurizer PORVs to lower pressure to 2135 psig to enhance boration flow. Transition to OHP-4023-E-0 at the completion of OHP-4023-FR-S-1.

b. Perform the remainder of OHP-4023-FR-S-1 and then transition to OHP-4023-FR-H-1, Response to Loss of Secondary Heat Sink.

c. Immediately transition to OHP-4023-FR-H-1, Response to Loss of Secondary Heat Sink, since the emergency boration is now in progress.

d. Manually initiate Safety Injection and transition to OHP-4023-E-0.

(********** END OF EXAMINATION **********)

ANSWER: 001 (1.00)
b.
REFERENCE:
RO-C-01100
000007EK20 ..(KA's)

ANSWER: 002 (1.00)
c.
REFERENCE:
RO-C-00202 pg. 42-43
000008 ..(KA's)

ANSWER: 003 (1.00)
d.
REFERENCE:
RO-C-EOP02, RO-C-EOP09
000009 ..(KA's)

ANSWER: 004 (1.00)
a.
REFERENCE:
1/2-OHP-4023-SUP-011
000011 ..(KA's)

ANSWER: 005 (1.00)
c.
REFERENCE:
SOD-00300-001
000022 ..(KA's)

ANSWER: 006 (1.00)
b.
REFERENCE:
2-OHP-4022-017-001
LESSON PLAN/OBJ:
RO-C-AOP-9/#AOP9.4
000025 ..(KA's)

ANSWER: 007 (1.00)
b.
REFERENCE:
RO-C-AOP5
02-OHP-4022-016-004, Loss of CCW, Attachment B
Lesson Plan/Obj:
RO-C-AOP5/AOP5.13
000026 2.1.8 ..(KA's)

ANSWER: 008 (1.00)
b.
REFERENCE:
02-OHP-4023-E-0 LESSON PLAN/OBJ:
RO-C-EOP03/#14
000029 ..(KA's)

ANSWER: 009 (1.00)
a.
REFERENCE:
SOD-01300-004,
RO-C-01300 Excore Nuclear Instrumentation System Handout #3 LESSON PLAN/OBJ: RO-C-01300/#9
000032 ..(KA's)

ANSWER: 010 (1.00)
b.
REFERENCE:
02-OHP-4024-218,
Annunciator #218 Response: Main and FPT, Drops 12, 13, and 14 LESSON PLAN/OBJ:
RO-C-AOP7/#4 Attachment Provided : 2-OHP-4024-218 Drops 12, 13, & 14
000051 2.1.23 ..(KA's)

ANSWER: 011 (1.00)
c.
REFERENCE:
2-OHP-4022-019-001
LESSON PLAN/OBJ:
RO-C-AOP-5/#AOP5.16
000054 ..(KA's)

ANSWER: 012 (1.00)
b.
REFERENCE:
RO-C-08200 LESSON PLAN/OBJ: RO-C-08200/#4
2.4.48 000055 ..(KA's)

ANSWER: 013 (1.00)
b.
REFERENCE:
RO-C-06401 Lesson Plan/Obj: RO-C-06401 / #4, #10
000056 ..(KA's)

ANSWER: 014 (1.00)
b.
REFERENCE:
SOD-08203-001,
RO-C-AOP-4 Lesson Plan/Obj: RO-C-08203/#2c, 3d, 6, RO-C-AOP-4/#23
000057 ..(KA's)

ANSWER: 015 (1.00)
a.
REFERENCE:
Technical Specification 3.1.4
LESSON PLAN/OBJ:
RO-C-AOP-6/#AOP 6.22
Attachment Provided
Technical Specifications 3.1.4 & 3.1.7
000001 ..(KA's)

ANSWER: 016 (1.00)
b.
REFERENCE:
RO-C-TRANS4, RCS Loop Flow Transients pg. 20-25
LESSON PLAN/OBJ:
RO-C-TRANS4\4A.2
000015 ..(KA's)

ANSWER: 017 (1.00)
a.
REFERENCE:
12-OHP-4024-139 Drop 1
RO-C-02800 Tech Spec 3.3.6 and 3.6.3 Lesson Plan/Obj:
RO-C-02800 / #9
000061 ..(KA's)

ANSWER: 018 (1.00)
c.
REFERENCE:
SOD-01900-001 LESSON PLAN/OBJ: RO-C-01900/#2
000062 ..(KA's)

ANSWER: 019 (1.00)
d.
REFERENCE:
SOD-02801A-001 LESSON PLAN/OBJ: RO-C-02801A/#8
000067 ..(KA's)

ANSWER: 020 (1.00)
d.
REFERENCE:
RO-C-AOP-6 LESSON PLAN/OBJ:
RO-C-AOP-6/#AOP6.23
000003 ..(KA's)

ANSWER: 021 (1.00)
a.
REFERENCE:
1-OHP-4023-FR-C.1
LESSON PLAN/OBJ:
RO-C-EOP10/#12, #13
002000 ..(KA's)

ANSWER: 022 (1.00)
d.
REFERENCE:
ITS Basis - B 3.4.1 RCS Pressure, Temperature, and Flow Departure from Nucleate Boiling (DNB) Limits
LESSON PLAN/OBJ:
RO-C-TRANS4/TRANS4A.2
increases the likelihood of a fuel cladding failure in a DNB limited event.
003000 ..(KA's)

ANSWER: 023 (1.00)
c.
REFERENCE:
RO-C-00202, RO-C-AOP-3
LESSON PLAN/OBJ:
RO-C-AOP-3/#9,
RO-C-00202/#5
004000 ..(KA's)

ANSWER: 024 (1.00)
d.
REFERENCE:
RO-C-00300, UFSAR Table 9.2-2 LESSON PLAN/OBJ:
RO-C-00300/#9 Attachment Provided: USFAR Table 9.2-2 CVCS Design Parameters
004000 ..(KA's)

ANSWER: 034 (1.00)

ANSWER: 025 (1.00)
b.
REFERENCE:
RO-C-AOP-4,
2-OHP-4022-016-003
LESSON PLAN/OBJ:RO-C-AOP-4/#AOP4.16, #AOP4.17
005000 2.2.27 ..(KA's)

ANSWER: 026 (1.00)
b.
REFERENCE:
02-OHP-4021-001-004
LESSON PLAN/OBJ:
RO-C-NOP-2/#NOP2.1
005000 ..(KA's)

ANSWER: 027 (1.00)
c.
REFERENCE:
RO-C-EOP10 LESSON PLAN/OBJ:
RO-C-EOP10\#12
006000 ..(KA's)

ANSWER: 028 (1.00)
c.
REFERENCE:
RO-C-NOP3 LESSON PLAN/OBJ: RO-S-NOP3/#5
007000 2.1.2 ..(KA's)

ANSWER: 029 (1.00)
b.
REFERENCE:
01-OHP-4022-002-009, Leaking Pressurizer Power Operated Relief Valve,
01-OHP-4021-002-006, Pressurizer Relief Tank Operation Lesson Plan/Obj:
RO-C-AOP-1 / #19
007000 ..(KA's)

ANSWER: 038 (1.00)

ANSWER: 030 (1.00)
b.
REFERENCE:
RO-C-01600 LESSON PLAN/OBJ: RO-C-01600/#3
008000 ..(KA's)

ANSWER: 031 (1.00)
c.
REFERENCE:
RO-C-EOP9, 2-OHP-4023-ECA-1.2 including Background Document LESSON PLAN/OBJ: RO-C-EOP9/#36, #40
2.4.5 00WE04 ..(KA's)

ANSWER: 032 (1.00)
d.
REFERENCE:
RO-C-EOP11, Study Guide, FR-H.1 Background LESSON PLAN/OBJ:
RO-C-EOP11/#09
00WE05 ..(KA's)

ANSWER: 033 (1.00)
b.
REFERENCE:
02-OHP-4023-F-0.2, Critical Safety Functions Status Trees, Core Cooling LESSON PLAN/OBJ:RO-C-EOP10/#21
Attachment Provided - 02-OHP-4023-F-0.2, Core Cooling status tree
00WE07 ..(KA's)

b.
REFERENCE:
RO-C-EOP12, Westinghouse Ergs Background for FR-P.1 LESSON PLAN/OBJ:
RO-C-EOP12/#31
00WE08 ..(KA's)

ANSWER: 035 (1.00)
d.
REFERENCE:
02-OHP-4023-ES-0.2, Natural Circulation Cooldown Foldout page criteria LESSON PLAN/OBJ:
RO-C-EOP03/#18 & 25
00WE10 ..(KA's)

ANSWER: 036 (1.00)
b.
REFERENCE:
12-OHP-4023-FR-Z.1, Background Document pg. 5 Step 2 Basis
02-OHP-4023-ECA-1.1 Loss of Emergency Coolant Recirculation Step 5 pg. 3
00WE11 ..(KA's)

ANSWER: 037 (1.00)
b.
REFERENCE:
RO-C-EOP07, 12-OHP-4023-ECA-2.1 (ECA-2.1 Background Doc) LESSON PLAN/OBJ:
RO-C-EOP07/#8
00WE12 ..(KA's)

b.
REFERENCE:
RO-C-GF14 LESSON PLAN/OBJ: RO-C-GF14/#21
010000 ..(KA's)

ANSWER: 039 (1.00)
c.
REFERENCE:
RO-C-TRANS2, UFSAR 14.1.2 LESSON PLAN/OBJ:
RO-C-TRANS2/TRANS2C
012000 ..(KA's)

ANSWER: 040 (1.00)
a.
REFERENCE:
02-OHP-4022-013-011 Containment Instrumentation Malfunction Lesson Plan/Objective:RO-C-01100/#6
013000 ..(KA's)

ANSWER: 041 (1.00)
a.
REFERENCE:
RO-C-01300 LESSON PLAN/OBJ: RO-C-01300/#4
015000 ..(KA's)

ANSWER: 042 (1.00)
c.
REFERENCE:
SD-01200 LESSON PLAN/OBJ: RO-C-01200\#6 & 19
016000 ..(KA's)

ANSWER: 043 (1.00)

ANSWER: 047 (1.00)

ANSWER: 051 (1.00)

c.
REFERENCE:
RO-C-00202 pg. 32,
RO-C-01301, RO-C-GF27
LESSON PLAN/OBJ:
RO-C-01301\#10,
RO-C-GF27/#2
017000 ..(KA's)

ANSWER: 044 (1.00)
a.
REFERENCE:
02-OHP-4021-028-001
Containment Ventilation pg.
11-12 Step 4.5 LESSON
PLAN/OBJ:
RO-C-02800\#2,9,&11
022000 ..(KA's)

ANSWER: 045 (1.00)
d.
REFERENCE:
RO-C-01000, Ice Condenser
System LESSON PLAN/OBJ:
RO-C-01000 / #8
025000 ..(KA's)

ANSWER: 046 (1.00)
d.
REFERENCE:
01-OHP-4021-028-005,
Operation Of The
Containment Purge System,
Attachment 1, step 1.1
LESSON PLAN/OBJ:
RO-C-02800 / #3
025000 ..(KA's)

d.
REFERENCE:
01-OHP-4023-ES-1.3, Cold
Leg Recirculation Step 6,
SOD-008-002 LESSON
PLAN/OBJ: RO-C-00800\#2,
RO-S-EOP23\#16
026000 ..(KA's)

ANSWER: 048 (1.00)
d.
REFERENCE:
UFSAR Chapter 6 pg. 35
LESSON PLAN/OBJ:
RO-C-00900\#2
026000 ..(KA's)

ANSWER: 049 (1.00)
d.
REFERENCE:
2-OHP-4023-E-1, Loss Of
Reactor Or Secondary
Coolant Background, Step 17
LESSON PLAN/OBJ:
RO-C-EOP09 / #34
028000 ..(KA's)

ANSWER: 050 (1.00)
b.
REFERENCE:
12-OHP-4022-018-006,
Irradiated Fuel Handling
Accident in Spent Fuel
Storage Area - Control Room
Actions Steps 3 & 4
RO-C-AOP-12 pg. 21-24
LESSON PLAN/OBJ:
RO-C-AOP-12\#12.6
034000 ..(KA's)

ANSWER: 060 (1.00)

b.
REFERENCE:
Steam Tables,
SOD-05200-001, Steam
Dump System LESSON
PLAN/OBJ: RO-C-05200 / #9
039000 ..(KA's)

ANSWER: 052 (1.00)
b.
REFERENCE:
RO-C-05200 Steam Dump
System pg. 15-16 LESSON
PLAN/OBJ: RO-C-05200\#4
041000 ..(KA's)

ANSWER: 053 (1.00)
c.
REFERENCE:
OHP-4021-001-006,
RO-C-NOP7, RO-C-08004A,
RO-C-8004B LESSON
PLAN/OBJ: RO-C-NOP7\#18,
RO-C-08004B\#5
2.1.30 045000 ..(KA's)

ANSWER: 054 (1.00)
b.
REFERENCE:
SOD-05100-003 LESSON
PLAN/OBJ: RO-C-05100/#6
059000 ..(KA's)

ANSWER: 055 (1.00)
c.
REFERENCE:
SOD-05600-001, Auxiliary
Feedwater System LESSON
PLAN/OBJ: RO-C-05600 /
#12
061000 ..(KA's)

ANSWER: 064 (1.00)

ANSWER: 056 (1.00)
a.
REFERENCE:
02-OHP-2110-BKM-001, Control Of Operations Department Unit 2 Breaker Cleaning Maps Figure 12 page 23, SOD-08201-001, Emergency Electrical Distribution LESSON PLAN/OBJ: RO-C-08200\#2
062000 ..(KA's)

ANSWER: 057 (1.00)
a.
REFERENCE:
RO-C-08204,SD-08204, & RO-C-AOP10 LESSON PLAN/OBJ: RO-C-08204\#5, RO-C-AOP10\#10
063000 ..(KA's)

ANSWER: 058 (1.00)
d.
REFERENCE:
RO-C-03200 pg. 31-32, 12-OHP-4023-ES-1.2 Caution 1C2 Background LESSON PLAN/OBJ: RO-C-03200\#10, RO-C-EOP09 / #37
064000 ..(KA's)

ANSWER: 059 (1.00)
d.
REFERENCE:
SD-02200 Waste Disposal System SD pg. 24-25 LESSON PLAN/OBJ: RO-C-02200\#5
068000 ..(KA's)

b.
REFERENCE:
SOD-01350-001, SOD-02801A-001, RO-C-02801A LESSON PLAN/OBJ: RO-C-02801A\#8
072000 ..(KA's)

ANSWER: 061 (1.00)
c.
REFERENCE:
12-OHP-4021-023-002, Release Of Radioactive Waste From Gas Decay Tanks, step 4.10 LESSON PLAN/OBJ: RO-C-02300\#8
073000 ..(KA's)

ANSWER: 062 (1.00)
a.
REFERENCE:
Technical Specification 3.7.8 Essential Service Water Systems, SR 3.7.8.3 LESSON PLAN/OBJ: RO-C-01900\#14 & 15
2.1.33 076000 ..(KA's)

ANSWER: 063 (1.00)
d.
REFERENCE:
SOD-01900-001 LESSON PLAN/OBJ: RO-C-01900\#5 & 6
076000 ..(KA's)

d.
REFERENCE:
Technical Specifications 2.1.1 & 2.1.2, COLR Figure 6 LESSON PLAN/OBJ: RO-C-00200\#10 Attachment Provided: Unit 2 TS 2.1 & COLR
2.2.22 ..(KA's)

ANSWER: 065 (1.00)
a.
REFERENCE:
Tech. Spec. 3.9.2 LESSON PLAN/OBJ: RO-C-ADM13/ADM13.3.0, RO-C-01300\#20 & 21
2.2.30 ..(KA's)

ANSWER: 066 (1.00)
a.
REFERENCE:
SD-06401-002, Compressed Air System Description pg. 38 LESSON PLAN/OBJ: RO-C-06401 / #4
078000 ..(KA's)

ANSWER: 067 (1.00)
b.
REFERENCE:
T.S. 3.9.3, Containment Building Penetrations PMP-4100-SDR-001, Plant Shutdown Safety And Risk Management 2-OHP-4030-227-041, Refueling Integrity LESSON PLAN/OBJ: RO-C-ADM13 / #3
103000 ..(KA's)

ANSWER: 068 (1.00)

ANSWER: 073 (1.00)

ANSWER: 077 (1.00)

b.
REFERENCE:
Technical Specifications Table 1.1-1 LESSON PLAN/OBJ: RO-C-TS01\#9
2.1.22 ..(KA's)

ANSWER: 069 (1.00)
c.
REFERENCE:
RO-C-AOP08 pgs. 34, 46-47
RO-C-EC01 pg. 14-15
02-OHP-4022-064-002
LESSON PLAN/OBJ:
RO-C-AOP08\#8.17
RO-C-EC01\#4
2.1.30 ..(KA's)

ANSWER: 070 (1.00)
d.
REFERENCE:
OHI-4000, OHI-4043
2.2.23 ..(KA's)

ANSWER: 071 (1.00)
d.
REFERENCE:
RO-C-RP02
PMP-6010-RPP-001
PMP-6010-RPP-100
LESSON PLAN/OBJ:
RO-C-RP02/#3 & 7
2.3.1 ..(KA's)

ANSWER: 072 (1.00)
d.
REFERENCE:
RO-C-RP02,
RMT-2080-TSC-001,
Attachment 13 LESSON PLAN/OBJ: RO-C-RP02/#4 and #6
2.3.4 ..(KA's)

ANSWER: 081 (1.00)

b.
REFERENCE:
01-OHP-4021-028-005, Operation Of The Containment Purge System, Attachment 2, step 3.7
LESSON PLAN/OBJ:
RO-C-02800 /#4
2.3.9 ..(KA's)

ANSWER: 074 (1.00)
a.
REFERENCE:
RO-C-EOP07, Secondary Side Breaks E-2 series EOPs & Background Information pg. 12 LESSON PLAN/OBJ:
RO-C-EOP07/#4
2.4.4 ..(KA's)

ANSWER: 075 (1.00)
c.
REFERENCE:
OHI-4023
Abnormal/Emergency Procedure User's Guide, Attachment 5 LESSON PLAN/OBJ:
RO-C-EOP01/#22
2.4.14 ..(KA's)

ANSWER: 076 (1.00)
b.
REFERENCE:
TRM 8.1.1, TDB 12-Figure 18.10, 12-Figure 19.17
LESSON PLAN/OBJ:
RO-C-00300/#17 10CFR55 53.b.2 Attachment Provided - TDB 12-Figure 18.10 and 12-Figure 19.17 as appropriate.
000024 ..(KA's)

ANSWER: 085 (1.00)

d.
REFERENCE:
2-OHP-4022-013-009, Pressurizer Pressure Instrument Malfunction SOD-00202-002
SOD-00202-001 LESSON PLAN/OBJ: RO-C-AOP01\#5
000027 ..(KA's)

ANSWER: 078 (1.00)
b.
REFERENCE:
U2 TS 3.4.13 LESSON PLAN/OBJ:
RO-C-AOP-2/#AOP2.13
2.1.10 000037 ..(KA's)

ANSWER: 079 (1.00)
b.
REFERENCE:
02-OHP-4023-E-2, Faulted Steam Generator Isolation
LESSON PLAN/OBJ:
RO-C-EOP07/#17
000040 2.4.45 ..(KA's)

ANSWER: 080 (1.00)
d.
REFERENCE:
02-OHP-4023-ECA-0.1 (Loss of ALL AC Power Recovery Without SI Required) Step 2 Background & Question 1
LESSON PLAN/OBJ:
RO-C-EOP14/#20
2.1.6 000055 ..(KA's)

ANSWER: 090 (1.00)

a.
REFERENCE:
RO-C-05600 Auxiliary Feedwater System pg. 24 TS 3.7.5 AFW & 3.8.4
DC-Operating LESSON PLAN/OBJ: RO-C-05600/#4
2.1.7 000058 ..(KA's)

ANSWER: 082 (1.00)
c.
REFERENCE:
PMP-6010-OSD-001, Off-site Dose Calculation Manual, Attachment 3.2 page 46-47.
Lesson Plan/Obj:
RO-C-ADM10 / #5
Attachment Provided - PMP-6010-OSD-001, Off-site Dose Calculation Manual Attachment 3.2
2.1.33 000059 ..(KA's)

ANSWER: 083 (1.00)
c.
REFERENCE:
02-OHP-4022-064-001 LESSON PLAN/OBJ:
RO-C-AOP-8/#AOP8.14, #AOP8.15
000065 ..(KA's)

ANSWER: 084 (1.00)
a.
REFERENCE:
01-OHP-4023-FR-C.1 LESSON PLAN/OBJ:
RO-C-EOP10/#12, #13
000074 ..(KA's)

c.
REFERENCE:
01-OHP-4023-E-0 LESSON PLAN/OBJ: RO-C-EOP3/#19
000038 ..(KA's)

ANSWER: 086 (1.00)
b.
REFERENCE:
02-OHP-4022-016-004 LESSON PLAN/OBJ:
RO-C-AOP5/AOP5.13
008000 2.4.24 ..(KA's)

ANSWER: 087 (1.00)
c.
REFERENCE:
RO-C-00300 LESSON PLAN/OBJ: RO-C-00300/#14
011000 ..(KA's)

ANSWER: 088 (1.00)
c.
REFERENCE:
RO-C-01101 LESSON PLAN/OBJ: RO-C-01101/#3, #5
012000 ..(KA's)

ANSWER: 089 (1.00)
b.
REFERENCE:
RO-C-06401
02-OHP-4030-STP-049, Hot Shutdown Panel Operability Test LESSON PLAN/OBJ:
RO-C-06401/#3
2.1.8 078000 ..(KA's)

ANSWER: 098 (1.00)

c.
REFERENCE:
12-OHP-4022-018-002, RO-C-AOP12, SD-01800
2.2.29 079000 ..(KA's)

ANSWER: 091 (1.00)
a.
REFERENCE:
01-OHP-4023-FR-P.1 LESSON PLAN/OBJ:
RO-C-EOP12/#25
2.1.6 ..(KA's)

ANSWER: 092 (1.00)
b.
REFERENCE:
02-OHP-4025-001 Step 19 & Figure 1 LESSON PLAN/OBJ:
RO-C-EC02\#4,5,6 & RO-C-EC01\#7
2.4.35 ..(KA's)

ANSWER: 093 (1.00)
a.
REFERENCE:
PMP-2010-PRC-002 Figures 2 & 4 LESSON PLAN/OBJ:
RO-C-ADM12\#3.1
Attachment Provided:
PMP-2010-PRC-002 Figures 2, 4, & 5
2.2.10 ..(KA's)

ANSWER: 094 (1.00)
d.
REFERENCE:
01-OHP-4030-STP-037, Refueling Surveillance, Data Sheet 2 & 3 LESSON PLAN/OBJ:
RO-C-ADM13/ADM13.3
2.2.26 ..(KA's)

ANSWER: 100 (1.00)

ANSWER: 095 (1.00)
b.
REFERENCE:
PMP-4043-VLU-001 Valve Lineups and Position Control Section 3.5.4 pg 10 LESSON PLAN/OBJ: RO-C-ADM02\#5
2.3.2 ..(KA's)

ANSWER: 096 (1.00)
c.
REFERENCE:
RO-C-AOP-5, Abnormal Operating Procedures Day 5
022000 ..(KA's)

ANSWER: 097 (1.00)
b.
REFERENCE:
RO-C-05400, RO-C-05500
2-OHP-4024-215 Drops 31 & 41 2-OHP-4024-216 Drop 73
LESSON PLAN/OBJ:
RO-C-05400/#8, #9
RO-C-05500/#11
056000 ..(KA's)

a.
REFERENCE:
RO-C-08201 RQ-C-KNOW
LESSON PLAN/OBJ:
RO-C-08201/#6
062000 ..(KA's)

ANSWER: 099 (1.00)
c.
REFERENCE:
Technical Specifications 3.8.1
LESSON PLAN/OBJ:
RO-C-03200\#20
(Attachment Provided - TS 3.8.1)
2.1.10 ..(KA's)

b.
REFERENCE:
OHI-4023, Abnormal / Emergency Procedure User's Guide, Attachment 5
1/2-OHP-4023-F-0-3 Heat Sink CSF Status Tree
LESSON PLAN/OBJ:
RO-C-EOP01 / #17, #18
2.4.1 ..(KA's)

(********** END OF EXAMINATION **********)

DC Cook 2007 NRC RO Exam Attachments

Q#6 02-OHP-4022-017-001, Step 15 and Figures

Q#10 2-OHP-4024-218 Drops 12, 13, & 14

Q#15 Technical Specifications 3.1.4 & 3.1.7

Q#24 USFAR Table 9.2-2 CVCS Design Parameters

Q#33 02-OHP-4023-F-0.2, Core Cooling

Q#64 Unit 2 TS Section 2 & COLR

DC Cook 2007 NRC SRO Exam Attachments

Q#6 02-OHP-4022-017-001, Step 15 and Figures

Q#10 2-OHP-4024-218 Drops 12, 13, & 14

Q#15 Technical Specifications 3.1.4 & 3.1.7

Q#24 USFAR Table 9.2-2 CVCS Design Parameters

Q#33 02-OHP-4023-F-0.2, Core Cooling

Q#64 Unit 2 TS Section 2 & COLR

Q#76 TDB 12-Figure 18.10 and 12-Figure 19.17

Q#82 PMP-6010-OSD-001, Off-site Dose Calculation Manual Attachment 3.2

Q#93 PMP-2010-PRC-002 Figures , 4, & 5

Q#99 Unit 1 TS 3.8.1

A N S W E R K E Y
MULTIPLE CHOICE

001 b	021 a	041 a	061 c	081 a
002 c	022 d	042 c	062 a	082 c
003 d	023 c	043 c	063 d	083 c
004 a	024 d	044 a	064 d	084 a
005 c	025 b	045 d	065 a	085 c
006 b	026 b	046 d	066 a	086 b
007 b	027 c	047 d	067 b	087 c
008 b	028 c	048 d	068 b	088 c
009 a	029 b	049 d	069 c	089 b
010 b	030 b	050 b	070 d	090 c
011 c	031 c	051 b	071 d	091 a
012 b	032 d	052 b	072 d	092 b
013 b	033 b	053 c	073 b	093 a
014 b	034 b	054 b	074 a	094 d
015 a	035 d	055 c	075 c	095 b
016 b	036 b	056 a	076 b	096 c
017 a	037 b	057 a	077 d	097 b
018 c	038 b	058 d	078 b	098 a
019 d	039 c	059 d	079 b	099 c
020 d	040 a	060 b	080 d	100 b

(********** END OF EXAMINATION **********)