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Operator Licensing
Examination

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**U.S. Nuclear Regulatory Commission
Site-Specific
Written Examination**

Applicant Information

Name:	Region:	III
Date:	Facility/Unit:	D.C. COOK / U1,U2
License Level: SRO	Reactor Type:	W
Start Time:	Finish Time:	

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. The passing grade requires a final grade of at least 80.00 percent. Examination papers will be collected five hours after the examination starts.

Applicant Certification

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

Applicant's Signature

Results

Examination Value	___ 100.00 ___	Points
Applicant's Score	_____	Points
Applicant's Grade	_____	Percent

ANSWER SHEET

Circle or X your choice. If you put a letter in the blank, it will be the graded answer.

- | | | |
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| 001 a b c d ____ | 021 a b c d ____ | 041 a b c d ____ |
| 002 a b c d ____ | 022 a b c d ____ | 042 a b c d ____ |
| 003 a b c d ____ | 023 a b c d ____ | 043 a b c d ____ |
| 004 a b c d ____ | 024 a b c d ____ | 044 a b c d ____ |
| 005 a b c d ____ | 025 a b c d ____ | 045 a b c d ____ |
| 006 a b c d ____ | 026 a b c d ____ | 046 a b c d ____ |
| 007 a b c d ____ | 027 a b c d ____ | 047 a b c d ____ |
| 008 a b c d ____ | 028 a b c d ____ | 048 a b c d ____ |
| 009 a b c d ____ | 029 a b c d ____ | 049 a b c d ____ |
| 010 a b c d ____ | 030 a b c d ____ | 050 a b c d ____ |
| 011 a b c d ____ | 031 a b c d ____ | 051 a b c d ____ |
| 012 a b c d ____ | 032 a b c d ____ | 052 a b c d ____ |
| 013 a b c d ____ | 033 a b c d ____ | 053 a b c d ____ |
| 014 a b c d ____ | 034 a b c d ____ | 054 a b c d ____ |
| 015 a b c d ____ | 035 a b c d ____ | 055 a b c d ____ |
| 016 a b c d ____ | 036 a b c d ____ | 056 a b c d ____ |
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| 078 a b c d ___ | 099 a b c d ___ |
| 079 a b c d ___ | 100 a b c d ___ |
| 080 a b c d ___ | |

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

1. 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 asking them before starting that part of the test.
3. 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.
4. To pass the examination, you must achieve a grade of 80.00 percent or greater; grades will not be rounded up to achieve a passing score. Every question is worth one point.
5. For an initial examination, the time limit for completing the examination is five hours.
6. You may bring pens, pencils, and calculators into the examination room. Use black ink to ensure legible copies; dark pencil should be used only if necessary to facilitate machine grading.
7. 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.
8. Mark your answers on the answer sheet provided and do not leave any question blank. If you are using ink and decide to change your original answer, enter the desired answer in the blank provided. If a letter is found in the blank, it will be assumed it is your answer.
9. If you have any questions concerning the intent or the initial conditions of a question, do *not* hesitate asking them before answering the question. Ask questions of the NRC examiner or the designated facility instructor *only*. 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.
10. 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.
11. When you complete the examination, bring your cover sheet and answer sheets 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. Leave all other examination materials at your table.

12. After you have turned 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.
13. Do you have any questions?

QUESTION: 001 (1.00)

The plant was at 80% power and stable at EOL. A fault caused a continuous rod withdrawal until all rods were fully withdrawn. The reactor did not trip and the steam dumps did not operate.

What were the final effects of the fuel temperature and moderator temperature coefficients when the plant had stabilized?

- a. The fuel temperature and moderator temperature coefficients have added positive reactivity.
- b. The fuel temperature and moderator temperature coefficients have added negative reactivity.
- c. The fuel temperature coefficient added negative reactivity and moderator temperature coefficient have added positive reactivity.
- d. The fuel temperature coefficient added positive reactivity and moderator temperature coefficient have added negative reactivity.

QUESTION: 002 (1.00)

A stuck rod is discovered in Control Bank "C". The rod selector switch is selected to "CBC".

Which of the following flow paths allows the rod to receive a signal to move?

- a. Rod control switch--Motion Control Relays--Pulser/Oscillator--Supervisory--Bank Overlap Unit
- b. Rod control switch--Motion Control Relays--Supervisory--Pulser/Oscillator--Master Cyclor
- c. Rod control switch--Motion Control Relays--Supervisory--Master Cyclor
- d. Rod control switch--Motion Control Relays--Pulser/Oscillator--Bank Overlap Unit

QUESTION: 003 (1.00)

The reactor is at the point of adding heat and the following alarms have come in:

Panel 207

- Drop 14 "RCP 1 Seal 1 Outlet Temp High"
- Drop 13 "RCP 1 Seal 1 Leak Off Flow Low"

Based on the plant conditions, which one of the following is the appropriate action?

- a. Manually trip the reactor, go to 02-OHP 4023.E-0 "REACTOR TRIP AND SAFETY INJECTION", trip the affected RCP.
- b. Trip the affected RCP, manually trip the reactor, go to 02-OHP 4023.E-0 "REACTOR TRIP AND SAFETY INJECTION".
- c. Trip the affected RCP, the reactor will automatically trip, go to 02-OHP 4023.E-0 "REACTOR TRIP AND SAFETY INJECTION".
- d. Manually trip the reactor, go to 02-OHP 4023.E-0 "REACTOR TRIP AND SAFETY INJECTION", close the No. 1 seal leakoff valve, trip the affected RCP.

QUESTION: 004 (1.00)

The plant has experienced an ATWS without an SI. If pressure is above 2335 psig you are to reduce pressure to 2135 psig.

What is the reason for performing this pressure reduction?

- a. Ensure sufficient charging flow into the RCS.
- b. Prevent automatic operation of the PORV.
- c. Ensure RCS integrity is maintained during the ATWS.
- d. Prevent challenging the pressurizer safety valves.

QUESTION: 005 (1.00)

The plant is at 20% power. Turbine load is dropping off and condenser vacuum is degrading. Condenser vacuum is 20.3 inches of mercury vacuum and Annunciator 212 Drop 8, "Condenser A Vacuum Trip" has illuminated.

What are your immediate actions?

- a. Trip the reactor and turbine and investigate probable causes.
- b. Begin a power reduction and then investigate probable causes.
- c. Begin investigations of probable causes a power reduction may not be required.
- d. Trip the turbine, reduce reactor power and investigate probable causes.

QUESTION: 006 (1.00)

Unit 1 and 2 East ESW pumps are in run and the West ESW pumps are in "Auto". Unit 2 East ESW pressure, WPA-708, indicates 35 psig and decreasing.

What is the final condition of the ESW system if WMO-702 fails to open?

- a. The Unit 1 West ESW pump will start and ESW pressure will increase to normal.
- b. The Unit 2 West ESW pump will start and ESW pressure will increase to normal.
- c. The Unit 1 West ESW pump will start and ESW pressure will continue to decrease.
- d. The Unit 2 West ESW pump will start and ESW pressure will continue to decrease.

QUESTION: 007 (1.00)

The following core conditions exist:

- RCS pressure is 405 psig
- Core exit thermocouples read 500°F
- RVLIS 52% with no RCPs running

Using a copy of the steam table, what is the condition of the fluid at the top of the core?

- a. superheated by 50.6°F
- b. superheated by 57.9°F
- c. saturated at 449.4°F
- d. saturated at 442.1°F

QUESTION: 008 (1.00)

A safety injection has occurred and RCS pressure is 1500 psig and still decreasing. Pressurizer level initially dropped and is now increasing. All of the reactor coolant pumps are in operations. Which one of the following is the correct leak location?

A weld failure on the . . .

- a. accumulator #4 check valve
- b. pressurizer post accident vent valve
- c. pressurizer liquid space sample isolation valve
- d. loop #3 cold leg temperature instrument isolation valve

QUESTION: 009 (1.00)

While performing FR-P.1 (Response to Imminent Pressurized Thermal Shock Conditions), you were told to start reactor coolant pump 4 using SUP. 10. CCW cooling had been lost to the reactor cooling pumps. Thermal barrier cooling water temperature peaked at 134°F and is now 97°F and #1 seal outlet temperature peaked at 197°F and is now 153°F.

Based on the plant conditions, which one of the following is correct?

- a. You can establish CCW flow and start the RCP
- b. You can establish seal injection and start the RCP
- c. You can establish CCW flow and seal injection and start the RCP
- d. You can not start the RCP

QUESTION: 010 (1.00)

The plant is in Mode 4 on RHR. NPS-121 is de-energized for maintenance. During a control board walkdown you discovered that Panel 206 Drop 36 "RHR open to Hi RCS Hot Leg Pressure" was illuminated.

What would cause this condition?

- a. RHR valve 2-IMO-128 (RHR pump suction from Loop 2 hot leg) is open, reactor coolant system pressure is 491.25 psig and increasing
- b. RHR valve 2-IMO-128 (RHR pump suction from Loop 2 hot leg) is closed, reactor coolant system pressure is 491.25 psig and decreasing
- c. RHR valve 2-ICM-129 (RHR pump suction from Loop 2 hot leg) is open, reactor coolant system pressure is 491.25 psig and increasing
- d. RHR valve 2-ICM-129 (RHR pump suction from Loop 2 hot leg) is closed, reactor coolant system pressure is 491.25 psig and increasing

QUESTION: 011 (1.00)

The plant has experienced a loss of 250 VDC bus AB and CD. You have been instructed to start diesel generator AB.

Which one of the following valve manipulations is necessary to start the diesel?

- a. Manually operate MSAV-AB (manual starting air valve) to provide air through SV-1, 2, & 3 (3-way solenoid-operated valves) in the normal position
- b. Manually operate MSAV-AB (manual starting air valve) to provide air through SV-1, 2, & 3 (3-way solenoid-operated valves) in the failed position
- c. Manually operate POV-1, 2, & 3 (pressure-operated valves) to provide air through SV-1, 2, & 3 (3-way solenoid-operated valves) in the failed position
- d. Manually operate POV-1, 2, & 3 (pressure-operated valves) to provide air through SV-1, 2, & 3 (3-way solenoid-operated valves) in the normal position

QUESTION: 012 (1.00)

The plant is at 100% power. As you are walking down the control boards you notice that PZR level instrument NLP-153 is indicating higher than NLP-151 and NLP-152.

The reason for the higher indication is that there is a break on the:

- a. wet reference leg and the DP cell DP is higher
- b. wet reference leg and the DP cell DP is lower
- c. variable leg and the DP cell DP is higher
- d. variable leg and the DP cell DP is lower

QUESTION: 013 (1.00)

The plant has experienced a loss of off site power with no SI signal. When the emergency diesel generators start and load, which of the following is the correct sequence for the given loads under these plant conditions?

- a. Component cooling water, essential service water, charging pumps, 600 VAC
- b. Essential service water, charging pumps, auxiliary feedwater pumps, 480 VAC
- c. Component cooling water, essential service water, auxiliary feedwater pumps, 600 VAC
- d. Component cooling water, essential service water, auxiliary feedwater pumps, 480 VAC

QUESTION: 014 (1.00)

Which one of the following actions are taken while recovering a dropped rod while at 50% power if another rod drops?

- a. Manually trip the reactor if an automatic reactor trip did not occur.
- b. Perform a flux map to verify the dropped rod's position, then declare the rods inoperable.
- c. Position control rods as necessary to maintain T_{AVE} / T_{REF} deviation less than 1°F.
- d. Perform a shutdown margin calculation every 12 hours from the time the rod dropped until the rod is declared operable.

QUESTION: 015 (1.00)

A steamline break has occurred on Unit 2. After the break is isolated the following plant conditions exist:

- Pressurizer pressure = 1800 psig and stable
- Pressurizer level = 24% and stable
- RCS temperature (T_{AVE}) = 538°F and stable
- Containment pressure = 0.1 psi
- S/G levels (NR) 32%(A), 23%(B), 30%(C), 30%(D)
- S/G pressures (psig) 970(A), 885(B), 960(C), 960(D) and stable

Which one of the following is the correct ECCS lineup for plant recovery?

- a. All RHR, SI, and Charging pumps running
- b. Stop both RHR pumps and one charging pump, but keep both SI pumps running
- c. Stop both RHR pumps, but keep both charging pumps and both SI pumps running
- d. Stop one charging pump, both SI pumps, and both RHR pumps

QUESTION: 016 (1.00)

A plant trip has just occurred and 2 control rods are stuck out of the core. An emergency boration has been initiated by the reactor operator in accordance with 01-OHP 4023 ES-0.1 (Reactor Trip Recovery).

Which one of the following is the minimum amount of boric acid required to be added?

- a. 150 ppm
- b. 200 ppm
- c. 300 ppm
- d. 400 ppm

QUESTION: 017 (1.00)

Unit 2 was operating at full power when it experienced a main steamline break. Because of difficulties in closing the MSIVs, the two affected SGs have blown dry. The following plant conditions exist:

- RCS T_{HOT} is 282°F and lowering.
- RCS T_{COLDS} are 267°F and lowering.
- Step 3 of 2-OHP.4023.E-2, Faulted Steam Generator Isolation, is in progress.
- SI flow is still being supplied to the RCS
- AFW is being supplied to the intact SGs at 180K PPH each.
- All RCPs have been stopped.
- Indicated subcooling is 285°F and rising.

Which one of the following is correct?

- a. The loss of thermal driving head in the SGs will stop natural circulation flow due to stagnation of the coolant loops.
- b. A loss of heat sink has occurred due to two SGs being dry.
- c. Injection of ECCS accumulator nitrogen into the RCS will occur and cause a loss of heat sink.
- d. Pressurized thermal shock has occurred and RCS pressure is to be minimized.

QUESTION: 018 (1.00)

A fast spreading fire exists in the Unit 1 turbine lube oil system reservoir.

Which one of the following automatic fire suppression system will deploy?

- a. Halon system
- b. Pressurized fire retardant fluid
- c. Deluge sprinkler system
- d. CO₂ fire suppression system

QUESTION: 019 (1.00)

Pressure switch 2-PPP-301 (Lower Containment Pressure Hi-Hi) was in test with a trip signal present when a second signal was generated on 2 PPP-303 (Lower Containment Pressure Hi-Hi) by electrical noise.

Which one of the following will be the plant status?

- a. A Containment Phase B and SI will occur
- b. A Containment Phase B and containment vent isolation will occur
- c. A Containment Phase B will occur and the steam line isolation valves will close
- d. All valves will remain in their current position because the logic is 2-out-of-3 when one channel is in test

QUESTION: 020 (1.00)

A liquid radwaste discharge is in progress from monitor tank #3. The south monitor tank pump is running. The alarm for the effluent discharge monitor (RRS-1000) sounds in Unit 1 Control Room.

Which one of the following actions will automatically occur?

- a. RRV-284 (Effluent Discharge Regulating Valve) closes and the south monitor tank pump stops
- b. RRV-285 (Effluent Discharge Valve) closes and the south monitor tank pump stops
- c. RRV-284 (Effluent Discharge Regulating Valve) closes and the south monitor tank pump continues to run on recirculation
- d. RRV-285 (Effluent Discharge Valve) closes and the south monitor tank pump continues to run on recirculation

QUESTION: 021 (1.00)

Given the following conditions on Unit 1:

- Leakage into #13 steam generator is determined to be 0.5 gpm
- No leakage is detectable into the other steam generators
- Other leakage whose source can not be identified is determined to be 0.7 gpm
- Leakage from known sources other than steam generator leakage is determined to be 4.0 gpm
- Pressure isolation valve leakage is determined to be 0.1 gpm

Which one of the operational limitations has been exceeded?

- a. steam generator leakage
- b. unidentified leakage
- c. pressure isolation valve leakage
- d. identified leakage

QUESTION: 022 (1.00)

Unit 2 was operating at 100% power when the Power Range channel N42 rapidly failed HIGH. Rod Control was in automatic.

Which one of the following describes the expected response of the rod control system?

- a. Rods will move IN due to a power mismatch, then STOP when the power mismatch signal decays away
- b. Rods will move IN due to a power mismatch, then move back OUT as the temperature error develops and power mismatch decays away
- c. Rods will move OUT due to a power mismatch, then STOP when the power mismatch signal decays away
- d. Rods will move OUT due to a power mismatch, then move back OUT as the temperature error develops and power mismatch decays away

QUESTION: 023 (1.00)

The following plant conditions exist:

- A Unit 1 startup is in progress after 100 days of continuous operation
- Reactor power is 2% power and steady
- Steam dumps are in steam pressure control
- Charging and letdown are matched
- Rod control is in manual

Letdown temperature control valve CRV-470 (CCW to letdown heat exchanger), cycles full OPEN from 30% throttled OPEN.

Which one of the following describes the plant response to this event?

- a. SUR is negative and reactor power decreases
- b. SUR is positive and reactor power increases
- c. SUR is 0 and reactor power remains constant
- d. SUR is negative and reactor power increase

QUESTION: 024 (1.00)

Twenty-five minutes ago a turbine runback resulted in rod insertion with control rods in AUTOMATIC and annunciator "ROD BANK LOW-LOW" (Panel 110, Drop 39) energized.

- The plant stabilized at 85% power
- A boration was started and pressurizer backup heaters were energized

The above conditions ensure that:

- a. pressurizer boron concentration is equalized with RCS by increasing normal spray flow
- b. pressurizer cooldown due to the level increase caused by the change in power level is counteracted
- c. loss of pressurizer level is prevented by increasing the volume of fluid maintained in the pressurizer
- d. adequate subcooling margin is guaranteed by raising the saturation temperature of the pressurizer

QUESTION: 025 (1.00)

The following plant conditions exist:

- Steam generator #2 (NR) level is 10% and decreasing
- Steam generator #2 pressure is 350 psig and lowering
- Containment pressure is 2.1 psi and lowering
- CRID-1 had lost power.

What is the status of the ECCS equipment?

- a. All ECCS equipment is operating
- b. Only train "A" ECCS equipment is operating
- c. Only train "B" ECCS equipment is operating
- d. None of the ECCS equipment is operating

QUESTION: 026 (1.00)

You are in procedure 02-OHP 4023 FR-P.1 with 4 RCPs running. Which one of the following actions is correct in order to avoid, or limit, thermal shock or pressurized thermal shock to the reactor pressure vessel?

- a. Isolate the accumulators
- b. Stop all 4 reactor coolant pumps
- c. Cooldown at maximum rate using the steam generators
- d. Depressurize the RCS and maintain ECCS flow to provide core cooling

QUESTION: 027 (1.00)

Which one of the following is used as the reactor power input to the rod insertion limit (RIL) computer?

- a. First stage impulse pressure
- b. Calculated Thermal Power
- c. Auctioneered High DT
- d. Calculated Steam Flow

QUESTION: 028 (1.00)

During the performance of an NIS power range heat balance at 100% power, an operator uses a feedwater temperature 30°F lower than actual. Would the calculated value of power be HIGHER or LOWER than actual power, and would an adjustment of the NIS power range channels, based on this value, be CONSERVATIVE or NON-CONSERVATIVE with respect to protection setpoints?

- a. Higher/conservative
- b. Higher/non-conservative
- c. Lower/conservative
- d. Lower/non-conservative

QUESTION: 029 (1.00)

Loss of which ventilation system will result in a Phase 'B' isolation signal in about 15 minutes due to rising temperatures in the containment?

- a. Upper containment ventilation
- b. Lower containment ventilation
- c. CRDM ventilation
- d. Pressurizer compartment ventilation

QUESTION: 030 (1.00)

The following plant conditions exist:

- Pressurizer level is 25% and decreasing
- Containment pressure is 2.0 psi and rising
- RCS pressure is 2000 psig and decreasing
- Steam generator level and pressure are normal

Which one of the following plant conditions will exist?

- a. Reactor trip, NESW standby pump starts, main glycol recirculation containment isolation valves close, feedwater isolation valves close
- b. Containment vent isolation occurs, ESW standby pumps start, main glycol recirculation valves open, feedwater isolation valves close
- c. Reactor trip, main steam isolation valves are closed, main glycol recirculation containment isolation valves close, feedwater isolation valves close
- d. Containment phase 'B' occurs, main steam isolation valves are closed, main glycol recirculation containment isolation valves close, feedwater isolation valves close

QUESTION: 031 (1.00)

After a LOCA in which containment pressure reached 9 psi, you noted the following indications:

- Containment pressure, 6 psi and lowering slowly
- Spray Additive Tank level LOW - LOW alarm actuated
- Refueling Water Storage Tank (RWST) level, 35% and lowering slowly

What containment spray system status should the operator observe?

	IMO 215/225 CTS Pump Suction Valve	IMO-212/222 Eductor Supply Valve	IMO-202/204 Spray Additive Tank Valve	CTS Pumps
a.	Closed	Closed	Open	Tripped
b.	Open	Open	Open	Running
c.	Closed	Open	Closed	Tripped
d.	Open	Closed	Closed	Running

QUESTION: 032 (1.00)

On receipt of an SI signal, which of the following represents a complete feedwater system isolation from the steam generators?

- a. main feedwater pump trips, main feedwater isolation valves close, high pressure heater inlet isolation valves close, main steam stop valves close
- b. main feedwater pump discharge valves close, main feedwater isolation valves close, high pressure heater bypass valve closes, feed regulating valves close
- c. main feedwater pump discharge valves close, main feedwater isolation valves close, main feedwater pump trips, main steam stop valves close
- d. main feedwater pump trips, main feedwater pump discharge valves close, main feedwater isolation valves close, feed regulating valves close

QUESTION: 033 (1.00)

Given the following conditions on Unit 1:

- Reactor trip
- Turbine trip
- RCP 12 and 13 are tripped
- RCP 11 and 14 have no breaker position indication
- All Train B containment isolation valves position indication has been lost
- All MFW regulating valves position indication has been lost
- Pressurizer PORVs NRV-151/152 position has been lost
- Train A ECCS has actuated
- Containment Isolation Phase A has actuated

Which one of the following failures is the cause?

- a. RCP 1A bus de-energized.
- b. 600V AC Bus 11A de-energized.
- c. Loss of ALL power to 250V DC Bus 1AB.
- d. ABT 5 failed to transfer.

QUESTION: 034 (1.00)

What are the principal fission products that would be found in the liquid waste disposal system?

- a. Xenon and cobalt
- b. Iodine and cobalt
- c. Xenon and cesium
- d. Iodine and cesium

QUESTION: 035 (1.00)

The in-service gas decay tank is being switched to another tank. In the control room you receive the following alarm, Panel 128 Drop 28 "AUTO GAS ANALYZER ALARM." A few minutes later you receive the following two alarms:

- Panel 128 Drop 10 "WASTE GAS ANALYZER OXYGEN HIGH"
- Panel 128 Drop 15 "WASTE GAS ANALYZER O₂ EXT HIGH"

Why have these alarms occurred in this order?

- a. Drop 28 occurred during the GDT tank transfer and Drop 15 & Drop 10, the O₂ alarms, occurred because there is high O₂ in the inservice tank
- b. Drop 28 occurred because the analyzer is removed from service before the tanks are switched and Drop 15 & Drop 10, the O₂ alarms, occurred when the analyzer was placed back in service
- c. Drop 28 occurred during the GDT tank transfer and Drop 15 & Drop 10, the O₂ alarms, occurred when the analyzer was placed back in service
- d. Drop 28 occurred because the analyzer is removed from service before the tanks are switched Drop 15 & Drop 10, the O₂ alarms, occurred because there is high O₂ in the inservice tank

QUESTION: 036 (1.00)

Unit 1 is in mode 6 and the fuel is being moved to the spent fuel pool. You are on the manipulator crane when a high radiation alarm sounds on the manipulator crane area radiation monitor.

Which is the correct list of initial actions to be taken?

- a. Notify the Control Room, verify the monitor alarm and then evacuate containment and the spent fuel pool area, then close both upper and lower airlock doors
- b. Notify the Control Room, visually verify there is fuel damage, evacuate containment, secure spent fuel pool side fuel handling operations, then close both upper and lower airlock doors
- c. Notify the Control Room, evacuate non-essential personnel from containment, secure spent fuel pool side fuel handling operations, then close both upper and lower airlock doors
- d. Notify the Control Room, secure spent fuel pool side fuel handling operations, evacuate all personnel from containment, then close both upper and lower airlock doors

QUESTION: 037 (1.00)

The following plant conditions exist:

- RCS pressure 1950 psig
- PZR level 12%
- Containment pressure 0.5 psi
- S/G pressures (psig) 1 = 1005, 2 = 1000, 3 = 400, 4 = 1005
- Steam generator levels (NR) 1 = 4%, 2 = 8%, 3 = 18%, 4 = 6%
- VCC 1-AZV-A is de-energized prior to SI signal

Which one of the following is the correct valve line-up for this condition? (Use the attached bus diagram)

Valve	Name
IMO-910 & IMO-911	RWST supply to CCP suction
ICM-250 & ICM-251	BIT outlet
IMO-255 & IMO-256	BIT inlet
QMO-200 & QMO-201	CCP To Regenerator Heat Exchanger

- a. IMO-910, 911, 255, and 256, ICM-250 and 251 are OPEN and QMO-200 and 201 are CLOSED
- b. IMO-910, 911, 255, and 256, ICM-250 and 251 are CLOSED and QMO-200 and 201 are OPEN
- c. IMO-910 and 255, ICM-250 and QMO-201 are OPEN and IMO-911 and 256, ICM-251 and QMO-200 are CLOSED
- d. IMO-910 and 255, ICM-250 and QMO-201 are CLOSED and IMO- 911 and 256, ICM-251 and QMO-200 are OPEN

QUESTION: 038 (1.00)

RCS pressure is 1975 psig and decreasing. You notice that NRV-163 (PZR spray) is partially OPEN. When placed in manual the valve will NOT close.

What is the proper course of action to stop the pressure decrease?

- a. Allow the reactor to automatically trip; go to 02-OHP 4023.E-0 "REACTOR TRIP AND SAFETY INJECTION"; trip RCP 3 in accordance with E-0.
- b. Trip RCP 3; the reactor will automatically trip; go to 02-OHP 4023.E-0 "REACTOR TRIP AND SAFETY INJECTION".
- c. Manually trip the reactor; go to 02-OHP 4023.E-0 "REACTOR TRIP AND SAFETY INJECTION"; cooldown and depressurize until RHR can be started.
- d. Manually trip the reactor; go to 02-OHP 4023.E-0 "REACTOR TRIP AND SAFETY INJECTION"; trip RCP 3.

QUESTION: 039 (1.00)

Unit 2 is performing a reactor shutdown. During the shutdown MPC-253 (turbine first stage pressure channel) sticks at 57 psig.

Which one of the following is a concern during the shutdown?

- a. Loss of 2 reactor coolant pumps are required to cause a reactor trip
- b. Removing the main turbine from service will cause a reactor trip
- c. Source range nuclear instruments will have to be manually unblocked
- d. Power range channel low setpoint high neutron flux level will not unblock

QUESTION: 040 (1.00)

An operator in Unit 2 notes the following conditions:

- Reactor Power is 24%.
- (NR) Level in S/Gs 1, 2, 3 , are 27%, 25% 29% respectively, and stable.
- (NR) Level in S/G 4 is 21% and lowering slowly.
- Power escalation is in progress.
- One main feedwater pump is in service with speed and DP controllers in auto.

Based on current plant conditions, what automatic response would occur?

- a. One MDAFP would automatically start
- b. TDAFP would automatically start
- c. Both MDAFPs would be running and Feedwater Conservation would activate.
- d. TDAFP would be running but Feedwater Conservation would NOT activate.

QUESTION: 041 (1.00)

During refueling operations, the divider barrier and missile blocks between the reactor well and refueling canal are removed. As a result of this removal, higher flow rates in the containment purge exhaust system will:

- a. allow shutdown of the containment pressure relief system.
- b. prevent the formation of vapor clouds on the water.
- c. clear the interlock for containment purge supply fan operation.
- d. minimize the formation of stagnant air pockets that may contain hydrogen.

QUESTION: 042 (1.00)

Unit 2 north spent fuel pool cooling pump was removed from service for a mechanical seal replacement that will take 24 hours. A leak developed on the south heat exchanger (HE-16S) and the heat exchanger had to be isolated. It will require 20 hours to repair.

Which one of the following statements is correct?

- a. Cross-tying of the south pump to the north heat exchanger will provide sufficient cooling until the repairs are complete
- b. Cross-tying of the south pump to the north heat exchanger will not provide sufficient cooling without makeup water flow
- c. Sufficient cooling will be provided by the evaporation and makeup water flow maintaining level; the cooling system will not be required until repaired
- d. Spent fuel pool cooling can be provided by makeup water flow and spilling into the building floor drains; the cooling system will not be required until repairs are completed

QUESTION: 043 (1.00)

Unit 2 is being ramped to full power following a refueling outage. During core on-load, a new fuel element that did not have a required burnable poison rod inserted was inadvertently loaded into the core.

Which one of the following parameters would be an indicator of the problem?

- a. Actual boron less than calculate
- b. Core AFD will be positive
- c. Quadrant power tilt ratio calculation will indicate high tilt condition
- d. Incore flux map with a power peak

QUESTION: 044 (1.00)

Which one of the following describes the location of the radiation monitors used to detect Unit 1 Main Steam System contamination?

- a. On the safety valve outlets.
- b. On the line downstream of the PORVs.
- c. On the line downstream of the MSIVs.
- d. On the main steam equalizing header.

QUESTION: 045 (1.00)

Unit 2 was at 75% power with rods in auto. The steam dumps were in T_{ave} mode and the plant was at steady state when MPC-254 failed low.

With no operator action, what will be the condition of the steam dumps after 5 minutes?

- a. Groups 1, 2, and 3 are armed and the dumps will not open because T_{ref} is the same as T_{ave}
- b. Groups 1 and 2 are armed and the dumps will not open because T_{ref} is the same as T_{ave}
- c. T_{ref} fails to 547 but the dumps do not open because groups 1, 2, and 3 are not armed
- d. T_{ref} fails to 547 but the dumps do not open because groups 1 and 2 are not armed

QUESTION: 046 (1.00)

Unit 1 was at 100% power with all SJAES in service (with both elements in service). A small leak was identified on the #1 SJAЕ and the SJAЕ was removed from service. The operator who removed the #1 SJAЕ out-of-service, closed LPD-150-1 (#1 element Inter-Condenser Drain), but left open LPD-149-1 (the second #1 Element Inter-Condenser Drain).

What effect (if any) will this valve configuration have on the plant?

- a. No effect
- b. will cause a loss of condenser vacuum
- c. will cause an increase in vent stack condensation
- d. will cause the after condenser loop seal to blowout and spray water on the condensate booster pumps

QUESTION: 047 (1.00)

The following plant conditions exist:

- 100% power.
- No equipment out of service.
- The Unit Auxiliary Transformers are supplying all plant equipment.

An operator noted that the closed light for 1A7, Normal Feed Breaker to Bus 1A, was NOT lit. The light bulb was verified as good.

Which one of the following statements describes the condition for this breaker?

- a. An overload condition will cause breaker 1A7 to trip open.
- b. A generator trip will cause breaker 1A7 to trip open.
- c. Breaker 1A7 cannot be remotely opened with the control switch.
- d. Breaker 1A7 cannot be locally tripped.

QUESTION: 048 (1.00)

The following plant conditions exist in Unit-1:

- Reactor power is 75%
- Letdown flow is 120 gpm
- 'W' CCP is running
- The operator acknowledges R17B, WEST CCW HEADER electro-alarm (CRA-425).

Which one of the following valve closures should be verified?

- a. CCR-460, CCW to excess Letdown HX outlet valve
- b. CCM-454, CCW to RCP Cooler return valve
- c. CRV-470, CCW to letdown HX outlet valve
- d. CRV-412, CCW Surge Tank vent valve

QUESTION: 049 (1.00)

Which one of the following describes the signals that will directly cause an automatic start of the ESW pumps in Auto?

- a. Low Header Flow at 1700 gpm, Safety Injection, High Strainer Delta-P on operating pump.
- b. Low Header Flow at 1700 gpm, Opposite Unit Safety Injection, Containment Spray Signal.
- c. Low Header Pressure at 40 psig, Opposite Unit Safety Injection, Blackout Sequence.
- d. Low Header Pressure at 40 psig, Blackout Sequence, Containment Spray Signal.

QUESTION: 050 (1.00)

The following plant conditions exist:

- RCS pressure is 500 psig
- ICM-305 "East RHR pump containment sump supply" is closed
- IMO-330 "East RHR pump discharge to containment spray" is closed
- IMO-340 "East RHR pump discharge to CCP" is closed
- IMO-310 "East RHR pump suction" is closed
- IMO-340 "East heat exchanger to centrifugal charging pump suction" is closed
- IMO-215 "East CTS pump Suction" is open
- ICM-129 "RHR pump suction from Loop 2 hot leg" is closed

Which one of the following valves can be opened?

- a. ICM-305
- b. IMO-310
- c. ICM-129
- d. IMO-340

QUESTION: 051 (1.00)

Given the following plant conditions:

- Unit 2 was in cold shutdown with the RCS drained to mid-loop.
- Filling and venting is in progress.
- Pressurizer level is 100% and the RCS is aligned to vent via the PRT to the instrument purge exhaust or lower containment purge exhaust.
- A nitrogen blanket is on the PRT; PRT level is at 5%.
- The gaseous waste disposal system is aligned to support a bubble.
- The PZR heaters are energized.

Prior to drawing a bubble in the pressurizer which one of the following must be accomplished?

- a. Bumping the RCPs to remove entrapped gases
- b. Filling the PRT to 80-85%
- c. Establishing 50% in the pressurizer
- d. Pressurize the RCS to 325-350 psig

QUESTION: 052 (1.00)

The following plant conditions exist on Unit 1:

- RCS pressure is 1000 psig
- Pressurizer level is empty
- Containment pressure is 3.2 psi
- Steam generator pressures and levels are equal and stable
- Bus 11A is de-energized
- All plant valve line-ups were normal prior to the incident
- West CCW Pump was running prior to the event

Which one of the following valve lineups is correct for the given conditions? (Use the attached Bus Diagram)

Valve	Description
CMO-410, 420	CCW Hx outlet valve
CCR-460, 462	CCW Excess letdown Hx isolation valve
CCM-451, 452, 453, 454	CCW Return from RCP valve

- a. CCM-453, 454, and CCR-460, 462 closed, all other valves open
- b. CCM-452, 454, and CCR-460, 462 closed, all other valves open
- c. CCM-453, 454 and CMO-410, 420 closed, all other valves open
- d. CCM-452, 454 and CMO-410, 420 closed, all other valves open

QUESTION: 053 (1.00)

Which one of the following describes operation of the NESW pumps during and following a LOOP?

- a. The pumps trip on a LOOP. After the EDGs start, the NESW pumps must be manually started.
- b. The pumps do not trip on a LOOP. The NESW pumps regain power upon re-energization of the 600V AC busses.
- c. The pumps trip on a LOOP. After the EDGs start, the NESW pumps are automatically started as part of load sequencing process.
- d. The pumps trip on a LOOP. The NESW pumps are not re-started until normal AC is regained.

QUESTION: 054 (1.00)

Which one of the following is NOT on the Control Room Operator Turnover Checklist?

- a. Open Item Log and Blocked Alarm Log
- b. Control Room Log and Plan of the Day
- c. Unit Supervisor Turnover Checklist and Temp Mod Log
- d. SRO-CA Turnover and SM Narrative Log

QUESTION: 055 (1.00)

As the RO you are about to perform the surveillance for ECCS Valve Operability Testing, 02-OHP 4030.STP.053A. Which one of the following procedures are you directed to use to obtain the IST program limits for the valve timing?

- a. IST Program Description Document.
- b. Tech Data Book.
- c. A copy of the last surveillance test.
- d. Technical Specification.

QUESTION: 056 (1.00)

During an independent verification a valve is found out of position. Which of the following is the way the component out of position shall be handled? The component shall be repositioned . . .

- a. and the supervisor notified of the discrepancy
- b. and verified by the person performing the verification
- c. after the supervisor gives the approval
- d. by the person who did the initial lineup and then verified

QUESTION: 057 (1.00)

Which one of the following is the same for Unit 1 and Unit 2?

- a. Fuel burnup conversion factor (EFPH)
- b. Steam generator pressure vs. plant power level
- c. Feedwater pressure differential pressure program
- d. MVAR vs. MW output operating curve

QUESTION: 058 (1.00)

A job must be performed in a room containing a point source that has a dose rate of 250 mRem/hour at 1 foot. The general area radiation levels are 10 mRem/hour throughout the room. Two operators are working 20 feet from the point source for 4 hours.

Which one of the following results in the TOTAL exposure received while performing the job?

- a. 40 mRem
- b. 50 mRem
- c. 85 mRem
- d. 180 mRem

QUESTION: 059 (1.00)

One of the air receivers for 1CD diesel generator is tagged for maintenance. Two hours ago the diesel was started to verify operability.

What is the minimum number of starts available on the 1CD diesel generator?

- a. 1
- b. 2
- c. 3
- d. 4

QUESTION: 060 (1.00)

The requirement for having a Chemistry Technician and Radiation Protection Technician on shift is contained in which one of the following documents?

- a. Technical Specification
- b. Emergency Plan
- c. Conduct of Operations (Emergency Organization)
- d. Radiological Protection Job Coverage

QUESTION: 061 (1.00)

Unit 1 is at 325°F and 400 psig with both RHR pumps running following a normal shutdown. The following alarms are actuated:

Panel 208

- Drop 4 "PRESSURIZER LEVEL LOW DEVIATION"
- Drop 5 "PRESSURIZER LEVEL LOW ALL HTRS OFF"

The following plant conditions exist:

- Pressurizer level is 17% and decreasing
- Charging flow is at 170 gpm with two pumps running
- One RHR pump motor current is oscillating
- Letdown is isolated

You are in procedure 01-OHP 4022.002.020 "EXCESSIVE REACTOR COOLANT LEAKAGE." Based on the conditions, which is the appropriate procedure transition?

- a. 01-OHP 4022.002.015 "MODE 4 LOCA"
- b. 01-OHP 4022.017.001 "LOSS OF RHR COOLING"
- c. 01-OHP 4023.E-0 "REACTOR TRIP OR SAFETY INJECTION"
- d. 01-OHP 4022.002.009 "LEAKING PRESSURIZER POWER OPERATED RELIEF VALVE"

QUESTION: 062 (1.00)

The following plant conditions exist on Unit 2:

- RCS pressure is 2250 psia
- Pressurizer level is 55%
- All steam generator (NR) levels are 44%
- Reactor Coolant Pump No. 1 motor bearing temperature is 230°F
- Reactor Coolant Pump No. 2 motor bearing temperature is 215°F
- Reactor Coolant Pump No. 3 motor bearing temperature is 210°F
- Reactor Coolant Pump No. 4 motor bearing temperature is 225°F
- Upper bearing cooler CCW flow return is 90 gpm and decreasing

What actions must be taken and why?

- a. Trip the reactor and all 4 RCPs and cooldown to less than 541°F.
- b. Trip the reactor and RCPs NO. 1 & 4 and cooldown to less than 541°F.
- c. Begin a rapid shutdown and increase CCW flow to the RCP motors.
- d. Begin a rapid shutdown before the motor bearing temperatures reaches 235°F.

QUESTION: 063 (1.00)

You have entered ECA-2.1, "Uncontrolled Depressurization of All Steam Generators" and are performing SI Termination. Steam generator #4 pressure suddenly begins to rise in an uncontrolled manner.

Which one of the following actions is correct?

- a. Stop performing SI Termination and go to E-2 because the pressure boundary has been established in steam generator #4.
- b. Continue performing SI Termination and complete ECA- 2.1, the RCS is now cooled to a point that the steam generators are beginning to fill.
- c. Once the SI termination is complete, ECA-2.1 is complete and you are returned to procedure step in effect.
- d. Continue performing SI Termination and then go to E-2 because the pressure boundary has been established in steam generator #4.

QUESTION: 064 (1.00)

Unit 1 is in mode 1 and the RCS sample indicates that gross activity is $>100/E \mu\text{Ci}/\text{gram}$. The reason for the Technical Specification limit on the gross activity and the reduction of T_{AVE} is to prevent the _____ dose at the site boundary from exceeding Part 100 limits and release of activity if a steam generator tube should rupture.

- a. 1 hour
- b. 2 hour
- c. 3 hour
- d. 4 hour

QUESTION: 065 (1.00)

The Control Room has to be evacuated, the operator tripped the reactor and the turbine. Which one of the following actions can be performed prior to leaving the Control Room?

- a. Place all transfer switches in the hot shutdown position
- b. Initiate emergency boration, check normal letdown isolated
- c. Initiate emergency boration, align the 2-LSI-4 Unit 2 power switch to off
- d. Align hot shutdown control switches to match current operating conditions

QUESTION: 066 (1.00)

In accordance with FR-C.1 "Inadequate Core Cooling", an RCS cooldown via steam dump is in progress. RCS pressure is 150 psig and RWST level is 74%. ECCS valve alignment is in the proper emergency lineup.

Which one of the following sets of conditions would permit transition to E-1 "Loss of Reactor or Secondary Coolant"?

	A	B	C	D
ECCS Flow Indication	RHR Pumps Red Light On	SI Pumps Red Light On	SI Pumps Red Light On	RHR Pumps Red Light On
Core Exit TCs	1200°F	1100°F	1200°F	1100°F
RCS Hot Leg Temp.	500°F	325°F	500°F	350°F
RVLIS Narrow Range	67%	70%	67%	70%

QUESTION: 067 (1.00)

The plant has experienced a small break LOCA and you are in EOP ES-1.2, Post LOCA Cooldown and Depressurization. All of reactor coolant pumps have been stopped. The RCS was being depressurized to re-establish the PZR level. During the depressurization minimum required subcooling was lost.

Which one of the following is the expected response?

- a. Continue the depressurization, subcooling will be reestablished after the depressurization
- b. Continue the depressurization and initiate a cooldown during the depressurization to recover the subcooling
- c. Stop the depressurization, cooldown the RCS and then continue depressurization after subcooling is recovered
- d. Stop the depressurization, start a reactor coolant pump to remove possible voids and then continue the depressurization

QUESTION: 068 (1.00)

A LOCA is in progress on Unit-2. RWST level has reached 25% and the RHR and CTS pumps have been stopped. During the performance of EOP ES-1.3 valve 2-IMO-310 (east RHR pump suction) would not fully close. Valves 2-IMO-320 (west RHR pump suction), 2-IMO-215 (east CTS pump suction from RWST), and 2-IMO-225 (west CTS pump suction from the RWST) are fully closed.

What plant conditions are necessary to provide core cooling?

- a. Open 2-ICM-305 (recirc sump to east RHR/CTS pumps) and start the East RHR pump
- b. Open 2-ICM-306 (recirc sump to west RHR/CTS pumps) and start the West RHR pump
- c. Initiate Appendix A, Splitting CCW Trains, while continuing with this procedure
- d. Since no RHR pumps are running transition to ECA-1.1, Loss of Emergency Coolant Recirculation

QUESTION: 069 (1.00)

You are in ES-0.1 'Reactor Trip Response' and RCS pressure is 2250 psig and increasing. Normal PZR spray has been initiated with no effect. The ES-0.1 RNO column requires you to close the PZR spray valves. What is the basis for closing the spray valves?

Closing the spray valves prevents . . .

- a. auxiliary spray from bypassing the PZR
- b. thermal shock of the spray lines from auxiliary spray
- c. the PZR from depressurizing in an uncontrolled manner
- d. the PZR from filling in an uncontrolled manner

QUESTION: 070 (1.00)

Unit 2 is performing a shutdown. Power was 3% when Panel 210 Drop 8, Intermediate Range Compensate Volt Failure, illuminated.

Which one of the following statements is correct concerning the source range instrumentation?

- a. The source range instrument will energize at the proper power level
- b. Manually unblock the source range instruments when at the proper power level
- c. Manually trip the reactor to prevent an automatic trip because the source range instruments will energize
- d. Immediately unblock the source range instrument so that there is overlap with the power range instruments

QUESTION: 071 (1.00)

Annunciator Panel 139 (Response: Eberline Radiation) Drops 20, 21, 37, and 38 (Gland Steam Condenser Vent), and Drops 22 and 39 (Steam Jet Air Ejector) threshold for referring to 01-OHP 4022.002.021 (SG Tube Leak) has been changed from "60 gpd" to "greater than 30 gpd but less than 75 gpd."

What is the reason for this change?

- a. The transition to the SG Tube Leak procedure at this threshold requires Operation and Management to determine whether a shutdown is prudent
- b. The transition to the SG Tube Leak procedure at this threshold requires Operations to shutdown to minimize the effects of possible core damage
- c. The transition to the SG Tube Leak procedure at this threshold requires Operation and Management to begin a shutdown sooner
- d. The transition to the SG Tube Leak procedure at this threshold requires Operations to begin dose rate calculations

QUESTION: 072 (1.00)

You have been instructed to lineup and start the backup air compressor. When you initially closed 1-11CMC-2 (Compressor Supply Breaker) all of the fault indicators energized.

What is the correct response to the indications?

- a. Open 1-11CMC-2 and contact the Maintenance Department
- b. Complete the valve lineup, the realignment of valves will clear the faults
- c. Complete the valve lineup and press backup plant air compressor reset/start pushbutton
- d. Check the backup plant air compressor parameters to determine what has caused the faults

QUESTION: 073 (1.00)

02-OHP 4023 FR-Z.2 (Response to Containment Flooding) Step #1 states: "Try to identify unexpected source of water to containment." This is based on a water level greater than the design basis flood level as provided by water from the RWST, RCS and what other sources?

- a. Ice bed melt and SI accumulators
- b. Primary water and SI accumulators
- c. Component cooling water and SI accumulators
- d. Ice condenser refrigeration glycol and SI accumulators

QUESTION: 074 (1.00)

Unit 1 was at 75% power and a plant transient resulted in a reactor trip and a safety injection initiation. The operator noted the following conditions while performing 01-OHP 4023.E-0 "Reactor Trip response":

- RCS pressure is 1400 psig and decreasing
- Pressurizer level is slowly decreasing
- PORVs and spray valves are closed
- Steam generator pressures and levels are normal
- Plant vent radiation monitors are increasing
- Containment pressure and sump levels are normal
- Auxiliary building radiation levels are increasing

If the above conditions are not changed, which one of the following procedure transitions is correct?

- a. 01-OHP 4023.E-1 "Loss of Reactor or Secondary Coolant"
- b. 01-OHP 4023.ES-1.1 "SI Termination"
- c. 01-OHP 4023.ECA-1.2 "LOCA Outside of Containment"
- d. 01-OHP 4023.ES-1.2 "Post LOCA Cooldown and Depressurization"

QUESTION: 075 (1.00)

During the performance of 02-OHP 4023 ES-0.2 "Natural Circulation Cooldown," the following conditions exist:

- RCS cool down is 25°F/hour
- RCS temperature is 450°F
- RCS pressure is 2000 psig
- Both MDAFW pumps are running
- All steam generator (NR) levels are 46% and slowly decreasing
- Condensate storage tank level is 12%
- Pressurizer level is 24% and slowly decreasing

Which one of the following describes the appropriate operator actions?

- a. Transition to ES-0.3 "Natural Circulation Cooldown With Steam Voids in Vessel" and increase the cooldown rate
- b. Stop the cooldown rate and remain in ES-0.2
- c. Maintain the same cooldown rate and remain in ES-0.2
- d. Swap AFW suction to the alternate supply, increase the cooldown rate and remain in ES-0.2

QUESTION: 076 (1.00)

Unit 2 has experienced a loss of all AC power and is operating in accordance with 02-OHP 4023 ECA-0.0 "Loss of All AC Power". The following conditions exist:

- RCS temperature is 547°F and decreasing
- Pressurizer level is 19% and decreasing
- All steam generator (NR) levels are 6% and increasing
- All steam generator pressures are slowly decreasing
- AFW flow is 510×10^3 pph

Which one of the following statements is correct?

- a. The TDAFW pump is in runout
- b. A steam generator tube rupture has occurred
- c. One of the steam generators is faulted
- d. The Unit is responding properly to the "Loss of All AC Power"

QUESTION: 077 (1.00)

Unit 2 has experienced a reactor trip. Plant conditions are as follows:

- RCS pressure is 2240 psig and increasing
- Pressurizer pressure and level channel NPP & NLP 151 are failed low
- Pressurizer pressure and level channel NPP & NLP 153 are normal
- RCS loop flow channels NFP 210, 220, 230, and 240 are failed low
- Steam generator pressure MPP 211, 220, 230, and 240 (channel 2) are reading normal
- Spray line loop 4 temperature instrument NTA 164 is failed low
- U-1 West ESW pump has auto started
- Intermediate range N-35 is failed low
- Source range N-32 is reading normal
- Accumulator Tank 1 and 2 level and pressure instruments 110 and 120 are failed low

What will be your actions when you check pressurizer pressure control in accordance with 02-OHP 4023.E-0.1, "Pressure Stable at or trending to 2235 psig?"

- a. Cycling heaters are failed "ON" and can be manually controlled with the breakers, spray valves are closed in "AUTO" and can be manually controlled with the individual controllers, backup heaters are "OFF" and can be manually operated
- b. Cycling heaters are failed "OFF" and can be manually controlled with the breakers, spray valves are open in "AUTO" and can be manually controlled with the individual controllers, backup heaters are "ON" and will operate in auto
- c. Cycling heaters are failed "ON" and can be manually controlled with the breakers, spray valves are open in "AUTO" and will control in auto with the master controller, backup heaters are "ON" and can be manually operated
- d. Cycling heaters are failed "OFF" and can be manually controlled with the breakers, spray valves are closed in "AUTO" and will control in auto with the master controller, backup heaters are "OFF" and can be manually operated

QUESTION: 078 (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 OHP 4023.E-0, "Reactor Trip or Safety Injection."

- Neutron flux is less than 5% and decreasing
- All rod bottom lights are NOT LIT, Rod H8 is at 50 steps
- RTB is closed
- RTA, BYA, and BYB are open
- 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 FR-S.1, "Response to Nuclear Power Generation/ATWS"
- b. Continue in E-0, "Reactor Trip or Safety Injection"
- c. Go to FR-S.2, "Response to Loss of Core Shutdown"
- d. Go to ECA-0.0, "Loss of all AC Power"

QUESTION: 079 (1.00)

The following plant conditions exist:

- A SBLOCA has occurred and operator actions have not been initiated
- The reactor has tripped from 100% power with maximum decay heat
- ECCS is operating as designed and the steam generators are available
- Steam dumps are available
- The RCS is saturated with RCS pressure above steam generator pressure

Which one of the following components is required for adequate long term core cooling?

- a. Accumulators
- b. Reactor coolant pumps running
- c. Steam generators
- d. Safety injection pumps

QUESTION: 080 (1.00)

Unit 1 is in Mode 2 performing a reactor startup. Reactor power is 5×10^{-11} amps. If both of the control power fuses on N-32 failed, which one of the following describes the actions to be taken by the crew?

- a. Discontinue the startup until N-32 has been repaired and returned to service
- b. Drive control rods in to ensure the reactor is subcritical until N-32 is repaired
- c. Increase power to P-6 and block the source range instruments
- d. Verify the reactor tripped and perform actions in EOP E-0

QUESTION: 081 (1.00)

Which one of the following conditions will increase the difficulty of diagnosing a small steam generator tube rupture event following a reactor trip?

- a. Safety injection activation
- b. S/G blowdown isolation
- c. Non-uniform auxiliary feedwater flow
- d. MSIVs are closed

QUESTION: 082 (1.00)

Which one of the following would allow exit from FR-H.1 "Loss of Heat Sink?"

- a. AFW flow is delivered from the unit cross-tie before bleed and feed is initiated. The pump is delivering its maximum flow rate of 200k PPH. Core exit thermocouples are 550°F and stable. Two steam generator wide range levels are rising.
- b. Condensate booster pump flow is delivered at a flow rate of 150k PPH to one SG after bleed and feed is initiated. Core exit thermocouples are 550°F and lowering. All loop T-hots are 560°F and stable. All steam generator wide range levels are stable between 50% and 60%.
- c. AFW flow is delivered at a flowrate of 240k PPH each to steam generators 2 and 3. Their wide range steam generator levels are 35% and rising. T_{hots} are 550°F and lowering.
- d. Bleed and feed was initiated. Operators are checking if ECCS flow can be terminated. The first PORV has been closed to raise subcooling. RCS pressure is stable and subcooling is stable at 87°F.

QUESTION: 083 (1.00)

The following plant conditions exist:

- RCS pressure is 1600 psig
- Steam generator pressures (psig) are #1 - 925, #2 - 937, #3 - 895, #4 - 0
- Pressurizer level is empty
- Containment pressure is 3.2 psi

The reactor coolant pumps should be tripped because component cooling water (CCW) flow is isolated to which one of the following?

- a. thermal barrier heat exchanger
- b. bearing oil coolers
- c. reactor support coolers
- d. labyrinth seal

QUESTION: 084 (1.00)

To receive valid data from the core exit thermocouples, the reference junction temperatures are . . .

- a. held constant at the reference junction.
- b. mechanically compensated by variable resistor.
- c. electronically compensated at the thermocouple transmitter.
- d. electronically compensated at the plant process computer input.

QUESTION: 085 (1.00)

Unit 1 turbine driven auxiliary feedwater pump is 12 hours into a 24-hour maintenance window to repair a leak on the shaft seal. A blackout occurs on Unit 1. Unit 2 diesel generators are carrying vital loads and all AFW pumps are available. The Unit 1 and Unit 2 AFW systems are to be cross-tied for safe shutdown requirements. (Use the attached Technical Specification Bases)

What are the appendix R requirements per Technical Specifications?

- a. Fire watches do not have to be established unless a fire has occurred in the areas containing auxiliary feedwater system components
- b. Establish fire watches in Unit 1 areas requiring use of Unit 2 auxiliary feedwater system in the event of a fire
- c. Establish fire watches in Unit 1 and Unit 2 areas requiring use of auxiliary feedwater system in the event of a fire
- d. Establish fire watches in Unit 2 areas requiring use of Unit 1 auxiliary feedwater systems in the event of a fire

QUESTION: 086 (1.00)

Unit 1 is operating at 100% power when Panel 123 Drop 26, "Condenser A North WTR Box DP High" annunciator alarms. Maintenance has requested that the water box be isolated and drained for inspection, tube plugging and cleaning.

What is the MAXIMUM power level the Unit can be at to perform this evolution?

- a. 100%
- b. 80%
- c. 60%
- d. 50%

QUESTION: 087 (1.00)

The following Unit 1 plant conditions exist:

- Mode 5
- Irradiated fuel in the vessel.
- Vessel level drained to 4 ft. below vessel flange.
- The Pressurizer manway has been removed.

Which one of the following groups of components are required to be available per PMP 4100.SDR.001, "Plant Shutdown Safety and Risk Management?" (Assume that associated flow paths are also available.)

- a. One SI pump with both Cold Leg and Hot leg injection paths to pump from the RWST.
- b. RWST gravity feed capability through one SI pump which is also capable of injecting to both Hot and Cold legs.
- c. Two CCPs capable of injecting using the normal charging path and one SI pump with cold leg injection capability to pump from the RWST.
- d. RWST gravity feed capability via both the RHR suction flow path and safety injection flow path.

QUESTION: 088 (1.00)

The following plant conditions exist on Unit 2:

- Pressurizer pressure control is in automatic
- Ch1 is selected as the controlling channel for pressure input

Based upon current plant conditions, which one of the following describes the pressurizer PORVs response to a Ch1 instrument failure to full scale HIGH? (Assume NO operator action.)

- a. NRV-151 OPENS and NRV-152 and 153 remain closed
- b. NRV-152 remains CLOSED and NRV-153 and 151 will OPEN
- c. NRV-151, 152 and 153 remain closed
- d. NRV-151, 152 and 153 will OPEN

QUESTION: 089 (1.00)

What is the Technical Specification basis for the minimum volume and concentration of NaOH in the containment spray additive tank?

- a. Ensure that the iodine removal efficiency of the spray water is maintained and increasing the pH minimizes corrosive effects on components in containment
- b. Ensure that the iodine removal efficiency of the spray water is maintained and decreasing the pH minimizes corrosive effects on components in containment
- c. Ensure that the removal efficiency of the spray water of all the noble gases is maintained and decreasing the pH minimizes corrosive effects on components in containment
- d. Ensure that the removal efficiency of the spray water of all the noble gases is maintained and increasing the pH minimizes corrosive effects on components in containment

QUESTION: 090 (1.00)

Unit 1 was in mode 4 shutdown when a loss of off-site power occurred. As part of power restoration, the operator closed breaker T11A9, 'T11A Feed From RCP Bus.' During the transient, breaker T11A11, 'T11A Feed From EDGAB' arced and shorted on the bus side. The diesel generator did not trip and continued to supply power to Bus T11B. Prior to the event the North SI pump suction valve 'SI103N' was isolated for repairs and the East MDAFW pump suction strainer basket was isolated for leak repairs.

Which one of the following is the Technical Specification Bases for the Technical Specification that was entered?

- a. The operability of two independent ECCS subsystems ensures that sufficient emergency core cooling capability will be available in the event of a LOCA assuming the loss of one subsystem through any single failure consideration.
- b. With RCS temperature below 350°F, one operable ECCS subsystem is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the limited core cooling requirements.
- c. The operability of the A.C. and D.C. power sources and associated distribution systems during operation ensures that sufficient power will be available to supply the safety related equipment required for safe shutdown and accident mitigation.
- d. The operability of the auxiliary feedwater system ensures that the reactor coolant system can be cooled down to less than 350°F from normal operating conditions in the event of a total loss of off-site power.

QUESTION: 091 (1.00)

Which one of the following statements is correct regarding Acceptors and the use of Partial Release has been started in the Nuclear Clearance Permit system?

- a. The Partial Release is VERIFIED by the SRO before there can be any new Acceptors to the clearance
- b. The Partial Release is VERIFIED by the SRO after all other Acceptors are removed from the clearance
- c. The SRO and all other Acceptors shall perform a walkdown of the equipment/system that are on the Partial Release
- d. The SRO and all other Acceptors must review and walkdown the Partial Release prior to being VERIFIED

QUESTION: 092 (1.00)

Which one of the following identifies the process and the assumptions made regarding the determination that Technical Specifications required equipment is OPERABLE?

- a. If an item is capable of performing its intended function on a scheduled surveillance test, and most of the support systems remain functional, then it is operable.
- b. If the applicable surveillance testing has been completed but not reviewed, and all support systems to the equipment are functional, then it is operable.
- c. If an item is able to perform its intended function after maintenance and a surveillance test was only used to satisfy post maintenance testing requirements, then it is operable.
- d. If the applicable surveillance testing has been completed, reviewed, and all support systems to the equipment are functional, then it is operable.

QUESTION: 093 (1.00)

Unit 2 is in Mode 6 and fuel is being off-loaded from the core. The following conditions exist:

- Refueling canal boron concentration is 2430 ppm
- Both source range indications are in operation with 2 visual and 1 audio indication
- The reactor has been subcritical for 186 hours
- A maintenance worker is stationed at the air lock
- The equipment door is closed and held in place with 4 bolts
- 2 air hoses are run through the airlock doors with quick disconnects at the airlock doors
- The water level is 24 feet 6 inches above the top of the reactor pressure vessel flange

Which one of the following LCOs, if any, would pertain to the given plant conditions?

- a. LCO 3.9.1 (Boron Concentration) should be entered
- b. LCO 3.9.3 (Decay Time) should be entered
- c. LCO 3.9.4 (Containment Building Penetrations) should be entered
- d. No LCOs should be entered

QUESTION: 094 (1.00)

Technical Specification 3.11.1, which limits the curie content of outside tanks, assures that no uncontrolled release occurs that exceeds the limits established by:

- a. 10CFR20, Appendix B.
- b. 10CFR26, Appendix A.
- c. 10CFR50, Appendix E.
- d. 10CFR55, Subpart E.

QUESTION: 095 (1.00)

An ALERT was declared on Unit 2. No emergency response facilities are staffed. An operator must go into room requiring radiation exposure in excess of the limits prescribed in 10CFR20.

Assuming that no authorities have been delegated, who must authorize the operator to proceed?

- a. Senior RP Tech on shift
- b. Shift Manager
- c. Radiological Assessment Coordinator
- d. Unit Supervisor

QUESTION: 096 (1.00)

An RWP is needed to enter a very high radiation level area during a backshift to stop a leak. No personnel or equipment hazard exists.

Who is required to authorize the RWP?

- a. RP Superintendent
- b. Shift Manager
- c. Senior RP Tech
- d. RP Supervisor

QUESTION: 097 (1.00)

While performing E-1, the following set of conditions existed:

- NI-41 through NI-44 are all approximately 1%.
- Intermediate range startup rate = -0.1 dpm.
- No RCPs are in service.
- Core exit TCs read 640°F.
- RCS pressures read 1755 psig.
- RVLIS narrow range indicates 35% level.
- All steam generator narrow-range levels are off-scale low.
- Main feedwater pumps are tripped.
- SG #11: FFI-210 reads 80,000 lbs/hr @ 1060 psig in SG
- SG #12: FFI-220 reads 90,000 lbs/hr @ 1050 psig in SG
- SG #13: FFI-230 reads 50,000 lbs/hr @ 1090 psig in SG
- SG #14: FFI-240 reads 100,000 lbs/hr @ 1070 psig in SG

Which one of the following procedures should be implemented?

- a. Continue to implement E-1.
- b. FR-S.2 "Response to Loss of Core Shutdown"
- c. FR-C.2 "Response to Degraded Core Cooling"
- d. FR-H.2 "Response to Steam Generator Overpressure"

QUESTION: 098 (1.00)

At 0100 on Saturday morning Unit 2 entered the 73rd hour of a 72-hour Technical Specification. A report is due to the NRC within 1 hour. Who will be involved in the initial report ability determination, who will make the report, and who will be available to advise during the report?

	Initial Report ability Determination	Person Making report	Available to Advise During Report
a.	Shift Supervisor and Operations Superintendent	Licensing Personnel	STA and Engineering
b.	Shift Supervisor and Operations Superintendent	Shift Supervisor	STA and Licensing
c.	STA and Shift Supervisor	Shift Supervisor	STA and Operations Superintendent
d.	STA and Shift Supervisor	Licensing Personnel	STA and Plant Manager

QUESTION: 099 (1.00)

Which of the following is NOT a responsibility of the Contingency Director during an emergency?

- a. Perform accountability at the beginning of the event to ensure persons are accounted for and to quantify available resource
- b. Provide updates on the plant conditions to personnel dispatched out of the Control Room as appropriate
- c. Support the Control Room response organization by performing administrative duties as delegated by the SM/SEC
- d. Provide an independent assessment of conditions present and actions taken in the Control Room

QUESTION: 100 (1.00)

Which one of the following is the correct responsibility for off-site notification of plant staff after the declaration of a Site Area Emergency?

- a. The Shift Supervisor notifies the Site Vice President (or Alternate) and the Operations Manager and the Security Shift Supervisor initiates the emergency call list
- b. The Shift Supervisor notifies the Site Vice President (or Alternate) and the Operations Manager and the Control Room Communicator initiates the emergency call list
- c. The Control Room Communicator notifies the Site Vice President (or Alternate) and the Operations Manager and the Security Shift Supervisor initiates the emergency call list
- d. The Shift Supervisor notifies the Security Shift Supervisor who notifies the Site Vice President (or Alternate) and the Operations Manager and initiates the emergency call list

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

ANSWER: 001 (1.00)
a.
REFERENCE:
RO-C-AOP-7
Cognitive
000001K118 ..(KA's)

ANSWER: 006 (1.00)
c.
REFERENCE:
SOD-01900-001
Cognitive
000062A102 ..(KA's)

ANSWER: 011 (1.00)
b.
REFERENCE:
SD-03200
Cognitive
000058K301 ..(KA's)

ANSWER: 002 (1.00)
b.
REFERENCE:
SD01200.RV1,
SOD-01200-002
Memory
000005A102 ..(KA's)

ANSWER: 007 (1.00)
a.
REFERENCE:
Steam Tables
Cognitive
000074K106 ..(KA's)

ANSWER: 012 (1.00)
b.
REFERENCE:
SD-00202-003
02-OHP 4022.013.010
Cognitive
000028K101 ..(KA's)

ANSWER: 003 (1.00)
a.
REFERENCE:
02-OHP 4022.002.001
Cognitive
000015A107 ..(KA's)

ANSWER: 008 (1.00)
b.
REFERENCE:
Drawing No. OP-1-5128A-37
Cognitive
000008K201 ..(KA's)

ANSWER: 013 (1.00)
c.
REFERENCE:
SD-08201.RV.1
Memory
000056A247 ..(KA's)

ANSWER: 004 (1.00)
a.
REFERENCE:
PSBD 02-OHP 4023.FR-S.1
Procedure 02-OHP
4023.FR-S.1
Memory
000029A204 ..(KA's)

ANSWER: 009 (1.00)
d.
REFERENCE:
02-OHP 4023 FR-P.1, Sup.
010, and Sup. 007
Cognitive
000022K101 ..(KA's)

ANSWER: 014 (1.00)
a.
REFERENCE:
OPH 4022.012.005
Cognitive
000003K304 ..(KA's)

ANSWER: 005 (1.00)
a.
REFERENCE:
02-OHP 4024 212 Drop 8
Memory
000051G2.1 ..(KA's)

ANSWER: 010 (1.00)
a.
REFERENCE:
02-OHP 4024.206,
SOD-01700-002
Cognitive
000025G2.4 ..(KA's)

ANSWER: 015 (1.00)
d.
REFERENCE:
OHP 4023 ES-1.1
Cognitive
E02K2.2 ..(KA's)

ANSWER: 016 (1.00)
c.
REFERENCE:
OHP 4023 ES-0.1
Cognitive
000024A205 ..(KA's)

ANSWER: 017 (1.00)
 d.
 REFERENCE:
 ERG-HP Background
 FR-P.1, Response to
 Imminent Pressurized
 Thermal Shock Condition,
 Step 2
 Cognitive
 E08A.2.2 ..(KA's)

ANSWER: 018 (1.00)
 d.
 REFERENCE:
 SD-05001.RV.1
 SD-05002.RV.0
 Memory
 000067K102 ..(KA's)

ANSWER: 019 (1.00)
 c.
 REFERENCE:
 SD-01100.RV.1
 SOD-01100-002
 Cognitive
 000069A101 ..(KA's)

ANSWER: 020 (1.00)
 b.
 REFERENCE:
 SD-02200.RV.0
 SOD-02200-001
 Memory
 000059A205 ..(KA's)

ANSWER: 021 (1.00)
 a.
 REFERENCE:
 Technical Specifications
 3.4.6.2
 ATR 1-RCS-3
 Cognitive
 000037G2.2 ..(KA's)

ANSWER: 022 (1.00)
 a.
 REFERENCE:
 SD-01200.RV.0
 SOD-01200-003
 Cognitive
 001K105 ..(KA's)

ANSWER: 023 (1.00)
 b.
 REFERENCE:
 OHP 4021.003.001
 Attachment 13 Caution
 SD-00300
 Cognitive
 004K507 ..(KA's)

ANSWER: 024 (1.00)
 a.
 REFERENCE:
 SD-01200
 01-OHP 4024.210 Drop 39
 01-OHP 4021.001.003
 Cognitive
 004K601 ..(KA's)

ANSWER: 025 (1.00)
 c.
 REFERENCE:
 01-OHP 4021.082.008
 Cognitive
 013K201 ..(KA's)

ANSWER: 026 (1.00)
 a.
 REFERENCE:
 02-OHP 4023 FR-P.1
 Memory
 013K416 ..(KA's)

ANSWER: 027 (1.00)
 c.
 REFERENCE:
 02-OHP 4024.210 Drop 39
 Memory
 014A103 ..(KA's)

ANSWER: 028 (1.00)
 a.
 REFERENCE:
 RO-C-NS09
 Cognitive
 015A101 ..(KA's)

ANSWER: 029 (1.00)
 b.
 REFERENCE:
 02-OHP 4021.028.001
 Precautions
 Memory
 022G2.1.32 ..(KA's)

ANSWER: 030 (1.00)
 a.
 REFERENCE:
 SD-01100, SOD-01000-001
 Cognitive
 025A204 ..(KA's)

ANSWER: 031 (1.00)
 d.
 REFERENCE:
 OHP 4024.205 Drop 3, 23,
 and 24
 Cognitive
 026G2.1.31 ..(KA's)

ANSWER: 032 (1.00)

d.

REFERENCE:

SD-05500

Memory

059A306 ..(KA's)

ANSWER: 037 (1.00)

c.

REFERENCE:

SOD-00800-001,

OP-1-12012-13

Cognitive

006K204 ..(KA's)

ANSWER: 042 (1.00)

b.

REFERENCE:

12-OHP 4022.018.001

Memory

033K303 ..(KA's)

ANSWER: 033 (1.00)

a.

REFERENCE:

SD-08204

01-OHP 4022.082.002AB

Cognitive

063A301 ..(KA's)

ANSWER: 038 (1.00)

d.

REFERENCE:

OHI-4000.RV.2

01-OHP.4024.108 Drop 8

and 9

Cognitive

011A206 ..(KA's)

ANSWER: 043 (1.00)

d.

REFERENCE:

RO-C-01201.RV.1

Cognitive

034A203 ..(KA's)

ANSWER: 034 (1.00)

d.

REFERENCE:

SD-02200

Memory

068K504 ..(KA's)

ANSWER: 039 (1.00)

b.

REFERENCE:

SD-01100

02-OHP 4022.013.016

Cognitive

012K604 ..(KA's)

ANSWER: 044 (1.00)

b.

REFERENCE:

SD 5103

Memory

035K111 ..(KA's)

ANSWER: 035 (1.00)

a.

REFERENCE:

01-OHP 4024.128, SD-02300

Cognitive

071A429 ..(KA's)

ANSWER: 040 (1.00)

c.

REFERENCE:

RO-C-05600.RV.1

Cognitive

016K106 ..(KA's)

ANSWER: 045 (1.00)

a.

REFERENCE:

SD-05200.RV.1

Cognitive

039K402 ..(KA's)

ANSWER: 036 (1.00)

c.

REFERENCE:

12-OHP 4022.018.003

Memory

072K302 ..(KA's)

ANSWER: 041 (1.00)

b.

REFERENCE:

SOD-02800-002

Memory

029A103 ..(KA's)

ANSWER: 046 (1.00)

b.

REFERENCE:

SD-12-CAR-100

01-OHP-4021.053.002 Rev

11

01-OHP-4021.053.003 Rev 2

Memory

055K301 ..(KA's)

ANSWER: 047 (1.00)

c.

REFERENCE:

RO-C-08201.RV.1

Cognitive

062G2.1.28 ..(KA's)

ANSWER: 048 (1.00)

d.

REFERENCE:

SOD-01350-001

SD-01600.RV.1

Memory

073K101 ..(KA's)

ANSWER: 049 (1.00)

c.

REFERENCE:

SOD-01900-001

Memory

075A401 ..(KA's)

ANSWER: 050 (1.00)

b.

REFERENCE:

SD-01700.RV.1

SOD-01700-002

Memory

005K407 ..(KA's)

ANSWER: 051 (1.00)

b.

REFERENCE:

02-OHP 4021.002.001

Memory

007K502 ..(KA's)

ANSWER: 052 (1.00)

a.

REFERENCE:

SD-01600.RV.1

SOD-01600-001

SOD-01600-002

SOD-00901-001

SOD-00800-002

Cognitive

008A305 ..(KA's)

ANSWER: 053 (1.00)

c.

REFERENCE:

SD-02000

SD-02000.RV.1

Memory

076A401 ..(KA's)

ANSWER: 054 (1.00)

d.

REFERENCE:

OHI-4012 Data Sheets

Memory

G.2.1.3 ..(KA's)

ANSWER: 055 (1.00)

b.

REFERENCE:

RO-C-ADM02

Memory

G.2.1.20 ..(KA's)

ANSWER: 056 (1.00)

c.

REFERENCE:

PMP-4043.ICV.001

Memory

G.2.1.29 ..(KA's)

ANSWER: 057 (1.00)

c.

REFERENCE:

Unit Tech Data Books

Memory

G.2.2.3 ..(KA's)

ANSWER: 058 (1.00)

c.

REFERENCE:

GE-C-1000 OBS E.7

Cognitive

G.2.3.2 ..(KA's)

ANSWER: 059 (1.00)

b.

REFERENCE:

SD-03201.RV.1

Memory

064A304 ..(KA's)

ANSWER: 060 (1.00)

b.

REFERENCE:

Emergency Plan, Tech

Specs, OHI-2080, OHI-4011

Memory

G.2.4.29 ..(KA's)

ANSWER: 061 (1.00)

a.

REFERENCE:

01-OHP 4022.002.020,

01-OHP 4022.017.001,

01-OHP 4022.002.015,

01-OHP 4024.208 Drop 4 & 5

Cognitive

000011G2.4 ..(KA's)

ANSWER: 062 (1.00)

a.

REFERENCE:

Drawing OP-2-98416-26,

SD-01900

02-OHP 4022.016.001

Cognitive

000026G2.4 ..(KA's)

ANSWER: 063 (1.00)

d.

REFERENCE:

02-OHP 4023-ECA-2.1 page
84 of the background
document.

Cognitive

000040G2.4 ..(KA's)

ANSWER: 064 (1.00)

b.

REFERENCE:

Tech Spec 3.4.8 Bases
Memory

000076K201 ..(KA's)

ANSWER: 065 (1.00)

b.

REFERENCE:

02-OHP 4025.001.001
Memory

000068K312 ..(KA's)

ANSWER: 066 (1.00)

b.

REFERENCE:

02-OHP 4023 FR-C.1, ERG
HP Background, FR-C.1
Cognitive

000074G2.4 ..(KA's)

ANSWER: 067 (1.00)

a.

REFERENCE:

PSBD 02-OHP 4023.ES-1.2
Step 13 N2 Background
Memory

E03A2.2 ..(KA's)

ANSWER: 068 (1.00)

b.

REFERENCE:

02-OHP 4023 ES-1.3
Cognitive

ANSWER: 069 (1.00)

a.

REFERENCE:

02-OHP 4023 ES-0.1
Background

Memory

000027A101 ..(KA's)

ANSWER: 070 (1.00)

b.

REFERENCE:

SD-01300 RV.1,
SOD-01300-003
02-OHP- 4024.210 Drop 8
Cognitive

000033K101 ..(KA's)

ANSWER: 071 (1.00)

a.

REFERENCE:

12-OHP 4024.139 Revision
Summary
Memory

000061K302 ..(KA's)

ANSWER: 072 (1.00)

c.

REFERENCE:

12-OHP 4021.064.006,
SD-06401

Memory

000065A104 ..(KA's)

ANSWER: 073 (1.00)

a.

REFERENCE:

02-OHP 4023.FR-Z.2
Background
Memory

E15A204 ..(KA's)

ANSWER: 074 (1.00)

c.

REFERENCE:

01-OHP 4023.E-0, 01-OHP
4023.ECA-1.2

Cognitive

E04A202 ..(KA's)

ANSWER: 075 (1.00)

c & d.

REFERENCE:

02-OHP 4023 ES-0.2
Cognitive

E09A201 ..(KA's)

ANSWER: 076 (1.00)

a.

REFERENCE:

02-OHP 4023 ECA-0.0
Background

Cognitive

000055K302 ..(KA's)

ANSWER: 077 (1.00)

a & b.

REFERENCE:

02-OHP 4021.082.008 Table
1, 2, 3, & 4, SD-08203.RV.1

Cognitive

000057K301 ..(KA's)

ANSWER: 078 (1.00)

b.

REFERENCE:

OHP 4023.E-0

Cognitive

000007A202 ..(KA's)

ANSWER: 079 (1.00)

c.

REFERENCE:

RO-C-EOP2

Cognitive

000009K203 ..(KA's)

ANSWER: 080 (1.00)

d.

REFERENCE:

SOD-01300-004, T.S. 3/4.3.1

Table 3.3-1, SOD-01300-004

Cognitive

000032A206 ..(KA's)

ANSWER: 081 (1.00)

c.

REFERENCE:

RO-C-EOP08

Cognitive

000038A203 ..(KA's)

ANSWER: 082 (1.00)

a.

REFERENCE:

02 OHP 4023.FR-H.1

Cognitive

000054A204 ..(KA's)

ANSWER: 083 (1.00)

b.

REFERENCE:

OHP 4002.014.001

Cognitive

003K604 ..(KA's)

ANSWER: 084 (1.00)

c.

REFERENCE:

SD-01301.RV.1

Memory

017K403 ..(KA's)

ANSWER: 085 (1.00)

d.

REFERENCE:

Technical Specification

Bases 3/4.7.1.2

Cognitive

061A209 ..(KA's)

ANSWER: 086 (1.00)

a.

REFERENCE:

01-OHP 4024.123 Drop 26,

01-OHP 4021.057.001,

SD-05700

Memory

056A205 ..(KA's)

ANSWER: 087 (1.00)

b.

REFERENCE:

PMP-4100.SDR.001.RV.4

Cognitive

002K401 ..(KA's)

ANSWER: 088 (1.00)

c.

REFERENCE:

RO-00202.RV.1

Memory

010A403 ..(KA's)

ANSWER: 089 (1.00)

a.

REFERENCE:

Technical Specification

Bases 3/4.6.2.2

Memory

027G2.1.27 ..(KA's)

ANSWER: 090 (1.00)

c.

REFERENCE:

Technical Specifications

Cognitive

G.2.1.33 ..(KA's)

ANSWER: 091 (1.00)

a & b.

REFERENCE:

PMP 2110.CPS.001

Memory

G.2.2.13 ..(KA's)

ANSWER: 092 (1.00)

d.

REFERENCE:

RO-C-ADM05

Memory

G.2.2.25 ..(KA's)

ANSWER: 093 (1.00)

d.

REFERENCE:

Technical Specifications

Section 3.9

Cognitive

G.2.2.29 ..(KA's)

ANSWER: 094 (1.00)

a.

REFERENCE:

Technical Specification

Bases 3.11.1

Memory

G.2.3.11 ..(KA's)

ANSWER: 095 (1.00)

b.

REFERENCE:

PMP 2080 EPP.103, PMP

2081 EPP.208

Memory

G.2.3.4 ..(KA's)

ANSWER: 096 (1.00)

a.

REFERENCE:
PMP-6101.RPP.006
Memory
G.2.3.7 ..(KA's)

ANSWER: 097 (1.00)

c.

REFERENCE:
ERG-HP User's Guide,
Section 4; 1-OHP.4023.F-0.1,
Subcriticality
Status Tree
1-OHP.4023.F-0.2, Core
Cooling Status Tree
1-OHP.4023.F-0.3, Heat Sink
Status Tree
Cognitive
G.2.4.16 ..(KA's)

ANSWER: 098 (1.00)

c.

REFERENCE:
PMP 7030.001.001
Memory
G.2.4.30 ..(KA's)

ANSWER: 099 (1.00)

d.

REFERENCE:
OHI-2080.RV.3
Memory
G.2.4.40 ..(KA's)

ANSWER: 100 (1.00)

a.

REFERENCE:
Emergency Plan Section
12.3.6.1
Memory
G.2.4.43 ..(KA's)

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

ANSWER KEY
MULTIPLE CHOICE

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

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