U. S. NUCLEAR REGULATORY COMMISSION
LSRO WRITTEN EXAMINATION

Applicant Information	
Name:	
Date:	Region: 1
Facility/Unit: Hope Creek 1	Reactor Type: BWR-GE4
Start Time:	Finish Time:

INSTRUCTIONS TO APPLICANT:

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%. Examination papers will be picked up three (3) hours after the examination starts.

TEST VALUE	APPLICANT'S SCORE	FINAL GRADE %
50.0 Points		

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

_____
Applicant's Signature

Results	
Examination Value:	_____ Points
Applicant's Score:	_____ Points
Applicant's Grade:	_____ Points

NAME: _____

SENIOR REACTOR OPERATOR ANSWER SHEET

Multiple Choice (Circle your choice). If you change your answer, write your selection in the blank.

MULTIPLE CHOICE

001 a b c d ___	023 a b c d ___	045 a b c d ___
002 a b c d ___	024 a b c d ___	046 a b c d ___
003 a b c d ___	025 a b c d ___	047 a b c d ___
004 a b c d ___	026 a b c d ___	048 a b c d ___
005 a b c d ___	027 a b c d ___	049 a b c d ___
006 a b c d ___	028 a b c d ___	050 a b c d ___
007 a b c d ___	029 a b c d ___	(** END OF EXAMINATION **)
008 a b c d ___	030 a b c d ___	
009 a b c d ___	031 a b c d ___	
010 a b c d ___	032 a b c d ___	
011 a b c d ___	033 a b c d ___	
012 a b c d ___	034 a b c d ___	
013 a b c d ___	035 a b c d ___	
014 a b c d ___	036 a b c d ___	
015 a b c d ___	037 a b c d ___	
016 a b c d ___	038 a b c d ___	
017 a b c d ___	039 a b c d ___	
018 a b c d ___	040 a b c d ___	
019 a b c d ___	041 a b c d ___	
020 a b c d ___	042 a b c d ___	
021 a b c d ___	043 a b c d ___	
022 a b c d ___	044 a b c d ___	

NRC RULES AND GUIDELINES FOR LICENSE EXAMINATIONS

During the administration of this examination the following rules apply:

1. Cheating on the examination means an automatic denial of your application and could result in more severe penalties.

2. After the examination has been completed, you must 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. This must be done after you complete the examination.

3. Restroom trips are to be limited and only one applicant at a time may leave. You must avoid all contacts with anyone outside the examination room to avoid even the appearance or possibility of cheating.

4. Use black ink or dark pencil ONLY to facilitate legible reproductions.

5. Print your name in the blank provided on the examination cover sheet and each answer sheet.

6. Mark your answers on the answer sheet provided. USE ONLY THE PAPER PROVIDED AND DO NOT WRITE ON THE BACK SIDE OF THE PAGE.

7. There are a total of 50 questions, worth 1 point each.

8. If the intent of a question is unclear, ask questions of the examiner only.

9. When turning in your examination, assemble the completed examination with examination questions, examination aids and answer sheets. In addition, turn in all scrap paper.

10. Ensure all information you wish to have evaluated as part of your answer is on your answer sheet. Scrap paper will be disposed of immediately following the examination.

11. To pass the examination, you must achieve a grade of 80.00% or greater.

12. There is a time limit of three (3) hours for completion of the examination.

13. When you are done and have turned in your examination, leave the examination area (EXAMINER WILL DEFINE THE AREA). If you are found in this area while the examination is still in progress, your license may be denied or revoked.

SRO QUESTION # 1

QUESTION Fuel Pool Cooling System is in normal operation with the "A" pump in service.

Which one of the following describes the effect of loss of air to the Filter Demineralizers (F/D) air operated valves?

Answer A F/D valves fail AS-IS.

Answer B "A" FPCC Pump continues to run at shut off head.

Answer C "A" FPCC Pump trips on low flow.

Answer D F/D Bypass auto opens and maintains system flow at 550 gpm.

SRO QUESTION # 2

QUESTION Given the following:

- The plant is in Op Condition 4
- B RHR Pump is in service in Shutdown Cooling

Which one of the following will cause a loss of Shutdown Cooling?

Answer A 'A' RPS M/G set trips

Answer B 'A' Channel NSSSS Level 3 trip unit actuates

Answer C 'B' Channel PCIS Manual logic trips

Answer D 'B' Channel ECCS Level 2 trip unit actuates

SRO QUESTION # 3

QUESTION Complete the following statement:

The Standby Liquid Control System is designed to add enough negative reactivity to...

Answer A overcome the 11% reactivity added when the fuel cools from normal operating temperature to 60 degrees F.

Answer B overcome the 17% reactivity added when the xenon burns out from an equilibrium state.

Answer C maintain the reactor in a hot shutdown condition for a maximum of 24 hours.

Answer D provide the reactor with a concentration of 660 ppm boron within 120 minutes.

SRO QUESTION # 4

QUESTION Given the following conditions:

- The reactor is in Operational Condition 5
- The mode switch is locked in SHUTDOWN
- One control rod has been removed from the core
- Another control rod needs to be removed from the core

Which one of the following is required to remove an additional control rod?

Answer A Refueling is limited to quadrants other than where the control rod has been removed.

Answer B All four SRMs must be verified operable before removing next control rod.

Answer C All other control rods in the five-by-five array of the control rod to be removed must be verified inserted.

Answer D The four fuel assemblies around the control rod to be removed must be removed from the core.

SRO QUESTION # 5

QUESTION Given the following:

- The plant is in a refueling outage and is in the process of being defueled.
- Reactor water level begins to LOWER.
- Water level currently is 21 feet ABOVE the top of the Reactor Vessel Flange and is DECREASING at the rate of SIX inches per minute.
- The following alarms have just been received:
    - D3-B3, RWCU STM LK ISLN TIMER INITIATED
    - E6-A3, REFUEL FLR EXH RAD ALARM/TRBL

Which one of the following automatic actions will occur IMMEDIATELY?

Answer A FRVS initiates

Answer B RWCU isolates

Answer C Shutdown Cooling isolates

Answer D Refueling equipment will not move

SRO QUESTION # 6

QUESTION Given the following:

- Loss of Off-Site Power occurs
- The EDG's have started
- In addition to the EDG breaker closed, which one of the following is required to initiate the EDG Load Sequencer?

Answer A EDG bus undervoltage

Answer B EDG bus underfrequency

Answer C EDG bus degraded voltage

Answer D EDG bus lockout relays reset

SRO QUESTION # 7

QUESTION

Given the following conditions:

- Refueling is in progress
- It is determined that the 'A' EDG is inoperable due to failing to meet HC.OP-ST.KJ-0001 Acceptance Criteria

Which one of the following conditions would require terminating fuel movement?

Answer A

The day tank for the "D" diesel generator is 310 gallons.

Answer B

The day tank for the "B" diesel generator is 350 gallons.

Answer C

The storage tanks for the "C" diesel generator have 19,800 gallons and 21,400 gallons of fuel.

Answer D

One fuel transfer pump for the "C" diesel generator is inoperable, but the flowpath of the affected pump and tank is realigned to the operable pump.

SRO QUESTION # 8

QUESTION Given the following:

- SACS to the "A" Fuel Pool Heat Exchanger has been crosstied to SACS Loop B
- The "A" Fuel Pool Heat Exchanger is in service with the "B" Fuel Pool Heat Exchanger inoperable for repair

Which one of the following conditions will result in a loss of Fuel Pool Cooling?

Answer A TACS is aligned to SACS Loop "B".

Answer B Trip of one Loop B SACS pump on overcurrent.

Answer C The RSP transfer switches for the crossconnect valves are placed in EMERGENCY.

Answer D Low-Low-Low level in the "B" SACS expansion tank

SRO QUESTION # 9

QUESTION

During manual transfer between Chilled Water and Reactor Auxiliary Cooling System (RACS) the operator is required to close HV9532-1 CHW ISLN RTN VLV and HV9532-2 CHW SUP ISLN VLV prior to swapping the RACS / Chiiled Water Cross Tie Valves.

Which one of the following describes the bases for this action?

Answer A RACS pumps would run out and trip on overcurrent.

Answer B A RACS pump trip on RACS head tank low level would occur.

Answer C A loss of head tank level would occur in the Chilled Water System.

Answer D Cooling water to the reactor recirculation pumps would be isolated.

SRO QUESTION # 10

QUESTION

During core offload, a fuel assembly is being moved from the vessel to the fuel pool. The designated location for the fuel assembly already has a fuel assembly located in it.

Which one of the following describes the action required for the latched assembly IAW NC.NA-AP.ZZ-0049?

Answer A Allow it to remain latched on the fuel hoist.

Answer B Place it in the closest available fuel pool location.

Answer C Return it to its original location in the core.

Answer D Place the assembly in a location verbally designated by the Reactor Engineer.

SRO QUESTION # 11

QUESTION Given the following conditions:

- Hope Creek has just shutdown after a 12 month operating period
- "A" Service Water Pump is out of service for maintenance
- "B" RHR pump was in Shutdown Cooling and has tripped
- "A" RHR pump has been placed in-service in Shutdown Cooling
- "C" Service Water Pump is running
- The reactor water temperature is 285 deg. F and rising.

Which one of the following actions is required to re-establish a reactor cooldown?

Answer A Open EG-HV-2512A RHR HX Inlet Valve

Answer B Close BC-HV-F015A SDC Return to RHR

Answer C Close BC-HV-F048A RHR HX Bypass Vlv

Answer D Open EG-HV-2491A SACS HX Inlet Valve

SRO QUESTION # 12

QUESTION The plant is in Operational condition 4 when a loss of Shutdown Cooling occurs.

Which one of the following indicators should be monitored IAW HC.OP-AB.ZZ-0142 to determine whether a mode change to Operational Condition 3 has occurred?

Answer A HPCI and RCIC trip units

Answer B Any CRIDS RPV pressure indication

Answer C PAM recorders

Answer D Any Control Room pressure indications

SRO QUESTION # 13

QUESTION Which one of the following describes the bases for maintaining RPV water level > +80 inches following a loss of Shutdown Cooling?

Answer A Operating above this level will prevent cavitation of the RHR pumps during Shutdown Cooling.

Answer B A water level above this point will enhance reactor vessel core cooling by natural circulation.

Answer C This level provides an adequate margin to the Group 3 low reactor water level primary containment isolation.

Answer D This provides a large water volume to allow for level changes while starting and stopping the RHR pumps.

SRO QUESTION # 14

QUESTION Given the following:

- Technical Specification compliance has been verified IAW "Refueling Operations". [HC.OP-IO.ZZ-0009]
- Multiple Control Rod Drive Mechanisms are being uncoupled and removed from undervessel IAW Technical Specification 3.9.10.2
- Spiral Fuel offload is in progress per directions of Reactor Engineers and Fuel Handling Control Core Alteration forms. [HC.RE-FR.ZZ-0001]

Which of the following conditions would require Suspension of Core Alterations IAW HC.OP-AB.ZZ-0101?

Answer A Refueling Bridge Platform surveillance identifies Frame Mounted Hoist Up travel stops are out of Technical Specification tolerance.

Answer B Loss of SRM indication located in the opposite quadrant to spiral fuel offload.

Answer C Mode Switch position change from Shutdown to Refuel for Rod Speed adjustments per system operating procedure.

Answer D Refuel Floor Area Radiation Monitors alarms while transporting LPRMS from the vessel to the fuel pool.

SRO QUESTION # 15

QUESTION Given the following:

- Core Alterations are in progess
- The refueling platform is currently unloaded over the Fuel Pool
- CRD is inservice to support Control Rod Blade (CRB) changeouts
- The running CRD pump trips on overcurrent

What operator action would allow continuing Core Alterations?

Answer A Secure RWCU blowdown

Answer B Bypass the CRD pump Suction Filters

Answer C Charge the CRD HCU Scram accumulators with nitrogen

Answer D Remove only CRBs that are fully inserted

SRO QUESTION # 16

QUESTION Complete the following statement:

During refueling operations, the Refueling SRO directs the Radiation Protection Technicians to establish restricted access to the...

Answer A entire drywell.

Answer B upper regions of the drywell.

Answer C refuel floor except for the refueling crew.

Answer D CRD Mechanism rebuild room.

SRO QUESTION # 17

QUESTION

During Operational Condition 4, FRVS has received an initiation signal on Reactor Water Level.

Which one of the following describes the response of the FRVS Radiation Monitoring System?

Answer A

The FRVS Radiation Monitor Sample Pumps will automatically start on FRVS initiation.

Answer B

The FRVS Radiation Monitors are in standby until a High Radiation signal is received by FRVS logic.

Answer C

The FRVS Radiation Monitors are in service continuously requiring NO further action.

Answer D

The FRVS Radiation Monitor Sample Pumps require an operator to be dispatched to start the pumps locally.

SRO QUESTION # 18

QUESTION Complete the following statement:

The bases for Secondary Containment and FRVS initiating on a transient is to....

Answer A prevent contamination of the North Plant Vent ductwork.

Answer B assure a treated and controlled, ground release of the activity is provided.

Answer C assure a treated and controlled, elevated release of the activity is provided.

Answer D prevent contamination of the South Plant Vent ductwork.

SRO QUESTION # 19

QUESTION Which one of the following describes a properly oriented ABB fuel bundle?

Answer A The fuel assembly bail handles form a diamond shape inside each fuel cell.

Answer B The channel spacer buttons are located on the cell outside surfaces away from the control rod.

Answer C The fuel assembly serial number on the bail handle is readable from the outside edge of the fuel assembly.

Answer D The leaf springs on the handle (channel fasteners) are located on the outside edge of the fuel assembly.

SRO QUESTION # 20

QUESTION

A small fire has ignited in a trash can on the Refueling Floor. No alarms have yet been received by the Control Room. One of your workers pulls out the fire hose on the nearby hose station rack and opens the associated rack isolation valve.

Which one of the following describes how the Fire Protection System responds? (Assume NO other actions have been taken)

Answer A Water flow. A Fire Pump will automatically start

Answer B Water flow. A Fire Pump must be manually started

Answer C No water flow. The KC-HV-3408M Reactor Bldg Isln Valve must be opened from the Control Room

Answer D No water flow. Other manual valves must opened

SRO QUESTION # 21

QUESTION During shutdown conditions a single control rod is being withdrawn when the "A" and "B" SRM high voltage power supplies fail. RPS Shorting Links are installed.

Which one of the following describes the response of the plant?

Answer A No automatic actions occur

Answer B A full reactor scram occurs

Answer C A control rod block only occurs

Answer D A half reactor scram only occurs.

SRO QUESTION # 22

QUESTION

During core off-load, a fuel bundle is dropped during the transit from the core to the Fuel Pool. Only the bundle that was dropped is damaged.

Which one of the following describes the expected iodine release and it's effect?

Answer A

One percent or less of the assumed iodine released from the bundle will be released to the reactor building.

Answer B

Ninety nine percent or more assumed iodine release to the reactor building is expected with normal water level in the fuel pool.

Answer C

An off-site release will occur and 10CFR100 limits will be exceeded.

Answer D

No iodine release to the reactor building because the FRVS fans are required to be operating during refueling operations and will remove all iodine released from the bundle.

SRO QUESTION # 23

QUESTION

While performing control rod movement for rod exercise, you notice inconsistencies in the CRD system indications. While using continuous withdraw to move one of the control rods from notch 00 to notch 48, you see that this control rod is moving slower than the previously withdrawn control rod. Upon further investigation, you also notice that drive water pressure drops several psid when you start to move the rod. Drive water pressure returns to normal when you stop rod motion.

Which one of the following statements caused the indications you have observed?

Answer A The selected pair of stabilizer valves are not closing during rod withdrawal

Answer B The selected CRD Flow Control Valve has a ruptured diaphragm and will not move

Answer C Initial drive water pressure is set too low and needs to be raised to approximately 275 psid

Answer D One of the two pressure equalization valves is not opening during rod withdrawal

SRO QUESTION # 24

QUESTION Given the following:

- The plant is OP CONDITION 4
- A recirculation pump has just been started
- The discharge valve has jogged open three times
- When it jogged the 4th time, the discharge valve breaker trips

Based on plant conditions, which one of the following will occur?

Answer A Recirc pump will trip due to overcurrent.

Answer B Recirc pump will run due to no automatic trip signals.

Answer C Recirc pump will trip 80 seconds after the discharge valve breaker trips.

Answer D Recirc pump will trip when the discharge valve breaker trips.

SRO QUESTION # 25

QUESTION Given the following:

- The plant is in OP CONDITION 4
- "B" RHR Shutdown Cooling loop is in-service at rated flow
- "B" Recirc Pump is being readied for a start with the suction valve open
- Pre-start temperatures for the recirc pump start are satisfactory
- A spurious malfunction of the recirc pump start sequence timer has just caused the Recirc Pump discharge valve to stroke open.

Which one of the following describes the effect this will have on the reactor?

Answer A Core Plate Delta P will go up; reactor coolant temp will go up

Answer B Core Plate Delta P will go up; reactor coolant temp will go down

Answer C Core Plate Delta P will go down; reactor coolant temp will go up

Answer D Core Plate Delta P will go down; reactor coolant temp will go down

SRO QUESTION # 26

QUESTION A normal plant startup is in progress with the Mode Switch in the START & HOT STBY position.

- IRM Channel A is failed downscale.
- IRM Channel A is bypassed on Panel 10C651
- IRM Channel A Mode switch is in STANDBY.

All of the IRM range switches, including IRM Channel A, are on range 2.

Which one of the following describes the response of the plant if IRM Channel 'A' is taken out of bypass?

Answer A 1/2 scram only

Answer B Control rod block only

Answer C 1/2 scram and control rod block

Answer D IRM Downscale alarm only

SRO QUESTION # 27

QUESTION During a refueling outage the following conditions exist:

- Reactor Core X co-ordinate indicates +41
- Reactor Core Y co-ordinate indicates +22
- The Fuel Grapple hoist is lowered 2 feet
- The Fuel Grapple hoist is loaded
- All control rods are full in
- The mode switch is in REFUEL

Which one of the following conditions exist?

Answer A Fuel Hoist Interlock light is illuminated

Answer B Rod Block Interlock #1 light is illuminated

Answer C Reverse Bridge Stop #1 is illuminated

Answer D Reverse Bridge Stop #2 is illuminated

SRO QUESTION # 28

QUESTION

Fuel loading is in progress. The first three GE fuel assemblies of a cell are fully seated in the correct core locations and are in the correct orientation. The fourth GE assembly loaded in this cell is inadvertently oriented 180 degrees out from its correct position, but is fully seated.

Based on these conditions, which one of the following will be affected if the reactor was operated in this condition?

Answer A TIP operation.

Answer B control rod blade operation.

Answer C core flow through the fuel assembly.

Answer D core bypass flow to cool the control rod blade AND incore instrumentation.

SRO QUESTION # 29

QUESTION

Given the following:

- "C" Channel Reactor Building Refuel Floor Exhaust Radiation monitor is in the trip condition for I&C surveillance testing
- Power is lost to the "A" Channel Reactor Building Refuel Floor Exhaust Radiation monitor.

Which one of the following describes the plant response?

Answer A

Reactor Building Ventilation Inboard Dampers HD-9414A and HD-9370A only close

Answer B

Reactor Building Ventilation Outboard Dampers HD-9414B and HD-9370B only close

Answer C

Both Reactor Building Ventilation Inboard and Outboard Dampers HD-9414A & B and HD-9370A & B close

Answer D

Neither Reactor Building Ventilation Inboard and Outboard Dampers HD-9414A & B or HD-9370A & B close

SRO QUESTION # 30

QUESTION Given the following:

- The cavity is flooded and the shield plugs between the cavity and fuel pool are removed
- Reactor cavity level is lowering
- Fire Water must be used to supply makeup to the cavity and fuel pool.

Connection to the fire water system for emergency makeup is made by...

Answer A opening locked Post Indicator Valves on the refuel floor.

Answer B connecting a fire hose from a hydrant or truck to a fill connection located in the reactor building elevation 102'.

Answer C using a fire hose from a hose station on the refuel floor.

Answer D connecting a fire hose from a hydrant or truck to a fill connection located in the diesel building elevation 102'.

SRO QUESTION # 31

QUESTION

Given the following:

- "B" FPCC HX is C/T for leak repair
- A rupture of the Service Water header "A" has resulted in all "A" Service Water Loop being secured and isolated.

Which one of the following describes the required action?

Answer A

Align "A" SACS Loop to the "B" FPCC HX within one hour.

Answer B

Align "A" SACS Loop to the "B" FPCC HX before Fuel Pool Temperature reaches 135 degrees F.

Answer C

Align "B" SACS Loop to the "A" FPCC HX within one hour.

Answer D

Align "B" SACS Loop to the "A" FPCC HX before Fuel Pool Temperature reaches 135 degrees F.

SRO QUESTION # 32

QUESTION Given the following:

- A single control rod has been WITHDRAWN to position 06.
- A few seconds later a Control Rod Drift alarm comes in on rod 22-19.
- Position indication shows the rod drifting out.

Which one of the following describes the cause of the control rod drift?

Answer A Leaking outlet scram valve

Answer B Worn drive piston seals

Answer C Stuck collet piston

Answer D CRD Cooling water pressure exceeds 50 psid

SRO QUESTION # 33

QUESTION Given the following:

- A core off-load with CRD Mech removal is in progress
- You are the Refueling SRO on the bridge in communication with the Undervessel crew for CRD Mech change-outs
- I&C has a work activity to adjust Transversing In-Core Probe 'A' Mechanism IAW HC.MD-CM.SE-0002(Q) which requires the TIP detector to be fully inserted into the core.
- You have been notified by the Control Room that a temporary tagging release has been obtained to move the 'A' TIP drive mechanism

Based on these conditions, which one of the following describes your responsibility?

Answer A Verify the tagging release blocking points

Answer B Remove the Undervessel work crew from the area

Answer C Approve the procedure for Core Alterations

Answer D Declare the TIP system inoperable

SRO QUESTION # 34

QUESTION

Given the following:

- A refueling outage is in progress
- 10A402 4kv bus is de-energized for maintenance
- The plant will need to align the RHR System for decay heat removal of the Fuel Pool.
- The common suction for RHR A and B for Shutdown Cooling will be tested for LLRTs.

Which one of the following is the alignment for RHR to be utilized as the decay heat removal system to support these LLRT's?

Answer A "A" RHR in the Fuel Pool Cooling Assist Mode

Answer B "A" RHR in the Alternate Fuel Pool Cooling Assist Mode

Answer C "B" RHR in the Fuel Pool Cooling Assist Mode

Answer D "B" RHR in the Alternate Fuel Pool Cooling Assist Mode

SRO QUESTION # 35

QUESTION With the plant in Operational Condition 4 for turbine repair, Shutdown Cooling is allowed to cool the reactor pressure vessel to 75 degrees F.

A Technical Specification LCO will be entered ...

Answer A if RPV Supprt Skirt temperature lowers to 53.5 degrees F.

Answer B due to shutdown margin calculations being invalid.

Answer C due to minimum allowable temperature for RHR piping being exceeded.

Answer D if the reactor vessel head remains tensioned.

SRO QUESTION # 36

QUESTION When raising reactor water level in preparation for cavity flooding for refueling operations, HC.OP-IO.ZZ-0005 directs level raised to > 200 inches but less than the vessel flange.

Which one of the following describes the reason that this is done?

Answer A To visually verify reactor water level

Answer B To support detensioning of the vessel head nuts

Answer C To check for any leaks on the bellows seals

Answer D To control vessel flange temperature

SRO QUESTION # 37

QUESTION Control Rod Blades (CRBs) are being uncoupled using the CRB Latch Tool IAW HC.RE-FR.ZZ-0002 Control Rod Removal and Installation.

Which one of the following actions will uncouple the control rod blade?

Answer A Lifting the coupling release handle (D-handle)

Answer B Rotating the spud lock plug counter-clockwise

Answer C Landing the tool's weight on the CRB

Answer D Lowering the CRD uncoupling rod

SRO QUESTION # 38

QUESTION

The plant is in Operational Condition 5 with core reload in progress. The following plant conditions exist:

- 1/4 Core Reloaded
- 3 Control Rods (with no surrounding fuel assemblies) are withdrawn for maintenance
- Reactor Water Cleanup inlet temp is 69 Degrees F
- SRM Count Rates are:
  - A - 45 cps (location ~~40-21~~) 16-45
  - B - 45 cps (location ~~40-21~~) 40-45
  - C - 50 cps (location 40-21)
  - D - 50 cps (location ~~40-21~~) 16-21

After a fuel bundle is loaded into cell 41-26, SRM Count Rates are:

A - 46 cps
B - 55 cps
C - 80 cps
D - 60 cps

Refuel Activities are stopped to investigate SRM C reading. Reactor Engineering performs a Shutdown Margin Check and SDM is analytically determined to be 0.36% delta k/k.

Which one of the following actions is required?

Answer A Continue core loading, SDM is required to be greater than 0.28% delta k/k.

Answer B Suspend core alterations.

Answer C Continue core loading, insert all insertable control rods within 2 hours.

Answer D Stop core loading in SRM C quadrant only, declare SRM C inoperable, and perform channel check on SRMs A, B and D.

SRO QUESTION # 39

QUESTION In a subcritical reactor, Keff was increased from 0.85 to 0.95 by rod withdrawal.

Which one of the following is closest to the amount of reactivity that was added to the core?

Answer A 0.099 deltaK/K

Answer B 0.124 deltaK/K

Answer C 0.176 deltaK/K

Answer D 0.229 deltaK/K

SRO QUESTION # 40

QUESTION Which one of the following describes the net reactivity effect of a decrease in moderator temperature in an undermoderated reactor core?

Answer A Negative reactivity will be added because more thermal neutrons will be captured by the moderator.

Answer B Negative reactivity will be added because more neutron leakage will occur.

Answer C Positive reactivity will be added because less neutron leakage will occur.

Answer D Positive reactivity will be added because less thermal neutrons will be captured by the moderator.

SRO QUESTION # 41

QUESTION Rod position indications indicate that a control rod is at position 16.

When the control rod is moved to position 22, it is being:

Answer A inserted 18 inches.

Answer B withdrawn 18 inches.

Answer C inserted 36 inches.

Answer D withdrawn 36 inches.

SRO QUESTION # 42

QUESTION A reactor is operating at full power when a loss of offsite power results in a reactor scram and a loss of forced core coolant flow. Several minutes later, the development of natural circulation flow will be indicated by differential _____ across the core plate and flow through the _____ pumps.

Answer A temperature; recirculation

Answer B temperature; jet

Answer C pressure; recirculation

Answer D pressure; jet

SRO QUESTION # 43

QUESTION Why is bulk boiling in the tubes of a single-phase heat exchanger undesirable?

Answer A The bubble formation will break up the laminar layer in the heat exchanger tubes.

Answer B The thermal conductivity of the heat exchanger tubes will decrease.

Answer C The deltaT across the tubes will decrease through the heat exchanger.

Answer D The turbulence will restrict fluid flow through the heat exchanger tubes.

SRO QUESTION # 44

QUESTION Given the following conditions:

- A fully qualified badged radiation worker at Hope Creek has just returned from 4 weeks of outage support at a non-PSEG facility
- Total Effective Dose Equivalent (TEDE) received at this facility was 550 mrem.
- This workers' current TEDE from Hope Creek for 2001 is 475 mrem

What is the MAXIMUM annual non-emergency Total Effective Dose Equivalent (TEDE) that can be received at Hope Creek for the remainder of 2001 WITH the appropriate approvals?

Answer A 3375 mrem

Answer B 3725 mrem

Answer C 4125 mrem

Answer D 4475 mrem

SRO QUESTION # 45

QUESTION

Plant conditions are as follows:

- The plant is in Operational Condition 5
- Core Offload is in progress

Which one of the following is used to verify the minimum RPV Water Level Technical Specification IAW HC.OP-IO.ZZ-0009?

Answer A

The RPV water level is above the "Minimum Level" marked on the Reactor Well liner.

Answer B

Reactor Cavity Low Level alarm on Reactor Cavity Level Indicator Panel 10-C-214 is extinguished.

Answer C

The PAMS Shutdown Range level recorder in the Main Control Room.

Answer D

The Fuel Pool Level Low overhead alarm in the Main Control is extinguished.

SRO QUESTION # 46

QUESTION

A station operator has an accumulated TEDE of 2.6 rem for the year as permitted by a previous extension. Because of dose projections during the assigned outage work, the individual is expected to receive an accumulated TEDE of 1.3 rem.

In accordance with NC.NA-AP.ZZ-0024, "Radiation Protection Program," which one of the following describes the highest level of authorization required for the worker to receive the expected dose?

(ASSUME NO PREVIOUS DOSE OTHER THAN WHAT IS SPECIFIED)

Answer A Radiation Protection Supervisor

Answer B Radiation Protection Manager

Answer C Radiological Assessment Coordinator

Answer D Vice President - Nuclear Operations

SRO QUESTION # 47

QUESTION During core alterations, immediate action is required which is not covered by a currently approved RWP.

Which one of the following is allowed by NC.NA-AP.ZZ-0024?

Answer A Radiation Protection can provide continuous radiation coverage in lieu of an RWP.

Answer B As the LSRO on the refuel floor, direct the action then notify radiation protection.

Answer C Radiation Protection Superintendent - Operations can provide verbal authorization to perform the actions.

Answer D The Operations Superintendent can verbally authorize changes to an existing RWP.

SRO QUESTION # 48

QUESTION

An area on the refuel floor has a radiation barricade rope. A radiation sign on the rope reads "Caution - High Radiation Area" and indicates a maximum radiation level of 900 mrem/hr inside the roped area.

Which one of the following additional controls shall be used for this area?

Answer A

The area shall have a flashing light in the immediate area as a warning device.

Answer B

The area shall be kept locked and the keys kept under the administrative control of the Operations Superintendent.

Answer C

The area access shall be controlled by issuance of a Radiation Work Permit.

Answer D

The area shall have a closed circuit TV monitor installed to provide radiation protection personnel with continuous monitoring capabilities.

SRO QUESTION # 49

QUESTION What is the maximum consecutive time anyone should perform bridge activities?

Answer A 4 hours

Answer B 6 hours

Answer C 8 hours

Answer D 12 hours

SRO QUESTION # 50

QUESTION Identify the individual(s) who are responsible for controlling access to the refuel bridge during Core Alterations.

Answer A Always the Refuel Senior Reactor Operator (SRO)

Answer B The Fuel Handling Coordinator

Answer C The Refueling Bridge Operator

Answer D The Refueling SRO, when on the bridge, otherwise it is the Refueling Bridge Operator

EXAM KEY

Matrix#	1
SRO QUESTION #	6
KACatalogID	295003K2.02
KA Statement	Knowledge of the interelations between (Emergency Diesel Generators) and the following: Partial or Complete Loss of A.C. Power / 6
SRORating	4.2
Question level	R
COGNITIVE LEVEL	F
Question Topic	EDG Load Sequencer signals
REFERENCE	HC.OP-SO.KJ-0001
Material Provided	Tech specs without Bases, Definitions, and Instrumentation
LEARNING OBJECTIVE	0301-000.00H-000066-20, Obj. 7
QSOURCE	INPO Exam Bank Question # 8919. Fermi 4/98 modified for Hope Creek
QUESTION	Given the following: - Loss of Off-Site Power occurs - The EDG's have started - In addition to the EDG breaker closed, which one of the following is required to initiate the EDG Load Sequencer?
CORRECT ANSWER	A
Answer A	EDG bus undervoltage
Answer B	EDG bus underfrequency
Answer C	EDG bus degraded voltage
Answer D	EDG bus lockout relays reset
EXPLANATION OF ANSWER A	Correct answer. Loss of voltage sensed by bus undervoltage relays with the EDG output breaker closed initiates the LOP Sequencer.
EXPLANATION OF ANSWER B	Required to start the engine, but not a permissive to the sequencer
EXPLANATION OF ANSWER C	Alarm only
EXPLANATION OF ANSWER D	Degraded feeder voltage is is a EDG start signal

Matrix#	2
SRO QUESTION #	7
KACatalogID	295003AA1.03
KA Statement	Ability to operate and/or monitor the following (- Systems necessary to assure safe plant shutdown) as they apply to: Partial or Complete Loss of A.C. Power / 6
SRORating	4.4*
Question level	S
COGNITIVE LEVEL	H
Question Topic	Electrical Technical Specifications
REFERENCE	SH.OP-AP.ZZ-0108
Material Provided	TS section 3.8
LEARNING OBJECTIVE	0301-000.00H000068-19, obj 30
QSOURCE	18049. Pilgrim 10/16/1998. Significantly modified for Hope Creek

QUESTION

Given the following conditions:

- Refueling is in progress
- It is determined that the 'A' EDG is inoperable due to failing to meet HC.OP-ST.KJ-0001 Acceptance Criteria

Which one of the following conditions would require terminating fuel movement?

CORRECT ANSWER	B
Answer A	The day tank for the "D" diesel generator is 310 gallons.
Answer B	The day tank for the "B" diesel generator is 350 gallons.
Answer C	The storage tanks for the "C" diesel generator have 19,800 gallons and 21,400 gallons of fuel.
Answer D	One fuel transfer pump for the "C" diesel generator is inoperable, but the flowpath of the affected pump and tank is realigned to the operable pump.
EXPLANATION OF ANSWER A	"D" EDG not is required for core alterations to continue provided "B" and "C" EDG's are operable.
EXPLANATION OF ANSWER B	Correct Answer. Required to have either the "A" or "B" diesel generator operable.
EXPLANATION OF ANSWER C	"C" EDG not is required for core alterations to continue provided "B" and "D" EDG's are operable.
EXPLANATION OF ANSWER D	"C" EDG not is required for core alterations to continue provided "B" and "D" EDG's are operable.

Matrix#	3
SRO QUESTION #	3
KACatalogID	295014G2.1.10
KA Statement	Inadvertent Reactivity Addition / 1 - Knowledge of conditions and limitations in the facility license.
SRORating	3.9
Question level	S
COGNITIVE LEVEL	F
Question Topic	SLC TS bases
REFERENCE	TS Bases 3.1.5
Material Provided	
LEARNING OBJECTIVE	0301-000.00H-000023-14, Obj 25
QSOURCE	INPO EXAM BANK QUESTION ID # 12657. Limerick 11/10/1995. Significantly modified.
QUESTION	Complete the following statement: The Standby Liquid Control System is designed to add enough negative reactivity to...
CORRECT ANSWER	D
Answer A	overcome the 11% reactivity added when the fuel cools from normal operating temperature to 60 degrees F.
Answer B	overcome the 17% reactivity added when the xenon burns out from an equilibrium state.
Answer C	maintain the reactor in a hot shutdown condition for a maximum of 24 hours.
Answer D	provide the reactor with a concentration of 660 ppm boron within 120 minutes.
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	Correct Answer. Tech spec bases 3.1.5

Matrix#	4
SRO QUESTION #	4
KACatalogID	295014AA2.03
KA Statement	Ability to determine and interpret the following (- Cause of reactivity addition) as they apply to: Inadvertent Reactivity Addition / 1
SRORating	4.3
Question level	S
COGNITIVE LEVEL	H
Question Topic	TS requirements for removing CR to prevent inadvertent criticality
REFERENCE	TS 3.9
Material Provided	TS 3.9.2, 3.9.10.1 and 3.9.10.2
LEARNING OBJECTIVE	0302-000.00H-00112I-04 Obj 6
QSOURCE	New

QUESTION

Given the following conditions:

- The reactor is in Operational Condition 5
- The mode switch is locked in SHUTDOWN
- One control rod has been removed from the core
- Another control rod needs to be removed from the core

Which one of the following is required to remove an additional control rod?

CORRECT ANSWER	D
Answer A	Refueling is limited to quadrants other than where the control rod has been removed.
Answer B	All four SRMs must be verified operable before removing next control rod.
Answer C	All other control rods in the five-by-five array of the control rod to be removed must be verified inserted.
Answer D	The four fuel assemblies around the control rod to be removed must be removed from the core.
EXPLANATION OF ANSWER A	Refueling is prohibited.
EXPLANATION OF ANSWER B	TS 3.9.2 does not require all SRMs to be operable.
EXPLANATION OF ANSWER C	Not acceptable for removing the second control rod.
EXPLANATION OF ANSWER D	Correct Answer. Required per TS 3.9.10.2.

Matrix#	5
SRO QUESTION #	5
KACatalogID	295023AK2.07
KA Statement	Knowledge of the interelations between (Refueling Accidents) and the following: Standby Gas Treatment/FRVS
SRORating	3.9
Question level	R
COGNITIVE LEVEL	H
Question Topic	FRVS isolation on lowering fuel pool level
REFERENCE	HC.OP-AR.ZZ-0019 Attachment A3
Material Provided	
LEARNING OBJECTIVE	0301-000.00H-000042-12 ELO 6, 7, 14
QSOURCE	INPO EXAM BANK QUESTION ID# 7364. Fermi 2 12/11/1995. Modified for Hope Creek

QUESTION

Given the following:

- The plant is in a refueling outage and is in the process of being defueled.
- Reactor water level begins to LOWER.
- Water level currently is 21 feet ABOVE the top of the Reactor Vessel Flange and is DECREASING at the rate of SIX inches per minute.
- The following alarms have just been received:
    - D3-B3, RWCU STM LK ISLN TIMER INITIATED
    - E6-A3, REFUEL FLR EXH RAD ALARM/TRBL

Which one of the following automatic actions will occur IMMEDIATELY?

CORRECT ANSWER	A
Answer A	FRVS initiates
Answer B	RWCU isolates
Answer C	Shutdown Cooling isolates
Answer D	Refueling equipment will not move
EXPLANATION OF ANSWER A	Correct Answer. Alarm E6-A3, REFUEL FLR EXH RAD ALARM/TRBL, indicates refuel floor high radiation condition which will cause a FRVS initiation.
EXPLANATION OF ANSWER B	RWCU will not isolate until level reaches -38 inches or the 45 second timer times out which will not occur immediately.
EXPLANATION OF ANSWER C	Shutdown cooling will not isolate until level reaches +12.5 inches which will not occur immediately.
EXPLANATION OF ANSWER D	No interlocks on refueling equipment for conditions listed.

Matrix#	6
SRO QUESTION #	1
KACatalogID	295023AA1.02
KA Statement	Ability to operate and/or monitor the following (- Fuel pool cooling and cleanup system) as they apply to: Refueling Accidents / 8
SRORating	3.1
Question level	R
COGNITIVE LEVEL	F
Question Topic	Loss of air effects on FPCC
REFERENCE	HC.OP-AB.ZZ-0131 Att. 1 pg 3
Material Provided	
LEARNING OBJECTIVE	0301-000.00H-000043-14 ELO 12
QSOURCE	INPO EXAM BANK QUESTION ID# 7351. Fermi 2 12/11/1995 modified for Hope Creek
QUESTION	Fuel Pool Cooling System is in normal operation with the "A" pump in service. Which one of the following describes the effect of loss of air to the Filter Demineralizers (F/D) air operated valves?
CORRECT ANSWER	C
Answer A	F/D valves fail AS-IS.
Answer B	"A" FPCC Pump continues to run at shut off head.
Answer C	"A" FPCC Pump trips on low flow.
Answer D	F/D Bypass auto opens and maintains system flow at 550 gpm.
EXPLANATION OF ANSWER A	Filter demineralizer valves fail closed.
EXPLANATION OF ANSWER B	Low flow trip will cause the pump to trip.
EXPLANATION OF ANSWER C	Correct Answer. Loss of air causes filter-demineralizer valves to fail closed which will stop system flow causing a pump trip on low flow.
EXPLANATION OF ANSWER D	F/D Bypass valves are only manually operated.

Matrix#	7
SRO QUESTION #	2
KACatalogID	295001AA1.02
KA Statement	Ability to operate and/or monitor the following (- RPS) as they apply to: Partial or Complete Loss of Forced Core Flow Circulation / 1
SRORating	3.3
Question level	R
COGNITIVE LEVEL	H
Question Topic	Loss of RPS effect on SDC
REFERENCE	HC.OP-SO.BC-0002, HC.OP-AB.ZZ-0110
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-000114-07, ELO 3
QSOURCE	New
QUESTION	Given the following: - The plant is in Op Condition 4 - B RHR Pump is in service in Shutdown Cooling Which one of the following will cause a loss of Shutdown Cooling?
CORRECT ANSWER	A
Answer A	'A' RPS M/G set trips
Answer B	'A' Channel NSSSS Level 3 trip unit actuates
Answer C	'B' Channel PCIS Manual logic trips
Answer D	'B' Channel ECCS Level 2 trip unit actuates
EXPLANATION OF ANSWER A	Correct Answer. Loss of power to either RPS MG set in condition 4 will close both F008 and F009 causing the B RHR pump to trip.
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	

Matrix#	8
SRO QUESTION #	8
KACatalogID	295018AK3.05
KA Statement	Knowledge of the reasons for the following responses (- Placing standby heat exchanger in service) as they apply to: Partial or Complete Loss of Component Cooling Water / 8
SRORating	3.3
Question level	R
COGNITIVE LEVEL	H
Question Topic	Automatic closure of the crosstie valves.
REFERENCE	HC.OP-AB.ZZ-0124
Material Provided	
LEARNING OBJECTIVE	0301-000.00H-000080-15, obj. 7
QSOURCE	New
QUESTION	Given the following: - SACS to the "A" Fuel Pool Heat Exchanger has been crosstied to SACS Loop B - The "A" Fuel Pool Heat Exchanger is in service with the "B" Fuel Pool Heat Exchanger inoperable for repair Which one of the following conditions will result in a loss of Fuel Pool Cooling?
CORRECT ANSWER	D
Answer A	TACS is aligned to SACS Loop "B".
Answer B	Trip of one Loop B SACS pump on overcurrent.
Answer C	The RSP transfer switches for the crossconnect valves are placed in EMERGENCY.
Answer D	Low-Low-Low level in the "B" SACS expansion tank
EXPLANATION OF ANSWER A	Does not affect operation of the crossconnect valves.
EXPLANATION OF ANSWER B	Does not isolate the cross connect valves.
EXPLANATION OF ANSWER C	Disables any automatic functions for the crossconnect valves.
EXPLANATION OF ANSWER D	Correct Answer. Low-Low-Low level in the respecitve SACS expansion tank caused the crossconnect valves to close.

Matrix#	9
SRO QUESTION #	9
KACatalogID	295018AA1.01
KA Statement	Ability to operate and/or monitor the following (- Backup systems) as they apply to: Partial or Complete Loss of Component Cooling Water / 8
SRORating	3.4
Question level	S
COGNITIVE LEVEL	H
Question Topic	Effect of failing to close Chilled Water valves during transfer to RACS
REFERENCE	HC.OP-SO.ED-0001 3.1.6
Material Provided	
LEARNING OBJECTIVE	0301-000.00H-000081-16, ELO 13
QSOURCE	INPO Exam Bank Question ID 9481. Hope Creek 12/95. Modified
QUESTION	During manual transfer between Chilled Water and Reactor Auxiliary Cooling System (RACS) the operator is required to close HV9532-1 CHW ISLN RTN VLV and HV9532-2 CHW SUP ISLN VLV prior to swapping the RACS / Chilled Water Cross Tie Valves. Which one of the following describes the bases for this action?
CORRECT ANSWER	B
Answer A	RACS pumps would run out and trip on overcurrent.
Answer B	A RACS pump trip on RACS head tank low level would occur.
Answer C	A loss of head tank level would occur in the Chilled Water System.
Answer D	Cooling water to the reactor recirculation pumps would be isolated.
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	Correct Answer. Procedure caution 3.1.6 of HC.OP-SO.ED-0001 states do not operated RACS and Chilled Water Systems in parallel because theRACS Pump will trip on low RACS Head Tank Level.
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	

Matrix#	10
SRO QUESTION #	10
KACatalogID	2.2.28
KA Statement	Knowledge of new and spent fuel movement procedures.
SRORating	3.5
Question level	S
COGNITIVE LEVEL	F
Question Topic	Required action on discovery of fuel assembly located in wrong location
REFERENCE	NC.NA-AP.ZZ-0049, step 5.2.6
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-000113-10, obj 63
QSOURCE	New
QUESTION	During core offload, a fuel assembly is being moved from the vessel to the fuel pool. The designated location for the fuel assembly already has a fuel assembly located in it. Which one of the following describes the action required for the latched assembly IAW NC.NA-AP.ZZ-0049?
CORRECT ANSWER	C
Answer A	Allow it to remain latched on the fuel hoist.
Answer B	Place it in the closest available fuel pool location.
Answer C	Return it to its original location in the core.
Answer D	Place the assembly in a location verbally designated by the Reactor Engineer.
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	Correct Answer. Per NC.NA-AP.ZZ-0049 required actions.
EXPLANATION OF ANSWER D	

Matrix#	11
SRO QUESTION #	11
KACatalogID	295021AK1.03
KA Statement	Knowledge of the operational implications of the following concepts (- Adequate core cooling.) as they apply to: Loss of Shutdown Cooling / 4
SRORating	3.9
Question level	R
COGNITIVE LEVEL	H
Question Topic	Actions required restore RHR cooling flow
REFERENCE	HC.OP-SO.BC-0002
Material Provided	
LEARNING OBJECTIVE	
QSOURCE	INPO EXAM BANK QUESTION ID # 6788. Dresden 7/97 significantly modified for Hope Creek.
QUESTION	Given the following conditions: - Hope Creek has just shutdown after a 12 month operating period - "A" Service Water Pump is out of service for maintenance - "B" RHR pump was in Shutdown Cooling and has tripped - "A" RHR pump has been placed in-service in Shutdown Cooling - "C" Service Water Pump is running - The reactor water temperature is 285 deg. F and rising. Which one of the following actions is required to re-establish a reactor cooldown?
CORRECT ANSWER	C
Answer A	Open EG-HV-2512A RHR HX Inlet Valve
Answer B	Close BC-HV-F015A SDC Return to RHR
Answer C	Close BC-HV-F048A RHR HX Bypass Vlv
Answer D	Open EG-HV-2491A SACS HX Inlet Valve
EXPLANATION OF ANSWER A	Valve is aready open as a prerequisite to placing RHR in SDC mode IAW HC.OP-SO.BC-0002 step 2.2.5
EXPLANATION OF ANSWER B	Would reduce RHR SDC flow
EXPLANATION OF ANSWER C	Correct Answer. IAW OP-SO-BC-0002 directs flow through the HX after F003 full open
EXPLANATION OF ANSWER D	A SACS HX has no Service water cooling flow through it.

Matrix#	12
SRO QUESTION #	12
KACatalogID	295021AA1.04
KA Statement	Ability to operate and/or monitor the following (- Alternate heat removal methods) as they apply to: Loss of Shutdown Cooling / 4
SRORating	3.7
Question level	S
COGNITIVE LEVEL	F
Question Topic	Method of monitoring temperature in Alternate Shutdown Cooling
REFERENCE	HC.OP-AB.ZZ-0142, step 5.7
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-000113-10, ELO 6
QSOURCE	New
QUESTION	The plant is in Operational condition 4 when a loss of Shutdown Cooling occurs. Which one of the following indicators should be monitored IAW HC.OP-AB.ZZ-0142 to determine whether a mode change to Operational Condition 3 has occurred?
CORRECT ANSWER	A
Answer A	HPCI and RCIC trip units
Answer B	Any CRIDS RPV pressure indication
Answer C	PAM recorders
Answer D	Any Control Room pressure indications
EXPLANATION OF ANSWER A	Correct Answer. Per step 5.7 of HC.OP-AB.ZZ-0142, the instruments with the lowest range should be used.
EXPLANATION OF ANSWER B	Not low range instruments.
EXPLANATION OF ANSWER C	Step 5.7 indicates low range instruments should be used.
EXPLANATION OF ANSWER D	Specific instruments are identified in step 5.7 of HC.OP-AB.ZZ-0142.

Matrix#	13
SRO QUESTION #	13
KACatalogID	295021G2.1.28
KA Statement	Loss of Shutdown Cooling / 4 - Knowledge of the purpose and function of major system components and controls.
SRORating	3.3
Question level	R
COGNITIVE LEVEL	F
Question Topic	Minimum level during loss of Shutdown Cooling
REFERENCE	HC.OP-AB.ZZ-0142, step 4.6
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-000113-10, ELO 6
QSOURCE	INPO Exam Bank Question #7489 Fermi 2 12/11/1995. Modified
QUESTION	Which one of the following describes the bases for maintaining RPV water level ≥ +80 inches following a loss of Shutdown Cooling?
CORRECT ANSWER	B
Answer A	Operating above this level will prevent cavitation of the RHR pumps during Shutdown Cooling.
Answer B	A water level above this point will enhance reactor vessel core cooling by natural circulation.
Answer C	This level provides an adequate margin to the Group 3 low reactor water level primary containment isolation.
Answer D	This provides a large water volume to allow for level changes while starting and stopping the RHR pumps.
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	Correct Answer. Bases for step.
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	

Matrix#	14
SRO QUESTION #	14
KACatalogID	2.2.29
KA Statement	Knowledge of SRO fuel handling responsibilities.
SRORating	3.8
Question level	S
COGNITIVE LEVEL	F
Question Topic	Suspension of Core Alterations
REFERENCE	HC.OP-IO.ZZ-0009, HC.OP-AB.ZZ-0101
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-00112I-04, obj 4
QSOURCE	Hope Creek Exam Bank #Q58930
QUESTION	Given the following: - Technical Specification compliance has been verified IAW "Refueling Operations". [HC.OP-IO.ZZ-0009] - Multiple Control Rod Drive Mechanisms are being uncoupled and removed from undervessel IAW Technical Specification 3.9.10.2 - Spiral Fuel offload is in progress per directions of Reactor Engineers and Fuel Handling Control Core Alteration forms. [HC.RE-FR.ZZ-0001] Which of the following conditions would require Suspension of Core Alterations IAW HC.OP-AB.ZZ-0101?
CORRECT ANSWER	D
Answer A	Refueling Bridge Platform surveillance identifies Frame Mounted Hoist Up travel stops are out of Technical Specification tolerance.
Answer B	Loss of SRM indication located in the opposite quadrant to spiral fuel offload.
Answer C	Mode Switch position change from Shutdown to Refuel for Rod Speed adjustments per system operating procedure.
Answer D	Refuel Floor Area Radiation Monitors alarms while transporting LPRMS from the vessel to the fuel pool.
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	Correct answer. HC.OP-IO.ZZ-0009, directs use of NC.NA-AP.ZZ-0049, for direction on formal suspension of fuel handling activities, adverse radiological conditions are one of the criteria. Additionally, Refuel Radiation Area Alarms is an entry condition for HC.OP-AB.ZZ-0101 "Irradiated Fuel Damage" which directs suspension of all refueling operations. Other choices are all within the Allowable Technical Specification boundaries for Core Alterations.

Matrix#	15
SRO QUESTION #	15
KACatalogID	295022AA1.04
KA Statement	Ability to operate and/or monitor the following (- Reactor water cleanup system: Plant-Specific) as they apply to: Loss of CRD Pumps / 1
SRORating	2.6
Question level	S
COGNITIVE LEVEL	H
Question Topic	Loss of CRD effect on refueling
REFERENCE	HC.OP-SO.BF-0001 2.1.4
Material Provided	
LEARNING OBJECTIVE	0301-000.00H-000006-15 Obj 28
QSOURCE	New

QUESTION

Given the following:

- Core Alterations are in progess
- The refueling platform is currently unloaded over the Fuel Pool
- CRD is inservice to support Control Rod Blade (CRB) changeouts
- The running CRD pump trips on overcurrent

What operator action would allow continuing Core Alterations?

CORRECT ANSWER	A
Answer A	Secure RWCU blowdown
Answer B	Bypass the CRD pump Suction Filters
Answer C	Charge the CRD HCU Scram accumulators with nitrogen
Answer D	Remove only CRBs that are fully inserted
EXPLANATION OF ANSWER A	Correct Answer. CRD is the makeup source to the reactor cavity and fuel pool when in service. RWCU blowdown rejects water to the condenser or Radwaste to maintain level. Without CRD, RWCU should be secured, otherwise cavity level will lower until Core Alts must be suspended
EXPLANATION OF ANSWER B	Improper solution for tripped CRD pump. Starting the standby pump would allow CA to continue.
EXPLANATION OF ANSWER C	Nitrogen gas in CRD HCU is vented for refuel outage work on a Control Rod/ Mech. Will not allow CA to continue.
EXPLANATION OF ANSWER D	CRD mech would be unsupported.

Matrix#	16
SRO QUESTION #	16
KACatalogID	295033EK1.02
KA Statement	Knowledge of the operational implications of the following concepts (- Personnel protection) as they apply to: High Secondary Containment Area Radiation Levels / 9
SRORating	4.2*
Question level	S
COGNITIVE LEVEL	F
Question Topic	Restricted access during refueling operations
REFERENCE	NC.NA-AP.ZZ-0049 step 5.2.2
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-000113-10, obj. 60
QSOURCE	New
QUESTION	Complete the following statement: During refueling operations, the Refueling SRO directs the Radiation Protection Technicians to establish restricted access to the...
CORRECT ANSWER	B
Answer A	entire drywell.
Answer B	upper regions of the drywell.
Answer C	refuel floor except for the refueling crew.
Answer D	CRD Mechanism rebuild room.
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	Correct Answer. Per NC.NA-AP.ZZ-0049
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	

Matrix#	17
SRO QUESTION #	17
KACatalogID	261000K1.08
KA Statement	Knowledge of the physical connections and/or cause-effect relationships between (Standby Gas Treatment/FRVS) and the following: Process Radiation Monitoring System
SRORating	3.1
Question level	R
COGNITIVE LEVEL	F
Question Topic	FRVS Radition Monitor response to FRVS initiation
REFERENCE	0302-000.00H-000221-07
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-000221-07, obj 1F
QSOURCE	16370. Grand Gulf 04/01/2000. Modified for Hope Creek
QUESTION	During Operational Condition 4, FRVS has received an initiation signal on Reactor Water Level. Which one of the following describes the response of the FRVS Radiation Monitoring System?
CORRECT ANSWER	C
Answer A	The FRVS Radiation Monitor Sample Pumps will automatically start on FRVS initiation.
Answer B	The FRVS Radiation Monitors are in standby until a High Radiation signal is received by FRVS logic.
Answer C	The FRVS Radiation Monitors are in service continuously requiring NO further action.
Answer D	The FRVS Radiation Monitor Sample Pumps require an operator to be dispatched to start the pumps locally.
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	Correct Answer. Self expanitory
EXPLANATION OF ANSWER D	

Matrix#	18
SRO QUESTION #	18
KACatalogID	295034EK3.01
KA Statement	Knowledge of the reasons for the following responses (- Isolating secondary containment ventilation) as they apply to: Secondary Containment Ventilation High Radiation / 9
SRORating	4.1
Question level	S
COGNITIVE LEVEL	F
Question Topic	Bases for secondary containment and FRVS
REFERENCE	TS Bases 3/4.6.5
Material Provided	
LEARNING OBJECTIVE	0301-000.00H-000042-12, obj. 36
QSOURCE	INPO Exam Bank Question #18083 Pilgrim 10/16/1998
QUESTION	Complete the following statement: The bases for Secondary Containment and FRVS initiating on a transient is to....
CORRECT ANSWER	C
Answer A	prevent contamination of the North Plant Vent ductwork.
Answer B	assure a treated and controlled, ground release of the activity is provided.
Answer C	assure a treated and controlled, elevated release of the activity is provided.
Answer D	prevent contamination of the South Plant Vent ductwork.
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	Correct Answer. TS Bases 3/4.6.5 states that secondary containment minimizes any ground level release and the FRVS maintaining negative dp ensures no violations of the integrity of secondary containment.
EXPLANATION OF ANSWER D	

Matrix#	19
SRO QUESTION #	19
KACatalogID	2.2.27
KA Statement	Knowledge of the refueling process
SRORating	3.5
Question level	S
COGNITIVE LEVEL	F
Question Topic	ABB Fuel Bundle Orientation - 1
REFERENCE	HC.RE-FR.ZZ-0008
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-000003-12, obj 6
QSOURCE	Hope Creek Exam Bank #Q57177
QUESTION	Which one of the following describes a properly oriented ABB fuel bundle?
CORRECT ANSWER	A
Answer A	The fuel assembly bail handles form a diamond shape inside each fuel cell.
Answer B	The channel spacer buttons are located on the cell outside surfaces away from the control rod.
Answer C	The fuel assembly serial number on the bail handle is readable from the outside edge of the fuel assembly.
Answer D	The leaf springs on the handle (channel fasteners) are located on the outside edge of the fuel assembly.
EXPLANATION OF ANSWER A	Correct Answer. The handles form a diamond shape.
EXPLANATION OF ANSWER B	ABB fuel does not have channel spacer buttons.
EXPLANATION OF ANSWER C	Serial number must be readable from inside of the fuel assembly.
EXPLANATION OF ANSWER D	The leaf springs on the handle are designed to match the channel fasteners on GE fuel so they will face the inside. Procedure verifies them as channel fasteners.

Matrix#	20
SRO QUESTION #	20
KACatalogID	600000AK2.01
KA Statement	Knowledge of the interelations between (Plant Fire On Site / 8) and the following: - Sensors, detectors and valves
SRORating	2.7
Question level	R
COGNITIVE LEVEL	H
Question Topic	Refuel floor fire protection operation
REFERENCE	HC.OP-AR.QK-0002 Attachment 1
Material Provided	
LEARNING OBJECTIVE	0301-000.00H-000094-07, ELO 14
QSOURCE	New
QUESTION	A small fire has ignited in a trash can on the Refueling Floor. No alarms have yet been received by the Control Room. One of your workers pulls out the fire hose on the nearby hose station rack and opens the associated rack isolation valve. Which one of the following describes how the Fire Protection System responds? (Assume NO other actions have been taken)
CORRECT ANSWER	D
Answer A	Water flow. A Fire Pump will automatically start
Answer B	Water flow. A Fire Pump must be manually started
Answer C	No water flow. The KC-HV-3408M Reactor Bldg Isln Valve must be opened from the Control Room
Answer D	No water flow. Other manual valves must opened
EXPLANATION OF ANSWER A	No water flow
EXPLANATION OF ANSWER B	No water flow
EXPLANATION OF ANSWER C	HV-3408M does not isolate the fire hose stations
EXPLANATION OF ANSWER D	Correct Answer. Fire hose station risers in the Reactor bldg are normaly isolated and drained. Either a Post Indicator Valve or manual valve in the 54' el Auxiliary Bldg must be opened to flow water IAW HC.OP-AR.QK-0001 & 2

Matrix#	21
SRO QUESTION #	21
KACatalogID	215004K3.02
KA Statement	Knowledge of the effect that a loss or malfunction of the (Source Range Monitor (SRM) System / 7) will have on the following: Reactor Manual control
SRORating	3.4
Question level	R
COGNITIVE LEVEL	F
Question Topic	Effect of SRM power supply failure
REFERENCE	HC.OP-AB.ZZ-0107
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-000013-12, obj. 6
QSOURCE	7910. Hatch 03/14/1997. Modified for Hope Creek
QUESTION	During shutdown conditions a single control rod is being withdrawn when the "A" and "B" SRM high voltage power supplies fail. RPS Shorting Links are installed. Which one of the following describes the response of the plant?
CORRECT ANSWER	C
Answer A	No automatic actions occur
Answer B	A full reactor scram occurs
Answer C	A control rod block only occurs
Answer D	A half reactor scram only occurs.
EXPLANATION OF ANSWER A	SRM Rod Blocks and Scrams are bypassed on IRM range 8 and above
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	Correct Answer. High Voltage power supply low voltage is an INOP trip. Rod block only
EXPLANATION OF ANSWER D	

Matrix#	22
SRO QUESTION #	22
KACatalogID	261000A1.03
KA Statement	Ability to predict and/or monitor changes in parameters associated with operating the (Standby Gas Treatment System / 9) controls including: - †Off-site release levels
SRORating	3.8
Question level	S
COGNITIVE LEVEL	F
Question Topic	Expected release to reactor building from a dropped bundle.
REFERENCE	TS Bases 3/4.9.8 and 3/4.9.9. HC.OP-AB.ZZ-0142 step 5.2
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-000114-06, ELO 6 and 0301-000.00H-000043-14, ELO 18
QSOURCE	15533. Salem Unit 02/22/1999. Significantly Modified for Hope Creek
QUESTION	During core off-load, a fuel bundle is dropped during the transit from the core to the Fuel Pool. Only the bundle that was dropped is damaged. Which one of the following describes the expected iodine release and it's effect?
CORRECT ANSWER	A
Answer A	One percent or less of the assumed iodine released from the bundle will be released to the reactor building.
Answer B	Ninety nine percent or more assumed iodine release to the reactor building is expected with normal water level in the fuel pool.
Answer C	An off-site release will occur and 10CFR100 limits will be exceeded.
Answer D	No iodine release to the reactor building because the FRVS fans are required to be operating during refueling operations and will remove all iodine released from the bundle.
EXPLANATION OF ANSWER A	Correct Answer. TS Bases indicates 99% of the released iodine will be removed by the water.
EXPLANATION OF ANSWER B	TS Bases indicates 99% of the released iodine will be removed by the water.
EXPLANATION OF ANSWER C	Off-site limits are not expected to be exceeded.
EXPLANATION OF ANSWER D	FRVS is required to be operable during refuel but is not required to be in operation.

Matrix#	23
SRO QUESTION #	23
KACatalogID	201001A1.03
KA Statement	Ability to predict and/or monitor changes in parameters associated with operating the (Control Rod Drive Hydraulic System / 1) controls including: - CRD system flow
SRORating	2.8
Question level	R
COGNITIVE LEVEL	H
Question Topic	HCU directional control valve operation
REFERENCE	0301-000.00H-000006-15
Material Provided	
LEARNING OBJECTIVE	0301-000.00H-000006-15, obj. 14
QSOURCE	INPO Exam Bank Question #1795 Lasalle 12/19/1996. Modified for HC LSRO.Changed KA from 201001.A1.09
QUESTION	While performing control rod movement for rod exercise, you notice inconsistencies in the CRD system indications. While using continuous withdraw to move one of the control rods from notch 00 to notch 48, you see that this control rod is moving slower than the previously withdrawn control rod. Upon further investigation, you also notice that drive water pressure drops several psid when you start to move the rod. Drive water pressure returns to normal when you stop rod motion. Which one of the following statements caused the indications you have observed?
CORRECT ANSWER	A
Answer A	The selected pair of stabilizer valves are not closing during rod withdrawal
Answer B	The selected CRD Flow Control Valve has a ruptured diaphragm and will not move
Answer C	Initial drive water pressure is set too low and needs to be raised to approximately 275 psid
Answer D	One of the two pressure equalization valves is not opening during rod withdrawal
EXPLANATION OF ANSWER A	Correct Answer. Stabilizer valves not closing when required will cause Drive water pressure to lower while the rod is in motion.
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	

Matrix#	24
SRO QUESTION #	24
KACatalogID	202001K2.02
KA Statement	Knowledge of electrical power supplies to the following: Recirculation System / 1
SRORating	3.3
Question level	R
COGNITIVE LEVEL	H
Question Topic	Effect of loss of power to the discharge valve during startup
REFERENCE	HC.OP-SO.BB-0002
Material Provided	
LEARNING OBJECTIVE	0301-000.00H-000019-17, obj 18
QSOURCE	6314. Dresden 09/26/1998. Modified for Hope Creek
QUESTION	Given the following: - The plant is OP CONDITION 4 - A recirculation pump has just been started - The discharge valve has jogged open three times - When it jogged the 4th time, the discharge valve breaker trips Based on plant conditions, which one of the following will occur?
CORRECT ANSWER	C
Answer A	Recirc pump will trip due to overcurrent.
Answer B	Recirc pump will run due to no automatic trip signals.
Answer C	Recirc pump will trip 80 seconds after the discharge valve breaker trips.
Answer D	Recirc pump will trip when the discharge valve breaker trips.
EXPLANATION OF ANSWER A	Wil not trip on OC without some other problem.
EXPLANATION OF ANSWER B	Will not continue to run
EXPLANATION OF ANSWER C	Correct Answer. Valve jogs 3 sec then 1 sec then 1 more. After 80 more seconds, without the Discharge valve full open, the drive motor will trip.
EXPLANATION OF ANSWER D	Trips 80 sec after disch valve breaker trips,

Matrix#	25
SRO QUESTION #	25
KACatalogID	205000K6.03
KA Statement	Knowledge of the effect that a loss or malfunction of the following (- Recirculation system) will have on the Shutdown Cooling System (RHR Shutdown Cooling Mode) / 4
SRORating	3.2
Question level	S
COGNITIVE LEVEL	H
Question Topic	Effect of opening recirc pump discharge valve on Shutdown Cooling flow
REFERENCE	M-43-1, sh 1, M-53-1 sh 1
Material Provided	
LEARNING OBJECTIVE	0301-000.00H-000028-16, obj 3, 8
QSOURCE	New

QUESTION

Given the following:

- The plant is in OP CONDITION 4
- "B" RHR Shutdown Cooling loop is in-service at rated flow
- "B" Recirc Pump is being readied for a start with the suction valve open
- Pre-start temperatures for the recirc pump start are satisfactory
- A spurious malfunction of the recirc pump start sequence timer has just caused the Recirc Pump discharge valve to stroke open.

Which one of the following describes the effect this will have on the reactor?

CORRECT ANSWER	C
Answer A	Core Plate Delta P will go up; reactor coolant temp will go up
Answer B	Core Plate Delta P will go up; reactor coolant temp will go down
Answer C	Core Plate Delta P will go down; reactor coolant temp will go up
Answer D	Core Plate Delta P will go down; reactor coolant temp will go down
EXPLANATION OF ANSWER A	Core Plate Delta P wil lower
EXPLANATION OF ANSWER B	Core plate Delta P will lower; reactor coolant temp wil rise
EXPLANATION OF ANSWER C	Correct Answer. Core bypass flow will reduce the driving flow to the jetpumps. Core flow will lower causing Core Plate Delta P to lower. Removal of decay heat is also reduced. Coolant temp will increase.
EXPLANATION OF ANSWER D	Coolant temp will rise

Matrix#	26
SRO QUESTION #	26
KACatalogID	215003A2.02
KA Statement	Ability to (a) perdict the impacts of the following (- IRM inop condition) on the Intermediate Range Monitor (IRM) System / 7
SRORating	3.7
Question level	R
COGNITIVE LEVEL	H
Question Topic	Response to IRM Downscale
REFERENCE	HC.OP-SO.SE-0001
Material Provided	
LEARNING OBJECTIVE	302H-000.00H-000014-10, obj. 5
QSOURCE	INPO Exam Bank Question #8726. Duane Arnold 09/20/1999. Modified for Hope Creek

QUESTION

A normal plant startup is in progress with the Mode Switch in the START & HOT STBY position.

- IRM Channel A is failed downscale.
- IRM Channel A is bypassed on Panel 10C651
- IRM Channel A Mode switch is in STANDBY.

All of the IRM range switches, including IRM Channel A, are on range 2.

Which one of the following describes the response of the plant if IRM Channel 'A' is taken out of bypass?

CORRECT ANSWER	C
Answer A	1/2 scram only
Answer B	Control rod block only
Answer C	1/2 scram and control rod block
Answer D	IRM Downscale alarm only
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	Correct Answer. Inop trip will cause half scram and rod block
EXPLANATION OF ANSWER D	

Matrix#	27
SRO QUESTION #	27
KACatalogID	234000K4.02
KA Statement	Knowledge of (Fuel Handling Equipment / 8) design feature(s) and/or interlock which provide for the following: - †Prevention of control rod movement
SRORating	4.1
Question level	R
COGNITIVE LEVEL	H
Question Topic	Rod Block Interlocks
REFERENCE	HC.OP-SO.KE-0001 Attachment 3, HC.OP-ST.KE-0001 section 5.1
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-000226-08 ELO 5
QSOURCE	INPO Exam Bank Question #16861. Quad Cities 03/19/1998. Significantly modified for Hope Creek

QUESTION

During a refueling outage the following conditions exist:

- Reactor Core X co-ordinate indicates +41
- Reactor Core Y co-ordinate indicates +22
- The Fuel Grapple hoist is lowered 2 feet
- The Fuel Grapple hoist is loaded
- All control rods are full in
- The mode switch is in REFUEL

Which one of the following conditions exist?

CORRECT ANSWER	B
Answer A	Fuel Hoist Interlock light is illuminated
Answer B	Rod Block Interlock #1 light is illuminated
Answer C	Reverse Bridge Stop #1 is illuminated
Answer D	Reverse Bridge Stop #2 is illuminated
EXPLANATION OF ANSWER A	Will not be illuminated because all rods are inserted.
EXPLANATION OF ANSWER B	Correct Answer. Illuminated when the bridge is over the core and the fuel grapple hoist is loaded.
EXPLANATION OF ANSWER C	Will not be illuminated because all rods are inserted.
EXPLANATION OF ANSWER D	Will not be illuminated because all rods are inserted.

Matrix#	28
SRO QUESTION #	28
KACatalogID	234000K5.05
KA Statement	Knowledge of the operational implications of the following concepts (- †Fuel orientation) as they apply to: Fuel Handling Equipment / 8
SRORating	3.7
Question level	R
COGNITIVE LEVEL	H
Question Topic	Fuel assembly orientation (GE)
REFERENCE	0302-000.00H-00003. HC.RE-FR.ZZ-0008 Attachment 4
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-00003 Obj 5
QSOURCE	INPO Exam Bank Question #6700. Dresden 2 07/28/1997.

QUESTION

Fuel loading is in progress. The first three GE fuel assemblies of a cell are fully seated in the correct core locations and are in the correct orientation. The fourth GE assembly loaded in this cell is inadvertently oriented 180 degrees out from its correct position, but is fully seated.

Based on these conditions, which one of the following will be affected if the reactor was operated in this condition?

CORRECT ANSWER	B
Answer A	TIP operation.
Answer B	control rod blade operation.
Answer C	core flow through the fuel assembly.
Answer D	core bypass flow to cool the control rod blade AND incore instrumentation.
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	Correct Answer. With a bundle misoriented 180 degrees, the spacer buttons are facing the wrong way. The spacer buttons maintain the control rod channel spacing. Loss of proper spacing for the control rod will increase the blade friction, slowing the rod speed or stopping it completely.
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	

Matrix#	29
SRO QUESTION #	29
KACatalogID	272000K3.06
KA Statement	Knowledge of the effect that a loss or malfunction of the (Radiation Monitoring System / 7) will have on the following: - Reactor building ventilation: Plant-Specific
SRORating	3.6
Question level	R
COGNITIVE LEVEL	H
Question Topic	Logic for the Reactor Building Refuel Floor Exhaust Monitor initiation of FRVS
REFERENCE	HC.OP-AR.ZZ-0019
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-000221-07, obj 3 and 4
QSOURCE	INPO EXAM BANK Question ID # 2220 Quad Cities 10/96 Significantly Modified for Hope Creek
QUESTION	Given the following: - "C" Channel Reactor Building Refuel Floor Exhaust Radiation monitor is in the trip condition for I&C surveillance testing - Power is lost to the "A" Channel Reactor Building Refuel Floor Exhaust Radiation monitor. Which one of the following describes the plant response?
CORRECT ANSWER	C
Answer A	Reactor Building Ventilation Inboard Dampers HD-9414A and HD-9370A only close
Answer B	Reactor Building Ventilation Outboard Dampers HD-9414B and HD-9370B only close
Answer C	Both Reactor Building Ventilation Inboard and Outboard Dampers HD-9414A & B and HD-9370A & B close
Answer D	Neither Reactor Building Ventilation Inboard and Outboard Dampers HD-9414A & B or HD-9370A & B close
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	Correct Answer. RBE RMS Trip is a 2 of 3 logic. Loss of power to A channel will trip one channel. The C channel is already tripped, therefore the 2 of 3 tripped logic is satisfied for a full isolation of RBVS.
EXPLANATION OF ANSWER D	

Matrix#	30
SRO QUESTION #	30
KACatalogID	286000K1.03
KA Statement	Knowledge of the physical connections and/or cause-effect relationships between (Fire Protection System / 8) and the following: - Reactor water level: Plant-Specific
SRORating	3.0
Question level	R
COGNITIVE LEVEL	F
Question Topic	Source of fire water for emergency makeup
REFERENCE	HC.OP-SO.EC-0001, M-10-1, sheet 2, HC.OP-AB.ZZ-0144
Material Provided	
LEARNING OBJECTIVE	0301-000.00H-000043-14, ELO 15 0302-000.00H-000158-02, ELO 4,
QSOURCE	New
QUESTION	Given the following: - The cavity is flooded and the shield plugs between the cavity and fuel pool are removed - Reactor cavity level is lowering - Fire Water must be used to supply makeup to the cavity and fuel pool. Connection to the fire water system for emergency makeup is made by...
CORRECT ANSWER	D
Answer A	opening locked Post Indicator Valves on the refuel floor.
Answer B	connecting a fire hose from a hydrant or truck to a fill connection located in the reactor building elevation 102'.
Answer C	using a fire hose from a hose station on the refuel floor.
Answer D	connecting a fire hose from a hydrant or truck to a fill connection located in the diesel building elevation 102'.
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	Correct Answer. The connection is located in the diesel building. Hoses are used to connect to the fire protection system.

Matrix#	31
SRO QUESTION #	31
KACatalogID	233000K6.07
KA Statement	Knowledge of the effect that a loss or malfunction of the following (Component cooling Water Systems) will have on the Fuel Pool Cooling and Cleanup
SRORating	2.8
Question level	R
COGNITIVE LEVEL	H
Question Topic	Loss of SACS Cooling to FPCC HX
REFERENCE	HC.OP-AB.ZZ-0144 sect 4.4.3
Material Provided	
LEARNING OBJECTIVE	0301-000.00H-000043-14. Obj 2
QSOURCE	New.
QUESTION	Given the following: - "B" FPCC HX is C/T for leak repair - A rupture of the Service Water header "A" has resulted in all "A" Service Water Loop being secured and isolated. Which one of the following describes the required action?
CORRECT ANSWER	D
Answer A	Align "A" SACS Loop to the "B" FPCC HX within one hour.
Answer B	Align "A" SACS Loop to the "B" FPCC HX before Fuel Pool Temperature reaches 135 degrees F.
Answer C	Align "B" SACS Loop to the "A" FPCC HX within one hour.
Answer D	Align "B" SACS Loop to the "A" FPCC HX before Fuel Pool Temperature reaches 135 degrees F.
EXPLANATION OF ANSWER A	There is no specifed time limit to restore FPCC. A SACS has no cooling.
EXPLANATION OF ANSWER B	A SACS has no cooling
EXPLANATION OF ANSWER C	There is no specifed time limit to restore FPCC. A SACS has no cooling.
EXPLANATION OF ANSWER D	Correct Answer. 135 degf is the Max normal operating temperature for FPCC filter resins. B SACS is the good SACS loop. This can be accomplished via SACS Cross tie MOVs

Matrix#	32
SRO QUESTION #	32
KACatalogID	201003A4.02
KA Statement	Ability to manually operate and monitor in the control room: Control Rod and Drive Mechanism / 1
SRORating	3.5
Question level	R
COGNITIVE LEVEL	H
Question Topic	Cause of control rod drift
REFERENCE	0301-000.00H-000005-13
Material Provided	
LEARNING OBJECTIVE	0301-000.00H-000005-13, obj 5
QSOURCE	INPO Exam Bank Question #18014. Pilgrim 1 10/16/1998. KA Number change. Similar to Bank question Q53552
QUESTION	Given the following: - A single control rod has been to position 06. - A few seconds later a Control Rod Drift alarm comes in on rod 22-19. - Position indication shows the rod drifting out. Which one of the following describes the cause of the control rod drift?
CORRECT ANSWER	C
Answer A	Leaking outlet scram valve
Answer B	Worn drive piston seals
Answer C	Stuck collet piston
Answer D	CRD Cooling water pressure exceeds 50 psid
EXPLANATION OF ANSWER A	Leaking scram outlet valve would cause the rod to drift inward.
EXPLANATION OF ANSWER B	Reduce the differential pressure but would not cause a rod drift.
EXPLANATION OF ANSWER C	Correct Answer. Stuck collet piston would allow continous withdrawal of the rod.
EXPLANATION OF ANSWER D	Would not cause continous outward movement.

Matrix#	33
SRO QUESTION #	33
KACatalogID	215001A1.01
KA Statement	Ability to predict and/or monitor changes in parameters associated with operating the (Traversing In-Core Probe / 7) controls including: - Radiation levels: (Not-BWR1)
SRORating	2.9
Question level	S
COGNITIVE LEVEL	H
Question Topic	Prevent rad over-exposure by TIP during refuel outage
REFERENCE	HC.MD-CM.SE-0002(Q) Precaution 3.6 & NAAP-0049 3.6
Material Provided	HC.MD-CM.SE-0002(Q)
LEARNING OBJECTIVE	0301-000.00H-000018, obj 9
QSOURCE	New

QUESTION

Given the following:

- A core off-load with CRD Mech removal is in progress
- You are the Refueling SRO on the bridge in communication with the Undervessel crew for CRD Mech change-outs
- I&C has a work activity to adjust Transversing In-Core Probe 'A' Mechanism IAW HC.MD-CM.SE-0002(Q) which requires the TIP detector to be fully inserted into the core.
- You have been notified by the Control Room that a temporary tagging release has been obtained to move the 'A' TIP drive mechanism

Based on these conditions, which one of the following describes your responsibility?

CORRECT ANSWER	B
Answer A	Verify the tagging release blocking points
Answer B	Remove the Undervessel work crew from the area
Answer C	Approve the procedure for Core Alterations
Answer D	Declare the TIP system inoperable
EXPLANATION OF ANSWER A	Responsibility of the job supervisor requesting the release
EXPLANATION OF ANSWER B	Correct Answer. There has been a work coordination breakdown. TIP machines are tagged to prevent radiation over-exposure of workers in the drywell. The Refuel Floor SRO should remove the work crew or stop the tag release to prevent over-exposure to his under-vessel crew.
EXPLANATION OF ANSWER C	TIP movement is not a Core Alteration
EXPLANATION OF ANSWER D	OS/CRS responsibility

Matrix#	34
SRO QUESTION #	34
KACatalogID	233000K1.01
KA Statement	Knowledge of the physical connections and/or cause-effect relationships between (Fuel Pool Cooling and Clean-up / 9) and the following: - RHR Shutdown cooling system
SRORating	2.9
Question level	R
COGNITIVE LEVEL	H
Question Topic	SDC Modes to support FPCC
REFERENCE	HC.OP-SO.BC-0002
Material Provided	P&IDs M-51-1 and M-53-1
LEARNING OBJECTIVE	0301-000.00H-000028-16, obj 3
QSOURCE	New. KA CHANGED TO K1.01 from K1.12

QUESTION

Given the following:

- A refueling outage is in progress
- 10A402 4kv bus is de-energized for maintenance
- The plant will need to align the RHR System for decay heat removal of the Fuel Pool.
- The common suction for RHR A and B for Shutdown Cooling will be tested for LLRTs.

Which one of the following is the alignment for RHR to be utilized as the decay heat removal system to support these LLRT's?

CORRECT ANSWER	A
Answer A	"A" RHR in the Fuel Pool Cooling Assist Mode
Answer B	"A" RHR in the Alternate Fuel Pool Cooling Assist Mode
Answer C	"B" RHR in the Fuel Pool Cooling Assist Mode
Answer D	"B" RHR in the Alternate Fuel Pool Cooling Assist Mode
EXPLANATION OF ANSWER A	Correct Answer. Can be used with the common SDC suction line unavailable
EXPLANATION OF ANSWER B	Requires the Common SDC line
EXPLANATION OF ANSWER C	Can be used with the common SDC suction line unavailable, however bus power is not available to the B RHR pump
EXPLANATION OF ANSWER D	Requires the Common SDC line

Matrix#	35
SRO QUESTION #	35
KACatalogID	290002K5.05
KA Statement	Knowledge of the operational implications of the following concepts (- Brittle fracture) as they apply to: Reactor Vessel Internals / 5
SRORating	3.3
Question level	S
COGNITIVE LEVEL	F
Question Topic	Minimum temperature for reactor vessel and head flange.
REFERENCE	TS 3.4.6.1
Material Provided	TS 3.4.6.1
LEARNING OBJECTIVE	0301-000.00H-000001-12, obj. 7
QSOURCE	INPO Exam Bank Question #8981. Fermi 04/06/1998.
QUESTION	With the plant in Operational Condition 4 for turbine repair, Shutdown Cooling is allowed to cool the reactor pressure vessel to 75 degrees F. A Technical Specification LCO will be entered ...
CORRECT ANSWER	D
Answer A	if RPV Supprt Skirt temperature lowers to 53.5 degrees F.
Answer B	due to shutdown margin calculations being invalid.
Answer C	due to minimum allowable temperature for RHR piping being exceeded.
Answer D	if the reactor vessel head remains tensioned.
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	Correct Answer. TS 3.4.6.1 will be entered if vessel flange and head flange metal temperature is not maintained greater than or equal to 79 F.

Matrix#	36
SRO QUESTION #	36
KACatalogID	G 2.2.27
KA Statement	Knowledge of the refueling process
SRORating	3.5
Question level	R
COGNITIVE LEVEL	F
Question Topic	Basis for procedure caution
REFERENCE	HC.OP-IO.ZZ-0005
Material Provided	
LEARNING OBJECTIVE	302H-000.00H-00112E-05, obj 3
QSOURCE	6716. Dresden 07/28/1997. Significantly modified
QUESTION	When raising reactor water level in preparation for cavity flooding for refueling operations, HC.OP-IO.ZZ-0005 directs level raised to > 200 inches but less than the vessel flange. Which one of the following describes the reason that this is done?
CORRECT ANSWER	D
Answer A	To visually verify reactor water level
Answer B	To support detensioning of the vessel head nuts
Answer C	To check for any leaks on the bellows seals
Answer D	To control vessel flange temperature
EXPLANATION OF ANSWER A	Reactor head is removed after the level is raised
EXPLANATION OF ANSWER B	Head nuts are detensioned prior to raising level
EXPLANATION OF ANSWER C	Water level is below the flange and therefore not overflowing into the bellows area
EXPLANATION OF ANSWER D	Correct Answer. IAW IO-5 Caution 5.2.26 level is raised to reduce radiation and control reactor vessel flange temp control during head removal

Matrix#	37
SRO QUESTION #	37
KACatalogID	G 2.2.32
KA Statement	Knowledge of the effects of alterations on core configuration
SRORating	3.3
Question level	S
COGNITIVE LEVEL	F
Question Topic	CR removal method
REFERENCE	HC.RE-FR.ZZ-0002
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-00005 Obj 11
QSOURCE	14067. Peach Bottom 07/02/1999. Modified for Hope Creek
QUESTION	Control Rod Blades (CRBs) are being uncoupled using the CRB Latch Tool IAW HC.RE-FR.ZZ-0002 Control Rod Removal and Installation. Which one of the following actions will uncouple the control rod blade?
CORRECT ANSWER	A
Answer A	Lifting the coupling release handle (D-handle)
Answer B	Rotating the spud lock plug counter-clockwise
Answer C	Landing the tool's weight on the CRB
Answer D	Lowering the CRD uncoupling rod
EXPLANATION OF ANSWER A	Correct Answer. Lifting the coupling release handle (D-handle) lifts the lock plug out of the spud.
EXPLANATION OF ANSWER B	Spud lock plug has to be lifted out of the spud.
EXPLANATION OF ANSWER C	The tool has to lift on the release handle. Landing the tool on the control rod blade will not uncouple the control rod.
EXPLANATION OF ANSWER D	The uncoupling rod is not used when CRB latch tool.

Matrix#	38
SRO QUESTION #	38
KACatalogID	G 2.2.34
KA Statement	Knowledge of the process for determining the internal and external effects on core reactivity
SRORating	3.2
Question level	S
COGNITIVE LEVEL	H
Question Topic	Shutdown Margin parameters
REFERENCE	HC.OP-IO.ZZ-0009 Tech spec definitions
Material Provided	Tech specs without Bases, Definitions, and Instrumentation
LEARNING OBJECTIVE	0302-000.00H-00112i Obj 6
QSOURCE	9023. Fermi 2 04/06/1998. Significantly modified for Hope Creek

QUESTION

The plant is in Operational Condition 5 with core reload in progress. The following plant conditions exist:

- 1/4 Core Reloaded
- 3 Control Rods (with no surrounding fuel assemblies) are withdrawn for maintenance
- Reactor Water Cleanup inlet temp is 69 Degrees F
- SRM Count Rates are:
  - A - 45 cps (location 40-21)
  - B - 45 cps (location 40-21)
  - C - 50 cps (location 40-21)
  - D - 50 cps (location 40-21)

After a fuel bundle is loaded into cell 41-26, SRM Count Rates are:

A - 46 cps
B - 55 cps
C - 80 cps
D - 60 cps

Refuel Activities are stopped to investigate SRM C reading. Reactor Engineering performs a Shutdown Margin Check and SDM is analytically determined to be 0.36% delta k/k.

Which one of the following actions is required?

CORRECT ANSWER	B
Answer A	Continue core loading, SDM is required to be greater than 0.28% delta k/k.
Answer B	Suspend core alterations.
Answer C	Continue core loading, insert all insertable control rods within 2 hours.
Answer D	Stop core loading in SRM C quadrant only, declare SRM C inoperable, and perform channel check on SRMs A, B and D.
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	Correct Answer. SDM is required to be grreater than or equal to .38% . Results of analytical check were .36%
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	

Matrix#	39
SRO QUESTION #	39
KACatalogID	6.1 292002 K1.11
KA Statement	Reactor Theory – Neutron Life Cycle- Define reactivity
SRORating	3.3
Question level	R
COGNITIVE LEVEL	H
Question Topic	Reactivity changes in approach to criticality
REFERENCE	Reactor theory fundamentals
Material Provided	
LEARNING OBJECTIVE	Reactor theory fundamentals
QSOURCE	GFES Exam Bank question #B648
QUESTION	In a subcritical reactor, Keff was increased from 0.85 to 0.95 by rod withdrawal. Which one of the following is closest to the amount of reactivity that was added to the core?
CORRECT ANSWER	B
Answer A	0.099 deltaK/K
Answer B	0.124 deltaK/K
Answer C	0.176 deltaK/K
Answer D	0.229 deltaK/K
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	Correct Answer.
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	

Matrix#	40
SRO QUESTION #	40
KACatalogID	6.1 292004 K1.02
KA Statement	Reactor Theory – Reactivity Coefficients - Define the effect on the magnitude of the temperature coefficient of reactivity from changes in moderator temperature and core age
SRORating	2.6
Question level	R
COGNITIVE LEVEL	H
Question Topic	Operation with undermoderated reactor core
REFERENCE	Reactor theory fundamentals
Material Provided	
LEARNING OBJECTIVE	Reactor theory fundamentals
QSOURCE	GFES Exam Bank question B1752
QUESTION	Which one of the following describes the net reactivity effect of a decrease in moderator temperature in an undermoderated reactor core?

CORRECT ANSWER	C
Answer A	Negative reactivity will be added because more thermal neutrons will be captured by the moderator.
Answer B	Negative reactivity will be added because more neutron leakage will occur.
Answer C	Positive reactivity will be added because less neutron leakage will occur.
Answer D	Positive reactivity will be added because less thermal neutrons will be captured by the moderator.
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	Correct Answer.
EXPLANATION OF ANSWER D	

Matrix#	41
SRO QUESTION #	41
KACatalogID	6.1 292005 K1.01
KA Statement	Reactor Theory – Control Rods - Relate notch and rod position
SRORating	3.3
Question level	R
COGNITIVE LEVEL	F
Question Topic	Notch to rod position releationship
REFERENCE	Reactor theory fundamentals
Material Provided	
LEARNING OBJECTIVE	Reactor theory fundamentals
QSOURCE	GFES Exam Bank question B854
QUESTION	Rod position indications indicate that a control rod is at position 16. When the control rod is moved to position 22, it is being:
CORRECT ANSWER	B
Answer A	inserted 18 inches.
Answer B	withdrawn 18 inches.
Answer C	inserted 36 inches.
Answer D	withdrawn 36 inches.
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	Correct Answer.
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	

Matrix#	42
SRO QUESTION #	42
KACatalogID	6.1 293008 K1.36
KA Statement	Thermodynamics -Thermal Hydraulics - Describe means by which the operator can determine if natural circulation flow exists
SRORating	3.3
Question level	R
COGNITIVE LEVEL	H
Question Topic	Natural Circulation indications
REFERENCE	Thermo fundamentals
Material Provided	
LEARNING OBJECTIVE	Thermo fundamentals
QSOURCE	GFES Exam Bank question B1491
QUESTION	A reactor is operating at full power when a loss of offsite power results in a reactor scram and a loss of forced core coolant flow. Several minutes later, the development of natural circulation flow will be indicated by differential _____ across the core plate and flow through the _____ pumps.
CORRECT ANSWER	D
Answer A	temperature; recirculation
Answer B	temperature; jet
Answer C	pressure; recirculation
Answer D	pressure; jet
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	Correct Answer.

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Matrix#	43
SRO QUESTION #	43
KACatalogID	6.2 293007 K1.07
KA Statement	Thermodynamics - Heat Transfer and Heat Exchangers - Describe how the presence of gases or steam can affect heat transfer and fluid flow in a heat exchanger
SRORating	2.9
Question level	R
COGNITIVE LEVEL	F
Question Topic	Negative effects of bulk boiling
REFERENCE	Thermo fundamentals
Material Provided	
LEARNING OBJECTIVE	Thermo fundamentals
QSOURCE	GFES Exam Bank question B1882
QUESTION	Why is bulk boiling in the tubes of a single-phase heat exchanger undesirable?
CORRECT ANSWER	D
Answer A	The bubble formation will break up the laminar layer in the heat exchanger tubes.
Answer B	The thermal conductivity of the heat exchanger tubes will decrease.
Answer C	The deltaT across the tubes will decrease through the heat exchanger.
Answer D	The turbulence will restrict fluid flow through the heat exchanger tubes.
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	Correct Answer.

Matrix#	44
SRO QUESTION #	44
KACatalogID	G 2.3.1
KA Statement	Knowledge of 10 CFR: 20 and related facility radiation control requirements
SRORating	3.0
Question level	S
COGNITIVE LEVEL	H
Question Topic	Allowable dose for radiation worker
REFERENCE	NC.NA-AP.ZZ-0024
Material Provided	
LEARNING OBJECTIVE	00113-10 Obj 44
QSOURCE	INPO Exam Bank Question #8200. Hope Creek 11/24/1998.
QUESTION	Given the following conditions: - A fully qualified badged radiation worker at Hope Creek has just returned from 4 weeks of outage support at a non-PSEG facility - Total Effective Dose Equivalent (TEDE) received at this facility was 550 mrem. - This workers' current TEDE from Hope Creek for 2001 is 475 mrem What is the MAXIMUM annual non-emergency Total Effective Dose Equivalent (TEDE) that can be received at Hope Creek for the remainder of 2001 WITH the appropriate approvals?
CORRECT ANSWER	B
Answer A	3375 mrem
Answer B	3725 mrem
Answer C	4125 mrem
Answer D	4475 mrem
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	Correct Answer. Max extension limit is 4750 mRem/year
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	

Matrix#	45
SRO QUESTION #	45
KACatalogID	2.1.23
KA Statement	Ability to perform specific system and integrated plant procedures during different modes of plant operation.
SRORating	4.0
Question level	S
COGNITIVE LEVEL	F
Question Topic	Verification of Water Level
REFERENCE	IAW HC.OP-IO.ZZ-0009 Note 5.1.9
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-00112I-04, obj 4
QSOURCE	Hope Creek Exam Bank Q58928

QUESTION

Plant conditions are as follows:

- The plant is in Operational Condition 5
- Core Offload is in progress

Which one of the following is used to verify the minimum RPV Water Level Technical Specification IAW HC.OP-IO.ZZ-0009?

CORRECT ANSWER	D
Answer A	The RPV water level is above the "Minimum Level" marked on the Reactor Well liner.
Answer B	Reactor Cavity Low Level alarm on Reactor Cavity Level Indicator Panel 10-C-214 is extinguished.
Answer C	The PAMS Shutdown Range level recorder in the Main Control Room.
Answer D	The Fuel Pool Level Low overhead alarm in the Main Control is extinguished.
EXPLANATION OF ANSWER A	There is no specific marking on the reactor well liner to indicate minimum water level.
EXPLANATION OF ANSWER B	Reactor Cavity Low Level alarm on Reactor Cavity Level Indicator Panel 10-C-214 is not specified by IO-009 or DL-26 log.
EXPLANATION OF ANSWER C	Shutdown level indicator N027 is reconfigured during refueling outages to provide wide range level indication connected to 1BB-LT-11683. This is not a PAMS recorder.
EXPLANATION OF ANSWER D	Correct Answer. IAW HC.OP-IO.ZZ-0009 Note 5.1.9 directs the use of Annunciator Window D1-A5 as being clear to verify proper water level in both the RPV and Spent Fuel Pool. Question stem states core offload is in progress, prerequisite step 2.1.3 states Fuel Pool Gates are removed. During refueling ops, the low cavity alarm is tied into the Fuel Pool Low Level overhead annunciator.

Matrix#	46
SRO QUESTION #	46
KACatalogID	G 2.3.4
KA Statement	Knowledge of the radiation exposure limits and contamination control / including permissible levels in excess of those authorized
SRORating	3.1
Question level	S
COGNITIVE LEVEL	H
Question Topic	Normal dose extension authority
REFERENCE	NC.NA-AP.ZZ-0024 Attachment 1
Material Provided	
LEARNING OBJECTIVE	00113 -10 Obj 44.a
QSOURCE	INPO Exam Bank Question #321. Significantly modified for Hope Creek.
QUESTION	A station operator has an accumulated TEDE of 2.6 rem for the year as permitted by a previous extension. Because of dose projections during the assigned outage work, the individual is expected to receive an accumulated TEDE of 1.3 rem. In accordance with NC.NA-AP.ZZ-0024, "Radiation Protection Program," which one of the following describes the highest level of authorization required for the worker to receive the expected dose?
CORRECT ANSWER	B
Answer A	Radiation Protection Supervisor
Answer B	Radiation Protection Manager
Answer C	Radiological Assessment Coordinator
Answer D	Vice President - Nuclear Operations
EXPLANATION OF ANSWER A	Authorizations are required by the Radiation Protection Supervisor up to 3000 mrem.
EXPLANATION OF ANSWER B	Correct Answer. Authorizations are required by the Radiation Protection Manager above 3000 mrem. Site V.P. is required above 4000 mrem.
EXPLANATION OF ANSWER C	Not part of the approval process for non emergency dose extentions
EXPLANATION OF ANSWER D	Site V.P. is required above 4000 mrem.

Matrix#	47
SRO QUESTION #	47
KACatalogID	G 2.3.7
KA Statement	Knowledge of the process for preparing a RWP
SRORating	3.3
Question level	S
COGNITIVE LEVEL	F
Question Topic	Alternative to using an RWP
REFERENCE	NC.NA-AP.ZZ-0024 step 5.11.3
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-00113 Obj 41
QSOURCE	INPO Exam Bank Question #6190. Davis-Besse 1 08/03/1998. Modified For Hope Creek
QUESTION	During core alterations, immediate action is required which is not covered by a currently approved RWP. Which one of the following is allowed by NC.NA-AP.ZZ-0024?
CORRECT ANSWER	A
Answer A	Radiation Protection can provide continuous radiation coverage in lieu of an RWP.
Answer B	As the LSRO on the refuel floor, direct the action then notify radiation protection.
Answer C	Radiation Protection Superintendent - Operations can provide verbal authorization to perform the actions.
Answer D	The Operations Superintendent can verbally authorize changes to an existing RWP.
EXPLANATION OF ANSWER A	Correct Answer. Per the procedure. A radiation protection technician is required to be on the refuel floor during core alterations.
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	

Matrix#	48
SRO QUESTION #	48
KACatalogID	G 2.3.10
KA Statement	Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure.
SRORating	3.3
Question level	S
COGNITIVE LEVEL	F
Question Topic	Requirements for High Radiation Areas
REFERENCE	NC.NA-AP.ZZ-0024 Sect 5.8
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-00113 Obj 42
QSOURCE	INPO Exam Bank Question #8652. Hope Creek 08/10/1998. Modified
QUESTION	An area on the refuel floor has a radiation barricade rope. A radiation sign on the rope reads "Caution - High Radiation Area" and indicates a maximum radiation level of 900 mrem/hr inside the roped area. Which one of the following additional controls shall be used for this area?
CORRECT ANSWER	C
Answer A	The area shall have a flashing light in the immediate area as a warning device.
Answer B	The area shall be kept locked and the keys kept under the administrative control of the Operations Superintendent.
Answer C	The area access shall be controlled by issuance of a Radiation Work Permit.
Answer D	The area shall have a closed circuit TV monitor installed to provide radiation protection personnel with continuous monitoring capabilities.
EXPLANATION OF ANSWER A	For areas > 1 R/hr
EXPLANATION OF ANSWER B	For areas > 1 R/hr
EXPLANATION OF ANSWER C	Correct answer. HRA's less than max 1 R/hr only need a RWP issued for the area for access.
EXPLANATION OF ANSWER D	For areas > 1 R/hr

Matrix#	49
SRO QUESTION #	49
KACatalogID	G 2.2.26
KA Statement	Knowledge of refueling administrative requirements
SRORating	3.7
Question level	S
COGNITIVE LEVEL	F
Question Topic	Maximum allowed bridge time
REFERENCE	HC.OP-IO.ZZ-0009, step 3.9
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-00112I-04, obj. 4
QSOURCE	New
QUESTION	What is the maximum consecutive time anyone should perform bridge activities?
CORRECT ANSWER	B
Answer A	4 hours
Answer B	6 hours
Answer C	8 hours
Answer D	12 hours
EXPLANATION OF ANSWER A	
EXPLANATION OF ANSWER B	Correct Answer. Per HC.OP-IO.ZZ-0009 step 3.9.
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	

Matrix#	50
SRO QUESTION #	50
KACatalogID	G 2.2.29
KA Statement	Knowledge of SRO fuel handling responsibilities
SRORating	3.8
Question level	S
COGNITIVE LEVEL	F
Question Topic	Access to the refuel bridge
REFERENCE	NC.NA-AP.ZZ-0049, step 3.6
Material Provided	
LEARNING OBJECTIVE	0302-000.00H-000113-10, obj. 60
QSOURCE	INPO Exam Bank Question #8004. Hope Creek 09/28/1997.
QUESTION	Identify the individual(s) who are responsible for controlling access to the refuel bridge during Core Alterations.
CORRECT ANSWER	A
Answer A	Always the Refuel Senior Reactor Operator (SRO)
Answer B	The Fuel Handling Coordinator
Answer C	The Refueling Bridge Operator
Answer D	The Refueling SRO, when on the bridge, otherwise it is the Refueling Bridge Operator
EXPLANATION OF ANSWER A	Correct Answer. Specified as the responsibility of the Refueling SRO per NC.NA-AP.ZZ-0049
EXPLANATION OF ANSWER B	
EXPLANATION OF ANSWER C	
EXPLANATION OF ANSWER D	