

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

Applicant Information

Name: Region: III
Date: 10/29/01 Facility: Braidwood
License Level: SRO Reactor Type: W
Start Time: Finish Time:

Instructions

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

Applicant Certification

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

Applicant's Signature

Results

Examination Value 99.0 Points

Applicant's Score _____ Points

Applicant's Grade _____ Percent

QUESTION 001

The Tech Spec MINIMUM Staffing for BOTH units at power is:

	Unit Supv.	NSO
	<hr/>	<hr/>
a.	2	3
b.	2	4
c.	1	3
d.	1	4

QUESTION 002

The following conditions exist on Unit 1:

- Unit 1 is in MODE 2, performing a Reactor Startup.
- All Shutdown Banks are fully withdrawn.
- Control Bank A withdrawal has been stopped at 50 steps.
- Source Range Counts are STABLE.
- SDM is inadequate per the COLR.

What action is required?

- a. RESTORE SDM within 15 minutes.
- b. RESTORE SDM within 1 hour.
- c. INITIATE Boration within 15 Minutes.
- d. INITIATE Boration within 1 hour.

QUESTION 003

Unit 1 is at 100% Reactor power.

The following conditions exist with respect to the Unit 1 RWST:

- Level is 88%
- Boron is 2450 ppm
- Water Temperature is 45°F.

The operators are required to . . .

- a. INCREASE level to GREATER THAN OR EQUAL TO 89% within 1 hour.
- b. DECREASE boron concentration to LESS THAN 2400 ppm within 7 days.
- c. INCREASE water temperature to GREATER THAN OR EQUAL TO 65°F within 24 hours.
- d. Take NO ACTION with respect to the RWST parameters.

QUESTION 004

With the unit in mode 1, which ONE of the following would require LCO entry?

- a. RCS Tave at 594°F.
- b. Pressurizer Pressure at 2215 psig.
- c. Containment Pressure at 0.85 psig.
- d. Pressurizer Level at 72%.

QUESTION 005

The following conditions exist on Unit 1:

- MODE 3 at Normal Operating Temperature and Pressure, preparing for Reactor Startup.
- The RCS has been diluted to the ECC Startup Boron concentration.
- Letdown Temperature Control valve controller, TCV 1CC-130A is in MANUAL.
- All other controls are in AUTOMATIC and functioning NORMALLY.

If the operator REDUCES letdown flow from 120 gpm to 75 gpm with NO other manipulations, over time, Source Range counts will . . .

- a. INCREASE due to cooler water exiting the letdown heat exchanger.
- b. INCREASE due to warmer water exiting the letdown heat exchanger.
- c. DECREASE due to cooler water exiting the letdown heat exchanger.
- d. DECREASE due to warmer water exiting the letdown heat exchanger.

QUESTION 006

Unit 2 is in Mode 3. A new system engineer has requested that the 2A SI pump be started with the discharge valve throttled to 75% open to determine starting current. The evolution is NOT described in current procedures, nor the Safety Analysis Report. The Shift Manager may . . .

- a. Approve the evolution without restrictions.
- b. Only approve the test if another SRO with an engineering degree agrees.
- c. Not approve the test until a written safety evaluation has been performed and approved.
- d. Not approve the test under any conditions.

QUESTION 007

Which ONE of the following "FIN Team" maintenance activities require Post Maintenance Testing to meet OPERABILITY requirements for a Containment Isolation valve?

- a. Adjust packing.
- b. Replace OPEN Indication light socket.
- c. Tighten air line connection to operator.
- d. Remove insulation from valve.

QUESTION 008

Which ONE of the following is the HIGHEST RCS pressure listed without exceeding the Safety Limit?

- a. 2650 psig.
- b. 2700 psig.
- c. 2750 psig.
- d. 2800 psig.

QUESTION 009

The PREFERRED method of Reactor Cavity Fill from just below the reactor vessel flange to the Refueling level (424'6") is via . . .

- a. An SI pump through the RCS Cold Legs.
- b. Gravity Drain of the RWST through the RCS Hot Legs.
- c. An RH pump through the RCS Hot Legs.
- d. SI Accumulator dump through the RCS Cold Legs.

QUESTION 010

Given the following information for a rad worker qualified operator:

- | | | |
|---|-------------------------|----------------|
| - | Age | 25 yrs. |
| - | Total Lifetime exposure | 3800 mrem TEDE |
| - | Current Year exposure | 800 mrem TEDE |

A Site Area Emergency has been declared due to a LOCA Outside Containment with limited makeup to the RWST available. The above operator volunteers to make an emergency entry into the penetration area to attempt to isolate the leak. This action would result in a significant reduction in offsite dose. The individual has all the required approvals. What is the MAXIMUM exposure the operator may receive while performing this action?

- a. 1200 mrem TEDE.
- b. 4200 mrem TEDE.
- c. 24200 mrem TEDE.
- d. 25000 mrem TEDE.

QUESTION 011

A Non-Licensed operator's exposure on shift has reached 2000 mrem TEDE for the current year. A job requires an estimated 50 mrem exposure for today. To receive today's additional exposure the operator must get the approval of the . . .

- a. Operations Manager and a Health Physics Supervisor.
- b. Operations Manager and the Rad Protection Manager.
- c. Rad Protection Manager and the Dose Assessment Health Physicist.
- d. Rad Protection Manager and the Station Manager.

QUESTION 012

Which ONE of the following is an SRO responsibility?

- a. Placing the placard "Gas Decay Tank Release in Progress" on 0PM02J prior to commencing a release.
- b. Performing second verification of the lineup to transfer a blowdown tank to the condensate storage tank.
- c. Determining the release rate for a gas decay tank release.
- d. Performing second verification of the lineup to place a release tank on recirculation.

QUESTION 013

Which ONE of the following can provide final authorization for a Liquid Rad Waste release?

- a. Plant Manager.
- b. Shift Manager.
- c. Rad Protection Supervisor.
- d. Chemistry Supervisor.

QUESTION 014

Given the following initial conditions on Unit 1:

- MODE 3 operations were in progress after a normal shutdown and cooldown in accordance with all procedures.
- RCS Pressure was manually depressurized to 900 psig.
- RCS was being cooled down by dumping steam to the condenser at 50°F per hr.
- SI Accumulators were ISOLATED as pressure was reduced below 1000 psig.

A few minutes ago a Containment Area Rad monitor alarmed. The crew noted the following:

- PZR Level is DECREASING.
- Letdown is ISOLATED.
- Charging flow is 150 gpm.

Actions to mitigate this situation are contained in . . .

- a. 1BwOA PRI-1 EXCESSIVE PRIMARY PLANT LEAKAGE.
- b. 1BwOA S/D-2 SHUTDOWN LOCA.
- c. 1BwOA SEC-4 LOSS OF INSTRUMENT AIR.
- d. 1BwOA PRI-10 LOSS OF RH COOLING.

QUESTION 015

A Fire is reported on the 401' Turbine Building Trackway. EXCLUDING the Fire Chief, which ONE of the following describes the MINIMUM number of Fire Brigade members and the REASON for their INITIAL reporting location?

- a. 4, to pickup their personal protection equipment and portable fire fighting equipment.
- b. 4, to assess the extent of the fire and identify the portable fire fighting equipment needed.
- c. 5, to pickup their personal protection equipment and portable fire fighting equipment.
- d. 5, to assess the extent of the fire and identify the portable fire fighting equipment needed.

QUESTION 016

During an emergency situation, the 1B AFW pump failed to start in AUTO or MANUAL from the main control room. To what Auxiliary Building Elevation should a team be dispatched to attempt a LOCAL start of the 1B Auxiliary Feedwater pump?

- a. 383' level.
- b. 401' level.
- c. 426' level.
- d. 451' level.

QUESTION 17

A Unit 1 trip and Safety Injection has occurred due to a Steam Generator Fault inside containment.

The following conditions exist:

- All automatic equipment responded as expected.
- Containment Pressure is 3.2 psig and slowly INCREASING.
- RCS Pressure is 1750 psig and STABLE.
- RCS Subcooling margin is 105°F and INCREASING.
- Pressurizer level is 22% and INCREASING.
- Affected SG Level is 8% wide range.
- Both AFW pumps are operating.
- Unaffected SG Levels are being controlled at 40% Narrow Range.

Assuming trends continue, in which ONE of the following procedures would you expect to STOP 1 CV pump?

- a. 1BwEP-2 Faulted SG Isolation.
- b. 1BwEP-1 Loss of Reactor or Secondary Coolant.
- c. 1BwEP ES-1.2 Post LOCA Cooldown and Depressurization.
- d. 1BwEP ES-1.1 SI Termination.

QUESTION 018

Unit 1 was at 100% Reactor power when a Differential Overcurrent Trip occurred on the Main Generator. PREDICT the impact on the Control Rod Drive System and IDENTIFY the action required to be performed by the operator.

	Predicted Impact on the Reactor Trip Breakers	Required Operator Action
a.	OPEN	VERIFY Turbine Trip.
b.	OPEN	VERIFY ECCS pumps running.
c.	CLOSED	VERIFY 6.9 Bus ABT.
d.	CLOSED	VERIFY DGs started.

QUESTION 019

The following conditions exist on Unit 2:

- 80% Reactor power and ramping UP at 5 MW per minute.
- Tave and Tref are matched.
- Rod Control is in AUTOMATIC.

ONE Minute later:

- DRPI Indication for Control Bank D Rod D-12 is 180 steps.
- All Other Control Bank D Rods are indicating 216 Steps.

With NO Operator action taken, the DEMAND for rod motion will be ____(1)____, and the trend in Delta I for the channel NEAREST the rod problem will be to become ____(2)____.

	ROD MOTION	DELTA I TREND
a.	INWARD	LESS NEGATIVE
b.	INWARD	MORE NEGATIVE
c.	OUTWARD	LESS NEGATIVE
d.	OUTWARD	MORE NEGATIVE

QUESTION 020

With the Reactor at 100% power on Unit 2, which ONE of the following will REDUCE RCS Subcooling?

- a. Turn ON ALL Pressurizer Heaters.
- b. OPEN a Pressurizer PORV.
- c. DECREASE Reactor power.
- d. CLOSE Pressurizer Sprays.

QUESTION 021

The lineup for placing the Unit 1 Boric Acid Storage Tank on RECIRCULATION using the Unit 1 Boric Acid Transfer pump is complete. The Unit 1 Boric Acid Transfer Pump filter is plugged . Taking the Boric Acid Transfer Pump Control Switch to "START" would . . .

- a. Result in the Unit 1 Boric Acid Pump operating against a shutoff head.
- b. Result in additional recirculation flow of the Unit 2 Boric Acid Storage Tank.
- c. Prevent the discharge of Unit 2 Boric Acid Tank contents to the Unit 2 blender.
- d. Damage the Unit 1 Boric Acid Pump due to operating with no suction.

QUESTION 022

Given the following conditions on Unit 1:

- RCS is in a solid plant condition.
- 1B RH pump is operating in Shutdown Cooling mode.
- RCS Pressure is being AUTOMATICALLY controlled at 340 psig.

A failure of the letdown pressure control valve controller 1PK-131 causes RCS pressure to rise to 515 psig, with 1B RH pump discharge pressure of 625 psig. In response to this transient, ____ (1) ____, will OPEN, and the operator should take MANUAL control of 1PK-131 and ____ (2) ____ to reduce pressure.

- | | ____ (1) ____ | ____ (2) ____ |
|----|---|-----------------|
| a. | ONLY the RH Loop Suction Relief, | INCREASE demand |
| b. | ONLY the RH Loop Suction Relief, | DECREASE demand |
| c. | the RH Loop Suction Relief
and RH Discharge Relief, | DECREASE demand |
| d. | the RH Loop Suction Relief
and RH Loop Discharge Relief, | INCREASE demand |

QUESTION 023

Unit 1 is entering a refueling outage. It is desired to take 1A RH train out of service as soon as possible to start work on the 1A RH pump and heat exchanger. The 1B RH train is operable and operating in the shutdown cooling mode. The earliest the 1A RH train may be taken out of service is when the reactor vessel internals are removed and water level is GREATER THAN or EQUAL TO 23 feet above the . . .

- a. Fuel to limit rad dose at the surface of the cavity.
- b. Reactor vessel flange to provide backup decay heat removal.
- c. Fuel to provide backup decay heat removal.
- d. Reactor vessel flange to limit rad dose at the surface of the cavity.

QUESTION 024

Given the following conditions for Unit 1:

- Unit 1 is being heated up to return to power from a Cold Shutdown Condition.
- RCS is FILLED and VENTED.
- Pressurizer is SOLID.
- A Nitrogen blanket has been establish on the PRT.
- PRT Level is 95%.
- Waste Gas System is aligned to support a bubble.
- PZR Heaters are energized.

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

- a. Bump the RCPs to remove entrained gasses.
- b. Drain the PRT to 70-79%.
- c. Drain the Pressurizer to 50%.
- d. Pressurize the RCS to 200-275 psig.

QUESTION 025

The Master Pressurizer Pressure Controller OUTPUT has failed to MINIMUM. Assuming NO operator action, which ONE of the following describes the effect on the Reactor Protection System?

- a. OT Delta T Reactor Trip Setpoints INCREASE.
- b. OP Delta T Reactor Trip Setpoints INCREASE.
- c. OT Delta T Reactor Trip Setpoints DECREASE.
- d. OP Delta T Reactor Trip Setpoints DECREASE.

QUESTION 026

While performing a Heatup the following conditions are noted:

- Charging flow control is in MANUAL and controlling PZR level at 35%.
- CC flow to the letdown heat exchanger is in MANUAL due to an auto failure.
- RCS pressure has decreased, adding another letdown orifice has INCREASED letdown flow to 140 gpm.

Which ONE of the following predicts the plant response and describes what procedural actions must be taken immediately?

- a. To prevent a further decrease in PZR level, the NSO should DECREASE charging flow by throttling OPEN 1CV-121.
- b. To prevent challenging the Demin High Temperature Divert valve, the NSO should DECREASE CC flow to the letdown heat exchanger by throttling OPEN 1CC-130A.
- c. To prevent demineralizer resin channelling, the NSO should REDUCE letdown flow to less than 120 gpm by taking an orifice off line.
- d. To prevent causing an AUTO Makeup to the VCT, the NSO should REDUCE letdown flow to less than 120 gpm by taking an orifice off line.

QUESTION 027

While at 100% Reactor power, an instrument tap leak in the side of the Pressurizer develops. Charging and letdown have been manipulated to provide the following conditions:

- Pressurizer Pressure STABILIZED at 2215 psig.
- Pressurizer Level STABILIZED at 12%.

What is the status of the pressurizer heaters?

	VARIABLE HEATERS	BACKUP HEATERS
	<hr/>	<hr/>
a.	ON	ON
b.	OFF	OFF
c.	ON	OFF
d.	OFF	ON

QUESTION 028

While at 100% Reactor power on Unit 1, the following occurred:

- A trip of the operating charging pump resulted in the crew isolating letdown.
- Problem has been fixed, and letdown is about to be restored.

The crew should ____ (1) ____ first, then ____ (2) ____.

- | | ____ (1) ____ | ____ (2) ____ |
|----|-------------------|--|
| a. | start the CV pump | establish letdown to avoid flashing in the letdown line. |
| b. | establish letdown | start the CV pump, to avoid overcooling the mixed bed demineralizer. |
| c. | start the CV pump | establish letdown, to avoid overheating the mixed bed demineralizer. |
| d. | establish letdown | start the CV pump, to avoid an unwanted auto makeup to the VCT. |

QUESTION 029

In order to align valves in the NORMAL CHARGING flowpath to RESTORE CHARGING flow after a Reactor Trip and Safety Injection, the operators must . . .

- a. RESET SI, then RESET Phase A.
- b. RESET SI.
- c. RESET SI, RESET Phase A, and then OPEN Instrument Air Containment Isolation Valves (1IA065 and 1IA066).
- d. RESET Phase A, then OPEN Instrument Air Containment Isolation Valves (1IA065 and 1IA066).

QUESTION 030

The plant is operating at 100% Reactor power. Containment Pressure Channel 1PT-937 fails HIGH. NO operator actions have yet been taken. Of the remaining channels, ____ (1) ____ is the MINIMUM number of channels that have to trip to cause a Containment Spray Actuation, and ____ (2) ____ is the MINIMUM number of channels that have to trip to cause a Main Steam Isolation.

- | | ____ (1) ____ | ____ (2) ____ |
|----|---------------|---------------|
| a. | TWO | ONE |
| b. | ONE | TWO |
| c. | ONE | ONE |
| d. | TWO | TWO |

QUESTION 031

Rod Control System testing is in progress on Unit 2, and shutdown banks are being individually withdrawn. Which ONE of the following ROD BANK SELECT Switch positions will provide indications of BOTH of the following when the bank of moving rods is at 210 steps on the Bank Demand Step Counters:

- DRPI ROD Height within 12 steps,
AND
 - ROD SPEED.
- a. SD B.
 - b. SD C.
 - c. SD D.
 - d. SD E.

QUESTION 032

With the Unit at 100% Reactor power, a REDUCTION in feedwater temperature occurred. The relationship between NIS indicated power and actual reactor power is that NIS Power indicates . . .

- a. HIGHER THAN actual power due to HIGHER Tave.
- b. LOWER THAN actual power due to HIGHER Tave.
- c. HIGHER THAN actual power due to LOWER T cold.
- d. LOWER THAN actual power due to LOWER T cold.

QUESTION 033

The following conditions exist on Unit 1:

- A Reactor Startup is in progress.
- Reactor Power is ABOVE the P6 Setpoint and STABLE.
- The Source Range High Flux Trips have NOT been blocked.

The Reactor will STAY CRITICAL if the Source Range N31 Level Trip Switch is in . . .

- a. NORMAL, and N31 Instrument Power Fuses FAIL.
- b. NORMAL, and N31 Control Power Fuses FAIL.
- c. BYPASS, and N31 Instrument Power Fuses FAIL.
- d. BYPASS, and N31 Control Power Fuses FAIL.

QUESTION 034

Unit 1 has experienced a LOCA. The crew has performed the appropriate procedures and are trying to reduce ECCS flow. All equipment has operated properly. The following conditions and indications exist:

- Containment Pressure is 6.0 psig and STEADY.
- Containment Radiation is 105 mr/hr.
- Wide Range RCS pressure is 800 psig

70°F of subcooling is needed to stop one of the ECCS pumps. What is the maximum CETC temperature at which the pump is STOPPED?

- a. 410°F.
- b. 420°F.
- c. 450°F.
- d. 520°F.

QUESTION 035

A Natural Circulation cooldown is being performed on Unit 1. Which ONE of the following problems with a SINGLE Core Exit Thermocouple (CETC) will cause an indication of Natural Circulation conditions degrading?

- a. A SHORT develops at the head connection.
- b. An OPEN develops at the head connection.
- c. Corrosion develops at the head connection.
- d. Loss of power occurs.

QUESTION 036

The following conditions were present on Unit 1:

- 100% Reactor power.
- 1A and 1D RCFC were operating in HIGH SPEED.
- 1B RCFC was OFF.
- 1C RCFC was operating in LOW SPEED.

A Small Break LOCA occurred and the operators initiated SI. For the first 20 seconds after the SI the ONLY RCFC(s) cooling containment was/were . . .

- a. 1A and 1D.
- b. 1B.
- c. 1C.
- d. 1B and 1C.

QUESTION 037

Which ONE of the following combinations of CRDM Booster and Exhaust Fans provides the MOST even air distribution across the CRDMs?

CRDM Booster Fans	CRDM Exhaust Fans
<hr/>	<hr/>
a. A and B	A and C
b. A and C	A and D
c. A and B	A and D
d. A and C	A and C

QUESTION 038

A LOCA has occurred on Unit 1 and it is necessary to start up the Hydrogen Recombiner system.

- Containment Hydrogen concentration is 3% and slowly increasing.
- Containment ambient temperature is 156°F.

Which ONE of the following conditions must be met to place the Hydrogen Recombiner in service aligned to Unit 1?

- a. At least ONE RCFC must be in operation and Containment Pressure must be LESS THAN 5 psig.
- b. At least TWO RCFCs must be in operation and Containment Pressure must be LESS THAN 5 psig.
- c. At Least ONE RCFC must be in operation and Containment Pressure must be LESS THAN 21 psig.
- d. At Least TWO RCFCs must be in operation and Containment Pressure must be LESS THAN 21 psig.

QUESTION 039

Assuming ALL Emergency Diesel Generators are OPERABLE, which Emergency Diesel Generator will power the 0B Hydrogen Recombiner during a Loss of Offsite Power to the Station?

- a. 1A.
- b. 1B.
- c. 2A.
- d. 2B.

QUESTION 040

The following conditions exist on Unit 1:

- Unit 1 is in MODE 1.
- All RCFCs are in HIGH speed.
- Containment air sample results require a purge of containment to allow maintenance.
- Containment release package has appropriate approvals.
- Mini-Flow Purge Exhaust Isolation Valves (1VQ005A, B and C) are OPEN.
- Mini-Flow Purge Supply Isolation Valves (1VQ004A, and B) are OPEN.

The operator takes the control switch for the Mini-Flow Purge Supply Fan to "START" and then IMMEDIATELY releases the switch to the "NAC" position. The Mini-Flow Purge Supply fan . . .

- a. Does NOT Start. The operator must start the Mini-Flow Purge Exhaust fan first.
- b. Does NOT Start. The operator must hold the start switch in the start position until the suction damper, 1VQ01Y, is OPEN.
- c. Starts. The operator must immediately OPEN the suction damper, 1VQ01Y.
- d. Starts. The operator must START the Mini-Flow Purge Exhaust fan before containment pressure reaches 0.3 psig.

QUESTION 041

The following conditions exist at the plant:

- BOTH Units are in MODE 1 at Rated Thermal Power.
- The SFP level at the Tech Spec limit.
- The Transfer Canal is drained for maintenance work on one of the Upenders.
- The Sluice Gate OPENS allowing the SFP to drain into the Transfer Canal.

With NO operator action, Spent Fuel Pool Temperature will . . .

- a. DECREASE due to MORE Spent Fuel Pool water flow through the Spent Fuel Pool Heat Exchanger.
- b. DECREASE due to a REDUCTION of Spent Fuel Pool water volume needing to be cooled.
- c. INCREASE due to MORE Spent Fuel Pool water volume needing to be cooled.
- d. INCREASE due to a LOSS of Spent Fuel Pool water flow through the Spent Fuel Pool Heat Exchanger.

QUESTION 042

While withdrawing CONTROL BANKS during a Reactor Startup following a 5 day late-cycle outage, which ONE of the following will result in the CRITICAL ROD HEIGHT being LOWER THAN the predicted value in the ECC?

- a. REDUCED Feed Flow.
- b. FAILED OPEN S/G PORV.
- c. ISOLATION of all MSIVs.
- d. BORATE the RCS 10 gallons.

QUESTION 43

A spurious turbine runback occurs on Unit 1, reducing power from 100% to 60% as designed. If the effects of shrink and swell are IGNORED, which ONE of the following describes the INITIAL plant response?

- a. Steam Dumps arm and open to return Tave to the program value.
- b. Feed Reg Valves throttle open to increase steam generator levels.
- c. Rods withdraw to restore Tave to the program value.
- d. Feed Reg Valves throttle close to reduce steam generator levels.

QUESTION 044

Given the following Unit 1 conditions:

- 100% Reactor power.
- THREE CD/CB pumps are running.
- The CD/CB Pump Selector Position is selected to the STANDBY CD/CB Pump.
- 1B and 1C Feedwater pumps are running.

Which ONE of the following AUTOMATIC actions occurs if the shaft shears between the reduction gear and the condensate pump casing for a running CD pump and what MANUAL action needs to be performed?

AUTOMATIC ACTIONS	MANUAL ACTIONS NECESSARY
<div>a. 1CD152, CD Pump Recirc Valve OPENS.</div> <div>b. 1CD157A and B, GS Condenser Bypass Valves OPEN.</div> <div>c. 1HD046A and B, HDP Discharge Valves CLOSE.</div> <div>d. Both Main Feed Pump speeds DECREASE.</div>	<div>TRIP affected CD/CB Pump and CLOSE 1CD152.</div> <div>Manually OPEN 1CD210A and B, CP Bypass Valves.</div> <div>Manually OPEN 1HD046A and B to prevent HDT overfill.</div> <div>Manually INCREASE feed pumps speed to restore Feed/Steam delta P.</div>

QUESTION 045

Given the following Unit 1 conditions:

- 50% Reactor power.
- 1C Feedwater pump is operating in AUTOMATIC.
- ATWS Mitigation System (AMS) has inadvertently actuated.
- Both Auxiliary Feed Pumps are running.
- SG levels are INCREASING.

Which ONE of the following describes the response of the 1C Feedwater pump to this event?
Main Feed Pump Turbine speed will . . .

- a. INCREASE due to an increase in SG steam flow.
- b. REMAIN CONSTANT since level does NOT affect speed.
- c. DECREASE due to an increase in feedwater header pressure.
- d. DECREASE due to an increase in steam header pressure.

QUESTION 046

Given the following conditions on Unit 1:

- 33% Reactor power.
- 1B Feedwater pump is operating.
- Steam Generator Water Level Controls are in AUTOMATIC.

Which ONE of the following failures will cause RCS Tave to INITIALLY INCREASE?

- a. Selected Level Channel 1LT-519 fails LOW.
- b. Selected Steam Pressure Channel 1PT-514 fails HIGH.
- c. Feed Reg Bypass Valve, 1FW510A fails OPEN.
- d. Feed Header Pressure Transmitter 1PT-508 fails HIGH.

QUESTION 047

Which ONE of the following provides "STARTING" power to the 1B Auxilliary Feedwater pump diesel engine?

- a. 125 VDC Bus 112.
- b. 125 VDC Bus 114.
- c. 250 VDC Bus 123.
- d. 24 VDC Battery Bank.

QUESTION 048

How is power supplied to 120 VAC Instrument Bus 112 when the "RESERVE AC" feeder breaker supplying the bus is CLOSED?

- a. 125 VDC from Battery 112, supplied to 125 VDC Bus 112 and INVERTED to 120 VAC.
- b. 480 VAC from MCC 132X2 INVERTED to 120 VAC.
- c. 480 VAC from MCC 132X1 TRANSFORMED to 120 VAC.
- d. 480 VAC from MCC 132X1 RECTIFIED to 125 VDC and INVERTED to 120 VAC.

QUESTION 049

While in MODE 1, an inadvertant SI occurred. The operators performed the following:

- RESET the SI.
- Terminated ECCS flow.

Shortly after stopping the last ECCS pump, a LOSS of OFFSITE POWER occurred. ONE MINUTE later, which ONE of the following pumps were running?

- a. 1A CV pump.
- b. 1A SI pump.
- c. 1A RH pump.
- d. 1A CS pump.

QUESTION 050

Which ONE of the following requires a 50.59 review?

- a. Opening the Turbine Oil Cooler Temperature Control Bypass valve.
- b. Exchanging a "like for like" fuse in the Rod Control cabinets.
- c. Changing the DG Start time from 10 to 13 seconds.
- d. Using a Service Air drop to operate a pneumatic tool.

QUESTION 051

Unit 1 is at 100% Reactor power. While venting the VCT to the Waste Gas Header, an explosive mixture develops in the IN SERVICE Gas Decay Tank. Which ONE of the following actions is required?

- a. Purge the VCT with Hydrogen.
- b. Purge the VCT with Nitrogen.
- c. Transfer a STANDBY tank's contents to the IN SERVICE Tank.
- d. Release the contents of the IN SERVICE Gas Decay Tank.

QUESTION 052

Of the following mixtures containing various concentrations of Hydrogen and Oxygen, which ONE requires IMMEDIATE SUSPENSION of additions to the WASTE GAS HOLDUP SYSTEM?

HYDROGEN CONCENTRATION	OXYGEN CONCENTRATION
a. 8%	3%
b. 3%	8%
c. 4%	3%
d. 5%	5%

QUESTION 053

An engineer has submitted a work request to RELOCATE Area Rad Monitor 0AR039, (Fuel Handling Building Crane rad monitor) to facilitate refueling operations. Which ONE of the following describes the MINIMUM required qualifications of the person PREPARING the unreviewed safety question paperwork?

- a. Licensed Operator AND 50.59 qualified.
- b. Licensed Operator qualified ONLY.
- c. 50.59 qualified ONLY.
- d. SRO Licensed Operator AND 50.59 qualified.

QUESTION 054

The following conditions exist on unit 2:

- 100% Reactor power.
- The "0" CC Heat Exchanger is in service with the 2A Component Cooling pump running.
- The In-service Letdown Heat Exchanger (2A) has developed a tube leak.
- All other systems are functioning NORMALLY.

Which ONE of the following predicts the response of the Component Cooling System to these conditions?

- a. When 0RE-PR009 reaches the HIGH Alarm setpoint, BOTH Units CC SURGE TANK Vent valves (1/2CC017) will CLOSE.
- b. When 0RE-PR009 reaches the HIGH Alarm setpoint, ONLY Unit 2 CC SURGE TANK Vent valve (2CC017) will CLOSE.
- c. When Unit 2 CC Surge Tank Level DECREASES to 50%, AUTO Makeup will occur from the Primary Water System.
- d. When Unit 2 CC Surge Tank Level INCREASES to 60%, Unit 2 CC SURGE TANK Vent valve (2CC017) will CLOSE.

QUESTION 055

An approved release is occurring from the release tank to the river. Which ONE of the following lists the rad monitors that monitor the release activity levels?

- a. 1/2PR08J S/G Blowdown monitor AND 0PR10J Station Blowdown monitor.
- b. 1/2PR08J S/G Blowdown monitor AND 0PR16J Blowdown After Filter monitor.
- c. 0PR01J Liquid Radwaste Effluent monitor AND 0PR16J Blowdown After Filter monitor.
- d. 0PR01J Liquid Radwaste Effluent monitor AND 0PR10J Station Blowdown monitor.

QUESTION 056

Which ONE of the following indications on the Main Control Room Fire Detection Panel (1PM09J) will alert the control room operators to a FIRE in a specific zone?

- a. AMBER "Trouble Wire Open" light LIT.
- b. AMBER "Trouble" light LIT.
- c. RED "Fire Wire Open" light LIT.
- d. RED "Fire" light LIT.

QUESTION 057

Given the following conditions on Unit 1:

- 100% Reactor power, all controls in AUTOMATIC.
- 10 minutes ago, an inadvertent Containment Isolation Phase A Signal occurred.
- No operator actions have been taken yet.

Which ONE of the following is occurring?

- a. Pressurizer Level is DECREASING.
- b. Pressurizer Pressure is INCREASING.
- c. Seal Return is going to the RECYCLE HOLD UP TANK.
- d. Letdown Flow is going to the PRESSURIZER RELIEF TANK.

QUESTION 058

The following conditions exist on Unit 1:

- 100% Reactor power and ALL surveillance requirements are current.
- A malfunction in the Rod Control circuitry caused a continuous rod bank withdrawal.
- Control rod motion was stopped by placing the ROD BANK SELECT SWITCH in SBD (Shutdown Bank D).

The PRIORITY level of the work request written to correct this issue is . . .

- a. B1, and Rods are OPERABLE.
- b. B1, and Rods are INOPERABLE.
- c. C, and Rods are OPERABLE.
- d. C, and Rods are INOPERABLE.

QUESTION 059

With Unit 1 operating at 88% power, the following symptoms occur:

- Reactor power INCREASING.
- Tave GREATER THAN Tref.
- Pressurizer Pressure INCREASING.
- Pressurizer Level INCREASING.

Which ONE of the following would cause the above symptoms to occur INITIALLY?

- a. Uncontrolled rod withdrawal.
- b. Impulse Channel 1PT-505 Failed LOW.
- c. Failed OPEN SG safety valve.
- d. Power range channel N-43 fails high.

QUESTION 060

The following conditions exist on Unit 1:

- The Rod Drive shaft disconnected from a Control Bank B Rod.
- The RCCA has fully inserted into the fuel assembly guide tubes.

The location of the dropped rod may be determined by observing a/an . . .

- a. Localized DECREASE in the CETC nearest the affected fuel assembly.
- b. Localized INCREASE in the CETC nearest the affected fuel assembly.
- c. Abnormal INCREASE in ONLY ONE power range detector.
- d. Abnormal DECREASE in ALL power range detectors.

QUESTION 061

The following conditions exist on Unit 1:

- 100% Reactor power.
- Control Bank D rod height 216 steps.
- All system controls in automatic.
- All operating conditions NORMAL.
- All Governor Valves are 100% OPEN.
- 1260 MWe output from the turbine generator.

A Control Bank D rod drops into the core. Turbine Generator MWe will . . .

- a. INCREASE due to Impulse Pressure increasing as the Governor Valves throttle closed.
- b. DECREASE due to a drop in Steam Pressure, then the Throttle Valves will return MWe to 1260.
- c. REMAIN at 1260 due to the DEHC IMP feedback loop in service.
- d. DECREASE due to a drop in Steam Pressure, and remain there until the rod is recovered.

QUESTION 062

The following conditions exist on Unit 1:

- 50% Reactor power.
- A Control Bank C rod has become stuck.
- The affected rod has been electrically aligned for attempted recovery.
- The Rod Bank Select switch is in the "CB C" position.

When the IN-HOLD-OUT switch is moved to OUT, what will be the indicated rod speed?

- a. 0 spm.
- b. 8 spm.
- c. 48 spm.
- d. 64 spm.

QUESTION 063

Unit 1 is at 18% getting ready to synchronize the main generator to the grid. A Loss of Offsite Power occurs. The following indications are noted immediately:

- All Power Range NIS indicated 0%.
- IR SUR indication is -0.3 dpm.
- All DRPI lights are out.
- RTB is CLOSED.
- RTA is OPEN.
- BYA and BYB are racked out.
- RTB remained CLOSED after the operators initiated a manual reactor trip from 1PM05J and 1PM06J.

Which ONE of the following actions should the crew take?

- a. GO TO 1BwFR-S.1, NUCLEAR POWER GENERATION ATWS.
- b. CONTINUE IN 1BwEP-0, REACTOR TRIP OR SAFETY INJECTION.
- c. GO TO 1BwFR-S.2, RESPONSE TO LOSS OF CORE SHUTDOWN.
- d. GO TO 1BwCA-0.0, LOSS of ALL AC POWER.

QUESTION 064

A Large Vapor Space LOCA occurred on Unit 1. The crew has implemented the appropriate emergency procedures and is currently in 1BwEP-1, Loss of Reactor or Secondary Coolant. The STA is monitoring Status Trees. The following indications are observed in the Main Control Room:

- Train 'A' CETCs indicate 720°F.
- Train 'B' CETCs are de-energized.
- Thermocouple Map Display on CRT #2 indicates Average CETCs at 730°F.
- RVLIS indicates 15% in the Plenum.
- RCS Pressure is 350 psig.

Core Cooling is ____ (1) ____ and will be ensured by ____ (2) ____.

____ (1) ____ ____ (2) ____

- | | | |
|----|------------|--|
| a. | ADEQUATE | 1BwEP-1, Loss of Reactor or Secondary Coolant |
| b. | SATURATED | 1BwFR-C.3, Response to Saturated Core Cooling |
| c. | DEGRADED | 1BwFR-C.2, Response to Degraded Core Cooling |
| d. | INADEQUATE | 1BwFR-C.1, Response to Inadequate Core Cooling |

QUESTION 065

Given the following Unit 1 conditions:

- A small break LOCA is in progress.
- SI has actuated.
- All systems and automatic actions are operating as expected.

Which ONE of the following is the reason for maintaining a secondary heat sink?

- a. To ensure removal of RCS heat if any RCPs are still running.
- b. RCS pressure may remain so high that cooling from injection flow alone is inadequate.
- c. Reflux boiling is the primary means of heat removal prior to voiding in the hot legs.
- d. To provide an alternate means of RCS pressure control.

QUESTION 066

Unit 1 has tripped and the following conditions are noted:

- Containment Pressure is INCREASING rapidly.
- Pressurizer Level has DECREASED and is OFF SCALE LOW.
- Pressurizer Pressure Indications are 1700 psig.
- Subcooling Margin Monitor Indicates 0°F.
- SG levels are STABLE in the Narrow Range.

Which ONE of the following diagnoses the accident that has occurred and identifies the procedure to be utilized?

- a. Large Steam Generator Tube Rupture, 1BwEP-3 Steam Generator Tube Rupture.
- b. Large Break Loss of Reactor Coolant, 1BwEP-1 Loss of Reactor or Secondary Coolant.
- c. Faulted Steam Generator inside containment, 1BwEP-2 Faulted Steam Generator Isolation.
- d. Pressurizer Vapor Space Loss of Coolant, 1BwEP-1 Loss of Reactor or Secondary Coolant.

QUESTION 067

Which of the following RCP malfunctions would be expected to cause an increase in RCP motor amps?

- a. Loss of Seal Injection.
- b. Loss of Thermal Barrier flow.
- c. Sheared RCP shaft.
- d. Thrust Bearing failure.

QUESTION 068

Given the following Unit 2 Conditions:

- Unit 2 is in Mode 3, at NOT and NOP.
- 1B RCP Trips.

What happened to loop flow and core flow as a result of the RCP trip? With THREE RCPs running, the flow in the loops with RCPs running is ____ (1) ____, and total flow through the core is ____ (2) ____.

- | | ____ (1) ____ | ____ (2) ____ |
|----|----------------------------------|----------------------------------|
| a. | 3/4 of the value
for 4 RCPs | 3/4 of the value
for 4 RCPs |
| b. | 3/4 of the value
for 4 RCPs | < 3/4 of the value
for 4 RCPs |
| c. | > 3/4 of the value
for 4 RCPs | < 3/4 of the value
for 4 RCPs |
| d. | < 3/4 of the value
for 4 RCPs | < 3/4 of the value
for 4 RCPs |

QUESTION 069

The following conditions exist on Unit 1:

- A Large Break LOCA has occurred.
- All RCPs are stopped.
- ECCS and ESF systems functioned as designed.
- RCS pressure equals Containment pressure.
- The operating crew is ready to transition out of 1BwEP-0, REACTOR TRIP OR SAFETY INJECTION.

RCP #1 Seal Leakoff is . . .

- a. OCCURRING and flowing to the Pressurizer Relief Tank.
- b. OCCURRING and flowing to the Volume Control Tank.
- c. OCCURRING and flowing to the Reactor Coolant Drain Tank.
- d. NOT OCCURRING.

QUESTION 070

Which ONE of the following will render the Boric Acid Storage Tank INOPERABLE during Mode 1 operations?

- a. Tank Temperature 40°F and Level 65%.
- b. Tank Temperature is 65°F and Level is 40%.
- c. Boron concentration is 7100 ppm and temperature is 65°F.
- d. Boron Concentration is 7000 ppm and Level is 40%.

QUESTION 071

The following conditions and indications are present on Unit 1:

- RCS Temperature is 300°F.
- Wide range RCS pressure is 300 psig.
- 1A RH Train is in a Shutdown Cooling alignment.
- 1A RH pump current has started oscillating.
- 1A RH pump discharge pressure has started fluctuating.
- 1A RH loop temperature has started to INCREASE.

Which ONE of the following valve indications will lead the operator to the problem?

- a. 1RH8701A, RC Loop 1A to RH pump 1A Suction Isol valve OPEN light Lit.
- b. 1RH8701B, RC Loop 1A to RH pump 1A Suction Isol valve CLOSED light Lit.
- c. 1RH8716A, 1A RH Discharge Header X-Tie valve OPEN light Lit.
- d. 1SI8809A RH to Cold Legs 1A and 1D Isol Valve CLOSED light Lit.

QUESTION 072

Given the following conditions on Unit 1:

- CETCs indicate 100°F.
- RH cooling has been lost and attempts are being made to restore a RH pump.
- The following is the timeline for Unit 1 operations following a 300 day continuous run:
 - 10/1/01, 1000 Reactor Shutdown. Cooldown initiated for MAINTENANCE outage.
 - 10/4/01, 1300 Entered MODE 5.
 - 10/17/01, 2200 Operating RH pump TRIPPED.

What is the MINIMUM amount of makeup required to PREVENT BOILING in the RCS?

- a. 40 gpm.
- b. 60 gpm.
- c. 350 gpm.
- d. 500 gpm.

QUESTION 073

Given the following conditions on Unit 1:

- 85% Reactor Power.
- All systems and controls are in automatic.
- 1B Main Feed Pump trips.
- 1A Main Feed Pump will NOT start.
- The OUTPUT of the PZR Master Pressure Controller is failed AS IS.
- The Unit 1 Admin NSO initiates a turbine runback.

What is the INITIAL response of the Pressurizer Pressure Control System during this event?

- a. BACKUP Heaters turn OFF due to the pressure increase.
- b. BACKUP Heaters turn ON to heat incoming surge volume.
- c. BOTH PZR Spray valves THROTTLE OPEN to reduce pressure to normal.
- d. BOTH PZR PORVs OPEN to maintain pressure below the High reactor trip setpoint.

QUESTION 74

The following conditons exist on Unit 1:

- 50% Reactor power.
- PZR Pressure control is in automatic
- One set of Backup heaters is in "ON".
- Actual Pzr Pressure is 2250 psia.

The Pzr Pressure Master Controller malfunctions and the SETPOINT drifts to 2100 psia over a 10 minute period. Which ONE of the following describes the INITIAL automatic responses of the control elements of the Pzr Pressure Control System as a result of this failure?

- a. Spray valves throttle open and variable heaters go to minimum current.
- b. Spray valves throttle closed and variable heaters go to maximum current.
- c. PORV 1RY455A opens, Spray valves throttle open, variable heaters go to minimum current.
- d. PORV 1RY456 opens, Spray valves throttle open, variable heaters go to minimum current.

QUESTION 075

The following conditions exist on Unit 1:

- 100% Reactor power.
- All systems and controls are in AUTOMATIC.
- Pressurizer Level Control Select switch is in the 459/460 position.

What is the response of the charging pump and the resulting operability status of the pressurizer to 1LT-459 failing LOW?

	Current Draw for Running Charging pump	Pressurizer Operability Status
a.	INCREASES	OPERABLE
b.	INCREASES	INOPERABLE
c.	DECREASES	OPERABLE
d.	DECREASES	INOPERABLE

QUESTION 076

With the Pressurizer Level Control Select switch in the 461/460 position, the ONLY Pressurizer Level Channel failure that will NOT ISOLATE letdown is Pressurizer Level Channel . . .

- a. 1LT-461 failed HIGH.
- b. 1LT-461 failed LOW.
- c. 1LT-460 failed HIGH.
- d. 1LT-460 failed LOW.

QUESTION 077

The following conditions existed on Unit 1:

- 100% Reactor power.
- Small Steam Generator Tube Leak (5 gpd) on 1A Steam Generator.
- A Shutdown has been commenced to repair the leak.

If the turbine were to trip, what is the MAXIMUM power level that the turbine could trip from that would result in the least amount of direct radioactive release to the environment?

- a. 20%.
- b. 40%.
- c. 60%.
- d. 80%.

QUESTION 078

One of the criteria to stop the RCS depressurization in 1BwEP-3, Steam Generator Tube Rupture, is unacceptable subcooling. How does the ICONIC display indicate the value of Subcooling is UNACCEPTABLE?

The value displayed is . . .

- a. CYAN.
- b. WHITE.
- c. YELLOW.
- d. MAGENTA.

QUESTION 079

The following indications were observed during a Steam Generator Tube Rupture just prior to tripping the Unit:

- Charging flow 140 gpm.
- Letdown flow 75 gpm.
- PZR Level steady DECREASE of 10% over 3 minutes.
- Reactor and Turbine power constant.

What is the approximate primary to secondary leakage rate?

- a. 1280 gpm.
- b. 480 gpm.
- c. 128 gpm.
- d. 65 gpm.

QUESTION 080

During a Unit 2 Startup, while the Unit is still in MODE 3, the operating crew observes a number of abnormal indications relative to primary and containment parameters. The crew determines the indications are signs of either a moderately sized LOCA or a moderately sized steam break. Which ONE of the following parameters should be used to differentiate between the early stages of the two possible events?

- a. Containment Pressure.
- b. RCS Pressure.
- c. RCS Temperature.
- d. Pressurizer Level.

QUESTION 081

Unit 1 is at 25% Reactor power and 300 Mwe. 1 of the 3 CD/CB running pumps TRIPPED. The NSO reports from observation of control panel indications that the Condenser Absolute Pressure has INCREASED from 3 INCHES HGA to 4 INCHES HGA. Which ONE of the following describes the cause of the change in condenser pressure and identifies the procedure to correct the situation?

CAUSE	PROCEDURE to CORRECT
a. Trip of 1 CD/CB pump Vacuum	1BwOA SEC-3 Loss of Condenser
b. HP Turbine GS Pressure 0.2 psig Vacuum	1BwOA SEC-3 Loss of Condenser
c. Trip of 1 CD/CB pump	1BwOA SEC-1 Secondary Pump Trip
d. HP Turbine GS Pressure 0.2 psig	1BwOA SEC-1 Secondary Pump Trip

QUESTION 082

A liquid release package is being prepared. Who is contacted to determine the release FLOW PATH?

- a. Ops Supervisor.
- b. Nuclear Station Operator.
- c. Radiation Protection Supervisor.
- d. Chemistry Supervisor.

QUESTION 083

During a Reactor Coolant Filter change out, a small amount (~ 1 liter) of contaminated liquid escaped onto the floor. The liquid was quickly covered, contained, and cleaned up using a long handled mop. No airborne contamination resulted. The exposure from this type of work is primarily a threat to the . . .

- a. Whole Body.
- b. Skin.
- c. Extremities.
- d. Lens of the eye.

QUESTION 084

On a system walkdown, ABNORMAL bubbling is observed originating from a storage cell and breaking the surface of the spent fuel pool. Personnel near the Spent Fuel Pool should be directed to . . .

- a. Evacuate the area immediately.
- b. Remain in the area until rad protection surveys the area.
- c. Remain in the area ONLY if respirators are donned.
- d. Evacuate the area ONLY if the FHB Incident rad monitors alarm.

QUESTION 085

A rupture of the ON LINE Gas Decay Tank has occurred, and the effluent is escaping through the Plant Vent Stack. As the ALERT setpoint is exceeded for the ON LINE Vent Stack Effluent Rad Monitor, 1PR28J, the RM-11 indications for the channels of this monitor will respond by . . .

- a. REMAINING GREEN and ON LINE.
- b. CHANGING to YELLOW and REMAINING ON LINE.
- c. CHANGING to CYAN and GOING OFF LINE.
- d. CHANGING to DARK BLUE and GOING OFF LINE.

QUESTION 086

Why should an ELEVATED rad level on a Main Steam Line rad monitor be confirmed by a chemistry sample? Elevated Main Steam Line Rad indications will be caused by . . .

- a. Increasing temperatures in the MSIV room.
- b. Small Break LOCA inside containment.
- c. Main steam line isolation.
- d. Feedwater isolation.

QUESTION 087

Both Units are at 100% Reactor power. 1A SX pump is under a Clearance Order/Out of Service for Impeller work. Which ONE of the following would have the MOST restrictive tech spec time clock for Unit 1? Hanging an additional Clearance Order/Out of Service on . . .

- a. 1B SX pump.
- b. 2A SX pump.
- c. 2B SX pump.
- d. 2SX005, SX Unit Cross-Tie valve.

QUESTION 088

An extended loss of all AC power has occurred and the crew is placing equipment in PULL OUT to inhibit automatic loading of the AC Emergency Buses per the Attachment for Recovery from an Extended LOSS OF ALL AC POWER procedure. Which pump Control switches will be left in normal after trip (NAT), and why?

- a. One charging pump on either train, to provide RCP sealing cooling.
- b. One charging pump on either train to provide RCS inventory makeup.
- c. One essential service water pump on either train to provide emergency diesel generator cooling.
- d. One essential service water pump on either train to provide charging pump lube oil cooling.

QUESTION 089

Which ONE of the following groups of instruments input to the Subcooling Margin Monitor (SMM)?

- a. Train 'A' or 'B' (whichever is higher) Average of the 10 HIGHEST CETCs and Wide Range RCS Pressure.
- b. 10 HIGHEST CETCs and Wide Range RCS Pressure.
- c. Average of the RCS Loop Wide Range T Hots and Pressurizer Pressure.
- d. Average of the RCS Loop Wide Range T Hots and Wide Range RCS Pressure.

QUESTION 090

Initially, the following conditions existed on Unit 1:

- 100% Reactor power.

Subsequently, the following occurred:

- A Reactor Trip coincident with a loss of Instrument Bus 114.
- All systems respond as expected after the trip.

With NO operator action, 5 minutes after the trip S/G levels will be . . .

- a. HIGHER than normal post trip response due to a delay in ISOLATING AFW flow and the Rediagnosis procedure 1BwEP ES-0.0 should be used.
- b. HIGHER than normal post trip response due to a delay in ISOLATING AFW flow and the Rediagnosis procedure 1BwEP ES-0.0 should NOT be used.
- c. LOWER than normal post trip response due to DECREASED AFW flow and the Rediagnosis procedure 1BwEP ES-0.0 should be used.
- d. LOWER than normal post trip response due to DECREASED AFW flow and the Rediagnosis procedure 1BwEP ES-0.0 should NOT be used.

QUESTION 091

In the REDIAGNOSIS procedure, 1BwEP ES-0.0, SG level is checked INCREASING in an UNCONTROLLED manner in ANY Steam Generator to determine if . . .

- a. ANY SG secondary pressure boundary is intact.
- b. An adequate secondary heat sink exists.
- c. SG tubes are ruptured.
- d. RCS pressure boundary is intact.

QUESTION 092

The intent of the major action steps performed in 1BwFR-P.1 is to . . .

- a. INCREASE the RCS cooldown and DECREASE RCS pressure.
- b. INCREASE the RCS cooldown and STABILIZE RCS pressure.
- c. STOP the RCS cooldown and STABILIZE RCS pressure.
- d. STOP the RCS cooldown and DECREASE RCS pressure.

QUESTION 093

A loss of power occurred forcing a Natural Circulation Cooldown to be performed per 1BwEP ES-0.2, "NATURAL CIRCULATION COOLDOWN". An RCP has been started.

The following indications are observed 1 minute after starting the RCP:

- RCS Loop Flow has INCREASED.
- Seal DP 250 psig on the running RCP.
- 850 amps for the running RCP.
- RCP vibrations 2 mils on the running RCP.

What should the operator do next?

- a. Start an additional RCP.
- b. Verify Seal Leakoff Isolation valve OPEN.
- c. Contact System Engineering to monitor vibrations.
- d. Trip the RCP.

QUESTION 094

A Reactor Trip from 100% power and a Loss of Offsite Power occurred 1 hour ago. The following conditions exist:

- 1BwEP-ES-0.3, NATURAL CIRCULATION COOLDOWN WITH STEAM VOID IN VESSEL (WITH RVLIS) is in progress.
- All NON-ESF buses are still DE-ENERGIZED.
- PZR Level is stable at 50%.
- Letdown is established.
- Charging is in MANUAL Control.
- Pressurizer Pressure indicates 800 psig.
- Pressure control is via the Aux Spray Valve.
- CETCs indicate 520°F.
- RVLIS indicates 81% Plenum level.

The Aux spray valve inadvertently sticks OPEN causing a DECREASE in RCS pressure. RVLIS indication ____ (1) ____ and Pressurizer Level indication ____ (2) ____.

____ (1) ____

____ (2) ____

- | | | |
|----|-----------|------------|
| a. | DECREASES | DECREASES. |
| b. | DECREASES | INCREASES. |
| c. | INCREASES | DECREASES. |
| d. | INCREASES | INCREASES. |

QUESTION 095

The following conditions exist on Unit 1:

- A loss of coolant accident has occurred.
- RWST Level is 35% and DECREASING.
- 1BwCA-1.1, LOSS OF EMERGENCY COOLANT RECIRCULATION is in progress.
- 1B RH pump has TRIPPED on overcurrent.
- Attempts are being made to establish Cold Leg Recirculation capability.
- SI has been RESET.
- The NSO is questioning the ECCS valve alignment.

Which ONE of the following is PREVENTING 1SI8811A, Train A SI Recirc Sump Isolation valve from being MANUALLY OPENED?

- a. 1SI8812A, Train A RWST to RH Suction valve is OPEN.
- b. 1SI8812A, Train A RWST to RH Suction valve is CLOSED.
- c. 1CS001A, Train A RWST to CS Suction valve is CLOSED.
- d. 1CS009A, Train A Containment Recirc Sump to CS Suction valve is OPEN.

QUESTION 096

Given the following information concerning Unit 1:

- An unisolable steam break inside of containment has occurred and All MSIVs are OPEN.
- 1BwCA-2.1, UNCONTROLLED DEPRESSURIZATION OF ALL SGs, is in progress.
- Containment pressure is 8 psig and DECREASING slowly after peaking at 37 psig.
- ALL wide range SG levels are <10% and DECREASING.
- Feed Flow to each SG has been REDUCED to 45 gpm by operator action.
- RCS Pressure is 1800 psig and INCREASING.

The STA has just updated the crew and a decision is about to be made concerning which procedure to perform. The Unit Supervisor needs recommendations and reasons. The crew should . . .

- a. Transition to 1BwFR-H.1, LOSS OF HEAT SINK, and perform the Bleed and Feed Steps to transfer the heat sink to the PZR Porvs and prevent over heating the core.
- b. Transition to 1BwFR-H.1, LOSS OF HEAT SINK, and INCREASE feed flow to GREATER THAN 500 gpm until at least ONE SG narrow range level is GREATER THAN 31%.
- c. Continue in 1BwCA-2.1, UNCONTROLLED DEPRESSURIZATION OF ALL STEAM GENERATORS, and INCREASE feed flow to GREATER THAN 500 gpm, until at least ONE SG narrow range level is GREATER THAN 31%.
- d. Continue in 1BwCA-2.1, UNCONTROLLED DEPRESSURIZATION OF ALL STEAM GENERATORS, and control feed flow to maintain SGs in a wet condition.

QUESTION 097

While operating Unit 1 at 100% power, with all systems normally aligned, a transient occurred that resulted in the following:

- LOCA with reactor trip and SI.
- The Crew has progressed through the appropriate procedures to 1BwCA-1.1, LOSS OF EMERGENCY COOLANT RECIRCULATION.
- RWST level is 46% and DECREASING.
- NO Containment Spray pumps are running.
- The STA has just identified an ORANGE path on the Containment Critical Safety Function Status Tree for containment pressure.

Which ONE of the following is the REQUIRED amount of Containment Cooling Systems equipment that must be OPERATING?

- a. 1 RCFCs and 2 Containment Spray pumps.
- b. 2 RCFCs and 0 Containment Spray pumps.
- c. 3 RCFCs and 0 Containment Spray pumps.
- d. 4 RCFCs and 1 Containment Spray pump.

QUESTION 098

A component believed to be causing a containment pressure increase has been repositioned to reduce the frequency of containment venting. The component is NOT Tech Spec related. This component is NOT on any FORMAL EXEMPTION list. What is the MAXIMUM time the component can be kept in the Abnormal Component Position Log before a 10CFR50.59 Safety Evaluation Screening must be performed?

- a. 1 month.
- b. 3 months.
- c. 6 months.
- d. 1 year.

QUESTION 099

The following Containment conditions exist on Unit 1 after a LOCA:

- Containment Pressure is 18 psig and slowly INCREASING.
- Containment Floor Water Level is 62 INCHES and STABLE.
- Containment Radiation on 1RT-AR020/21 is GREATER THAN the HIGH ALARM Setpoint.

Based on these conditions, the endpoint of the Containment Status Tree is . . .

- a. ORANGE, GO TO 1BwFR-Z.1, Response to High Containment Pressure.
- b. ORANGE, GO TO 1BwFR-Z.2, Response to Containment Flooding.
- c. YELLOW, GO TO 1BwFR-Z.3, Response to High Containment Radiation Level.
- d. GREEN, Satisfied.

QUESTION 100

Unit 1 has undergone a Small Break LOCA Accident and the operators are carrying out the appropriate actions of the emergency procedures. The following conditions exist:

- 1BwEP ES-1.2 Post LOCA Cooldown and Depressurization is in progress.
- Containment Area Rad Monitors 1RT-AR020 and 1RT-AR021 are at their ALERT Levels.

The applicable Functional Restoration procedure will consider using which ONE of the following pairs of systems?

- a. Containment Charcoal Filter Fan and Post-LOCA Purge Exhaust Fan.
- b. Post-LOCA Purge Exhaust Fan and Mini-flow Purge Supply Fan.
- c. Hydrogen Recombiner and Post-LOCA Purge Exhaust Fan.
- d. Mini-flow Purge Supply Fan and Mini-flow Exhaust Fan.

EXAMINATION REFERENCES

ANSWER: 001 (1.00)

a & c

REFERENCE:

Shift Staffing BwAP 320-1
C.1Shift Staffing BAP 320-1 C.1
BwAP 320-1 Lesson Plan
I1-QB-XL-01

Modified

Memory

2.1.4 ..(KA's)

ANSWER: 002 (1.00)

c

REFERENCE:

Improved Tech Specs 3.1.1.
Action A

Bases for ITS B.3.1.1.

New

Memory

2.1.11 ..(KA's)

ANSWER: 003 (1.00)

a

REFERENCE:

Application
Tech Specs 3.5.4 RWST

New

2.1.12 ..(KA's)

ANSWER: 004 (1.00)

a

REFERENCE:

COLR 2.12.2

New

Memory

2.1.33 ..(KA's)

ANSWER: 005 (1.00)

a

REFERENCE:

CVCS lesson plan ch 15a
I1-CV-XL-01 II.A.1.h.5)Mixed Bed Demin Ops BwOP
CV-8, BOP CV-8 D.1, D.1

New

Comprehension

2.2.1 ..(KA's)

ANSWER: 006 (1.00)

c

REFERENCE:

Safety Evaluation process
LS_AA_999 A.1.0

Modified

Memory

2.2.10 ..(KA's)

ANSWER: 007 (1.00)

a

REFERENCE:

Memory
Post maintenance testing
program WC-AA-105
Attachment 1

New

2.2.21 ..(KA's)

ANSWER: 008 (1.00)

b

REFERENCE:

Tech Specs Safety Limits
2.1.2Intro to Tech spec lesson
plan ch 3 I1-MC-XL-13

New

Memory

2.2.22 ..(KA's)

ANSWER: 009 (1.00)

c

REFERENCE:

Filling the Rx Cavity for
Refueling BwOP RH-8 E.7,
and F.1 NoteFilling the Rx cavity for
Refueling BOP RH-8 F.1.k
note

New

Memory

2.2.27 ..(KA's)

ANSWER: 010 (1.00)

d

REFERENCE:

Exposure Review and
Authorization RP-AA-203
4.5.3Selected Rp procedures
I1-AM-XL-46 III.F.7

Exposure Review

/Authorization

BwRP-5300-2 G.7

Modified

Application

2.3.1 ..(KA's)

ANSWER: 011 (1.00)

b

REFERENCE:

Annual Admin Exposure
Control Level Extension

Approval RP-AA-203

Attachment 2

BwRP-5300-2 I1-AM-XL-46

Modified

Memory

2.3.2 ..(KA's)

ANSWER: 012 (1.00)

a

REFERENCE:

Waste Gas Decay Tank

Release Form BwOP

GW-500T1 E.1

Gaseous Effluent Release

form WG DT BCP

400-TWASTE GAS E.1

New

Memory

2.3.3 ..(KA's)

ANSWER: 013 (1.00)

b

REFERENCE:

Liquid Radwaste Release

Tank Release Form BwOP

WX-501T1 F.4

Liquid Rad Release Form For

Release Tank 0WX01T BCP

400-TWX01

Liquid Rad Release Form for

Release tank 0WX26T BCP

400-TWX26

New

Memory

2.3.6 ..(KA's)

ANSWER: 014 (1.00)

b

REFERENCE:

Shutdown LOCA 1BwOA

S/D-2, 1BOA S/D-2

Excessive Primary Plant

Leakage 1BwOA Pri-1,

1BOA-PRI-1

S/D-2 lesson plan

I1-OA-XL-35

New

Application

2.4.11 ..(KA's)

ANSWER: 015 (1.00)

a

REFERENCE:

Fire Dept Response,

Notification, and Mutual Aid

Agreements

and Expected Chain of

Events During a Fire BwAP

1100-5, C.5.f, h

Response Procedure for Fire

BAP 1100-10 C.3.a.1), 4)

Admin procedures

I1-QB-XL-03

New

Application

2.4.26 ..(KA's)

ANSWER: 016 (1.00)

a

REFERENCE:

Reactor Trip Response

1BwEP ES 0.1 step 3.d 5

General Arrangements Dwgs

Local Emerg Control of Safe

S/D Equip 1BOA ELEC-5

Att. D

New

Memory

2.4.34 ..(KA's)

ANSWER: 017 (1.00)

d

REFERENCE:

SI Termination 1BwEP

ES-1.1 Step 3

SI Termination 1BEP ES-1.1

Step 3

Modified

Application

2.4.48 ..(KA's)

ANSWER: 018 (1.00)

a

REFERENCE:

Alarm Response Procedures

BwAR 1-19-A1, BAR

1-19-A1

Alarm Response Procedures

BwAR 1-19-E2, BAR

1-19-A1

New

Application

001A207 ..(KA's)

ANSWER: 019 (1.00)

d

REFERENCE:

Power Distribution Power

Distribution 2 equations

Abnormal Proc Dropped Rod

1BwOA ROD-3 B

Abnormal Proc Dropped Rod

OA-XL-34 1,6

New

Comprehension

001A304 ..(KA's)

ANSWER: 020 (1.00)

b

REFERENCE:

Steam Tables

Thermo lesson plan ch 2

I1-TH-XL-02

New

Memory

002K509 ..(KA's)

ANSWER: 021 (1.00)

a

REFERENCE:

Recircing a Boric Acid Tank.

BwOP AB-10, BOP AB-6

Step F.3,

Fundamental pump concepts

P and ID M-65 sheet 5a

New

Application

004K610 ..(KA's)

ANSWER: 022 (1.00)

d

REFERENCE:

RHR sys desc, Ch 18

Horse Notes Ch 18 RH-1

RHR Cooldown

RHR System Ch 18,

I1-RH-XL-01, II.A.5 and 9

New

Comprehension

005A202 ..(KA's)

ANSWER: 023 (1.00)

b

REFERENCE:

Tech Spec Bases B 3.9.5

RHR system desc ch18

New

Memory

005 2.2.27 ..(KA's)

ANSWER: 024 (1.00)

b & d

REFERENCE:

Drawing a Pzr Bubble, BwOP

RY-5

Plant Heatup, 1BwGP 100-1,

Step F. 26.

Plant Heatup, 1BGP 100-1,

F.24

Modified

Memory

007K502 ..(KA's)

ANSWER: 025 (1.00)

a

REFERENCE:

RTS Instrumentation Tech

Spec Bases Bases Table

3.3.1-1

PZR ch 14, I1-RY-XL-01

Modified

Application

010K302 ..(KA's)

ANSWER: 026 (1.00)

c

REFERENCE:

CV System Limitation and

Action, 1BwGP 100-1, Plant

Heatup, E.6.b

Plant Heatup, 1BGP 100-1

Plant Heatup, E.6.e

New

Comprehension

011A201 ..(KA's)

ANSWER: 027 (1.00)

b

REFERENCE:

Horse Notes- Ch 14

Pressurizer, RY-2 PZR

Pressure Control, Setpoints

Alarm Response Procedure,

BwAR 1-12-A4, B.1

Alarm Response Procedure,

BAR 1-12-A4, B.1

New

Memory

011K401 ..(KA's)

ANSWER: 028 (1.00)

a

REFERENCE:

Re-establishing CV Letdown

During Abnormal Conditions,

BwOA ESP-2,

Step 4

New

Comprehension

011K601 ..(KA's)

ANSWER: 029 (1.00)

c

REFERENCE:

Horse Notes, CVCS CV-1,

CVCS

SI Termination, 1BwEP

ES-1.1, Steps 1-6

New

Application

013K402 ..(KA's)

ANSWER: 030 (1.00)

b

REFERENCE:

Horse Notes - ESF Setpoints,

EF-2 Isolation signals

Instrument Failure, 1BwOA

INST-2, Att. J

New

Comprehension

013K601 ..(KA's)

ANSWER: 031 (1.00)

a

REFERENCE:

Horse Notes- Reactor Control

Unit, RD-2 Reactor Control

Unit,

Rod Speed

Horse Notes- Digital Rod

Position Ind, RD-6 Digital

Rod Position,

Bezel

New

Memory

014A402 ..(KA's)

ANSWER: 032 (1.00)

d

REFERENCE:

Generic Reactor Control

Guidance, 1BwGP 100-8,

F.8.c

Modified

Comprehension

015A103 ..(KA's)

ANSWER: 033 (1.00)

c

REFERENCE:

Horse Notes- Intermediate Range, NI-3 Intermediate Range, SSPS
Horse Notes- Source Range, NI-4 Source Range Detector, Chart
New

Comprehension

015K102 ..(KA's)

ANSWER: 034 (1.00)

c

REFERENCE:

RCS Subcooling Margin, Figure 1BwEP ES 1.2-1
BEP ES 1.2, Fig 1BEP ES 1.2-1
New

Application

017 2.1.25 ..(KA's)

ANSWER: 035 (1.00)

deleted

REFERENCE:

Horse Notes- Inadequate Core Cooling, CORE-2, Core Exit Thermocouples
Reactor Trip Response, 1BwEP ES-0.1, Attachment B
New

Comprehension

017K301 ..(KA's)

ANSWER: 036 (1.00)

c

REFERENCE:

Horse Notes Containment Cooling, VP-3, Containment Cooling,
SI Actuation Signal
Cnmt Vent, Ch 42, C
New

Comprehension

022A301 ..(KA's)

ANSWER: 037 (1.00)

d

REFERENCE:

CRDM Vent System Startup, BwOP VP-9, E.3
Horse Notes, Containment Vent VP-1, Containment Vent,
CRDM Booster Fan Trip
CRDM Vent System Startup, BOP VP-9, E.3, note prior to step 3.b

New

Memory

022K404 ..(KA's)

ANSWER: 038 (1.00)

d

REFERENCE:

Startup of a Hydrogen Recombiner, BwOP OG-10, C. 2. & E.3.
Startup of a Hydrogen Recombiner, BOP OG-10, C.2, E.2

New

Memory

028K101 ..(KA's)

ANSWER: 039 (1.00)

b

REFERENCE:

E lineup for Off Gas system, BwOP OG-E4
E Lineup for Off Gas system, BOP OG-E1

New

Memory

028K201 ..(KA's)

ANSWER: 040 (1.00)

b

REFERENCE:

Containment Mini-Purge System Operation, BwOP VQ-6 F.6 Note
Containment Mini Purge System Operation, BOP VQ-6 F.6 Note

New

Memory

029A201 ..(KA's)

ANSWER: 041 (1.00)

d

REFERENCE:

Horse Notes- Fuel Pool Cooling, FC-1 Fuel Pool Cooling,
Dewatering prevention
SFP Ch 51 Sys Desc

New

Comprehension

033K303 ..(KA's)

ANSWER: 042 (1.00)

b

REFERENCE:

Reactor Theory, Chapter 7, Pg 20
New

Comprehension

039K508 ..(KA's)

ANSWER: 043 (1.00)

a & d

REFERENCE:

Horse Notes Steam Dumps Ch 24, MS-4 Main Steam Dumps
Horse Notes Rod Control Ch 28, RD-2 Reactor Control Unit
New

Application

045K301 ..(KA's)

ANSWER: 044 (1.00)

b

REFERENCE:

Secondary Pump Trip,
1BWOA SEC-1, Attachment
B, Step 5.a
Modified
Application
056A204 ..(KA's)

ANSWER: 045 (1.00)

c

REFERENCE:

Horse Notes, FW-3,
Feedwater Notes, Program
DP
SGWLC System, Ch. 27,
I1-FW-XL-01, I.B.2; I.C.2.a
Bank
Comprehension
Annual Admin Exposure
Control Level Extension
Approval RP-AA-203
Attachment 2
BwRP-5300-2 I1-AM-XL-46
Modified
Memory
059A107 ..(KA's)

ANSWER: 046 (1.00)

d

REFERENCE:

SGWLC Ch 27,
I1-FW-XL-01, II.C.2
Feed Pump speed Control Ch
37B, Figure 37b-2
Modified
Application
059K304 ..(KA's)

ANSWER: 047 (1.00)

d

REFERENCE:

Horse Notes, AF-1 Auxiliary
Feedwater System, Diesel AF
AFW Ch 26 Sys Desc, Ch 26,
II Engine
New
Memory
061K203 ..(KA's)

ANSWER: 048 (1.00)

c

REFERENCE:

Horse Notes, I&C-2, AC Bus
112 and 113, 112
AC Distribution Ch 4 System
Desc, Fig 10a, 10b, 11
Bank
Memory
062K201 ..(KA's)

ANSWER: 049 (1.00)

a

REFERENCE:

Horse Notes- D/G Relaying,
DG-2 D/G Relaying,
Sequencing Order
SI Termination, 1BwEP
ES-1.1, Caution
New
Memory
064A307 ..(KA's)

ANSWER: 050 (1.00)

c

REFERENCE:

50.59 Screening Procedures,
LS-AA-104-1000 4-6
New
Memory
064 2.2.25 ..(KA's)

ANSWER: 051 (1.00)

d

REFERENCE:

Oxygen/Hydrogen Explosive
mixture, 0BWOA PRI-9, Step
3
Oxygen/Hydrogen Explosive
mixture, 0BOA PRI-9, Step 3
New
Comprehensive
071 2.1.20 ..(KA's)

ANSWER: 052 (1.00)

d

REFERENCE:

TRM, Appendix L, Explosive
Gas and Storage
Tank Monitoring Program
Modified
Memory
071K504 ..(KA's)

ANSWER: 053 (1.00)

c

REFERENCE:

10CRF50.59 Safety
Evaluation Process,
LS-AA-999, 2.2
New
Memory
072 2.2.8 ..(KA's)

ANSWER: 054 (1.00)

a

REFERENCE:

Horse Notes. Rad Monitors,
AR-1, Rad Monitors PRMs
RM-11 Alarm Response,
BwAR 1-0PR09J, B
Radiation Monitors Ch 49,
I1-AR-XL-01 Ch 49, II.C.2.e
Modified
Comprehension
073A101 ..(KA's)

ANSWER: 055 (1.00)

d

REFERENCE:

Radmonitor Interlock
Function Table, BwOP
AR/PR-11T1

Modified

Memory

074A401 ..(KA's)

ANSWER: 059 (1.00)

a

REFERENCE:

Alarm Response Procedure,
BwAR 1-14-E2, A.1

Modified

Comprehension

001AK106 ..(KA's)

ANSWER: 063 (1.00)

b

REFERENCE:

Reactor Trip or SI, 1BwEP-0,
Step 1

1BEP-0, Step 1

Modified

Memory

007EA202 ..(KA's)

ANSWER: 056 (1.00)

d

REFERENCE:

Interpretation of Fire
Protection Panel Alarms,
BwOP FP-49, F.1
Horse Note Fire Protection
FP-1

New

Memory

086K403 ..(KA's)

ANSWER: 060 (1.00)

a

REFERENCE:

Inadequate Core Cooling Ch
34B System Description
New

Comprehension

003AA205 ..(KA's)

ANSWER: 064 (1.00)

c

REFERENCE:

Status Tree, 1BwST-2, Tree
New

Comprehensive

008AA216 ..(KA's)

ANSWER: 057 (1.00)

b

REFERENCE:

Horse Notes, SA/IA-2 SA/IA
NotesLesson Plan for Recovery
from Inadvertent Phase A
Containment

Isolation, I1-OA-XL-23

New

Comprehension

103A301 ..(KA's)

ANSWER: 061 (1.00)

d

REFERENCE:

DEHC System Description,
Ch 37A

Dropped Rod, 1BwOA

ROD-3, B

New

Comprehension

003AK101 ..(KA's)

ANSWER: 065 (1.00)

b

REFERENCE:

ERG Background doc E-1
Bank

Memory

009EK203 ..(KA's)

ANSWER: 058 (1.00)

a

REFERENCE:

Work Screening and
Classification, WC-AA-101,
2.19Uncontrolled Rod Motion,
1BwOA ROD-1, Steps 2,5

New

Application

001A2.2.19 ..(KA's)

ANSWER: 062 (1.00)

c

REFERENCE:

Horse Notes- Rod Control Ch
28, RD-2 Reactor Control
Unit, Rod Speed

Rod Control System

Description, Ch 28

New

Comprehension

005AA101 ..(KA's)

ANSWER: 066 (1.00)

b

REFERENCE:

Reactor Trip or SI lesson
plan, EP-XL-01, I.B.3.b)3)

Loss of Reactor or Secondary

Coolant LP, EP-XL-02

Modified

Comprehension

011EA204 ..(KA's)

ANSWER: 067 (1.00)

d

REFERENCE:

RCP Ch 13 lesson plan,
I1-RC-XL-02

Bank

Comprehension

015AK210 ..(KA's)

ANSWER: 068 (1.00)

c

REFERENCE:

RCP Ch 13 lesson plan,
I1-RC-XL-02
Bank

Comprehension

017AA112 ..(KA's)

ANSWER: 069 (1.00)

d

REFERENCE:

Horse Notes CVCS Ch 15a,
CV-1, CVCS
Inadvertent Phase A, 1BWOA
PRI-13

New

Comprehension

017AK207 ..(KA's)

ANSWER: 070 (1.00)

a

REFERENCE:

TRM Borated Water Sources
Operating, TRM 3.1.f, TSR
3.1.f

New

Memory

022A2.2.12 ..(KA's)

ANSWER: 071 (1.00)

b

REFERENCE:

Placing the RH System in
Shutdown Cooling, BwOP
RH-6, E. 8,9,10
Loss of RH Cooling, 1BWOA
PRI-10, B.2

New

Comprehension

025AA110 ..(KA's)

ANSWER: 072 (1.00)

d

REFERENCE:

Loss of RH Cooling Unit 1,
1BWOA PRI-10, Fig 10-3 and
10-4

Loss of RH Cooling, OA

PRI-10, I1-OA-XL-20, II.B.Fig
Modified

Application

025AK101 ..(KA's)

ANSWER: 073 (1.00)

b

REFERENCE:

Pressurizer (RY) Ch. 14,
I1-RY-XL-01, I.D.2 and 3
Horse Notes, RY-1,

Pressurizer, RY-2, PZR

Pressure Control

and RY-3, PZR Level Control,
Sections I.D.2 and 3

Modified

Application

027AK102 ..(KA's)

ANSWER: 074 (1.00)

a

REFERENCE:

Pressurizer Ch 14,
I1-RY-XL-01

Horse Notes, RY-2, PZR

Pressure Control

Modified

Application

027AK203 ..(KA's)

ANSWER: 075 (1.00)

a

REFERENCE:

Horse Notes- PZR Level
Control, RY-3, Instrument
Failures

Pressurizer Ch 14 System

Desc

New

Comprehension

028AA204 ..(KA's)

ANSWER: 076 (1.00)

c

REFERENCE:

Horse Notes, RY-3 PZR
Level Control, Instrument
Failures

Pressurizer, Ch 14 system

desc

New

Comprehension

028AK202 ..(KA's)

ANSWER: 077 (1.00)

b

REFERENCE:

Horse Note- Steam Dumps,
MS-4 Main Steam Dumps,
Purpose

New

Memory

037AK309 ..(KA's)

ANSWER: 078 (1.00)

c & d

REFERENCE:

Horse Notes- SPDS Display,
CX-1, Subcooling
Plant Computer lesson plan
ch 56

New

Memory

038EA145 ..(KA's)

ANSWER: 079 (1.00)

b

REFERENCE:

Horse notes, RY-1,
Pressurizer

New

Application

038EA213 ..(KA's)

ANSWER: 083 (1.00)

deleted

REFERENCE:

NGET - Types of Radiation
(NGET)

New

Memory

059AK102 ..(KA's)

ANSWER: 087 (1.00)

a

REFERENCE:

Tech Spec, Essential Service
Water Systems 3.7.8 Cond
A., and B

New

Comprehension

062A2.2.17 ..(KA's)

ANSWER: 080 (1.00)

c

REFERENCE:

Intro to EP lesson plan, Major
Accident ID Chart

Bank

Comprehension

040AK103 ..(KA's)

ANSWER: 084 (1.00)

a

REFERENCE:

Fuel Handling Emergency
1BwOA REFUEL-1, B.1 and
step 1

Fuel Handling Emergency

Fuel Handling Emergency

1BOA REFUEL-1, step 1 B

New

Memory

060A 2.3.2 ..(KA's)

ANSWER: 088 (1.00)

c

REFERENCE:

1BwCA-0.0 Loss of All Ac
Power, Att. B, Step 1.b &
Caution

Modified

Memory

062AK303 ..(KA's)

ANSWER: 081 (1.00)

b

REFERENCE:

Alarm Response Procedures,
BwAR 1-18-B8, Setpoint, and
D.5Loss Of Condenser Vacuum,
1BwOA SEC-3, Symptoms

B.2

New

Comprehension

051AA201 ..(KA's)

ANSWER: 085 (1.00)

b

REFERENCE:

Horse Notes- Rad monitoring,
AR-1 Color Codes

Using the RM-11 AR

Guidelines, BwOP AR/PR-11

F

New

Memory

060AK201 ..(KA's)

ANSWER: 089 (1.00)

b

REFERENCE:

Horse Notes Inadequate
Core Cooling

Inadequate Core Cooling

lesson plan

New

Memory

074EA112 ..(KA's)

ANSWER: 082 (1.00)

a

REFERENCE:

Liquid Release Tank Release
Form, BwOP WX-501T1, E.

Note

New

Memory

059A 2.3.6 ..(KA's)

ANSWER: 086 (1.00)

a

REFERENCE:

Alarm Response procedure,
BwAR 1-2AR022J, D.2

Faulted SG Isolation

procedure, 1BwEP-2, Note

prior to step 6

New

Memory

061AK302 ..(KA's)

ANSWER: 090 (1.00)

d

REFERENCE:

Loss of Instrument Bus,
1BwOA ELEC-2, Table D

Rediagnosis, 1BwEP ES-0.0,

Purpose

New

Comprehension

E01EK22 ..(KA's)

ANSWER: 091 (1.00)

c

REFERENCE:

Rediagnosis, 1BwEP ES-0.0,
Step 1, 2,3Rediagnosis, 1BEP ES-0.0,
Steps 1,2,3

New

Memory

E01EK31 ..(KA's)

ANSWER: 095 (1.00)

a

REFERENCE:

Transfer to CLR, 1BwEP
ES-1.3, Att. A, StepMCB Valve Interlocks,
1BwGP 100-1A3

New

Memory

E11EA11 ..(KA's)

ANSWER: 099 (1.00)

b

REFERENCE:

Containment Status Tree,
1BwST-5 ContainmentUse of Procedures, 1BwAP
340-2, C.2.c.4

New

Comprehension

E15EA21 ..(KA's)

ANSWER: 092 (1.00)

d

REFERENCE:

Memory

Response to Imminent PTS
Conditon, 1BwFR-P.1, steps
2,13, and 15

Bank

Memory

E08EK33 ..(KA's)

ANSWER: 096 (1.00)

d

REFERENCE:

Loss of Heat Sink,
1BwFR-H.1 Caution prior to
step 1

Uncontrolled

Depressurization of all SGs,
1BwCA-2.1 Caution

Modified

Application

E12EK34 ..(KA's)

ANSWER: 100 (1.00)

a

REFERENCE:

High Containment Radiation,
1BwFR Z.3, Step 3

New

Memory

E16EK13

ANSWER: 093 (1.00)

d

REFERENCE:

RCP Startup During

Abnormal Conditions, 1BwOA
ESP-1, Steps 6, 7Startup of an RCP, BOP
RC-1

New

Application

E09EA11 ..(KA's)

ANSWER: 097 (1.00)

c

REFERENCE:

Loss of emergency Coolant
Recirculation, 1BwCA-1.1
Step 9 c.

New

Comprehension

E14EA22 ..(KA's)

ANSWER: 094 (1.00)

b

REFERENCE:

Background Document for
Natural Circ C/D.

New

Comprehension

E10EK22 ..(KA's)

ANSWER: 098 (1.00)

c

REFERENCE:

Operational Configuration
Control, OP-AA-101-301, Sec
4.1.2.3.E

New

Memory

E14 2.2.14 ..(KA's)

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

ANSWER KEY

1.	a & c	21.	a	41.	d	61.	d	81.	b
2.	c	22.	d	42.	b	62.	c	82.	a
3.	a	23.	b	43.	a & d	63.	b	83.	deleted
4.	a	24.	b & d	44.	b	64.	c	84.	a
5.	a	25.	a	45.	c	65.	b	85.	b
6.	c	26.	c	46.	d	66.	b	86.	a
7.	a	27.	b	47.	d	67.	d	87.	a
8.	b	28.	a	48.	c	68.	c	88.	c
9.	c	29.	c	49.	a	69.	d	89.	b
10.	d	30.	b	50.	c	70.	a	90.	d
11.	b & d	31.	a	51.	d	71.	b	91.	c
12.	a	32.	d	52.	d	72.	d	92.	d
13.	b	33.	c	53.	c	73.	b	93.	d
14.	b	34.	c	54.	a	74.	a	94.	b
15.	a	35.	deleted	55.	d	75.	a	95.	a
16.	a	36.	c	56.	d	76.	c	96.	d
17.	d	37.	d	57.	b	77.	b	97.	c
18.	a	38.	d	58.	a	78.	c & d	98.	c
19.	d	39.	b	59.	a	79.	b	99.	b
20.	b	40.	b	60.	a	80.	c	100.	a