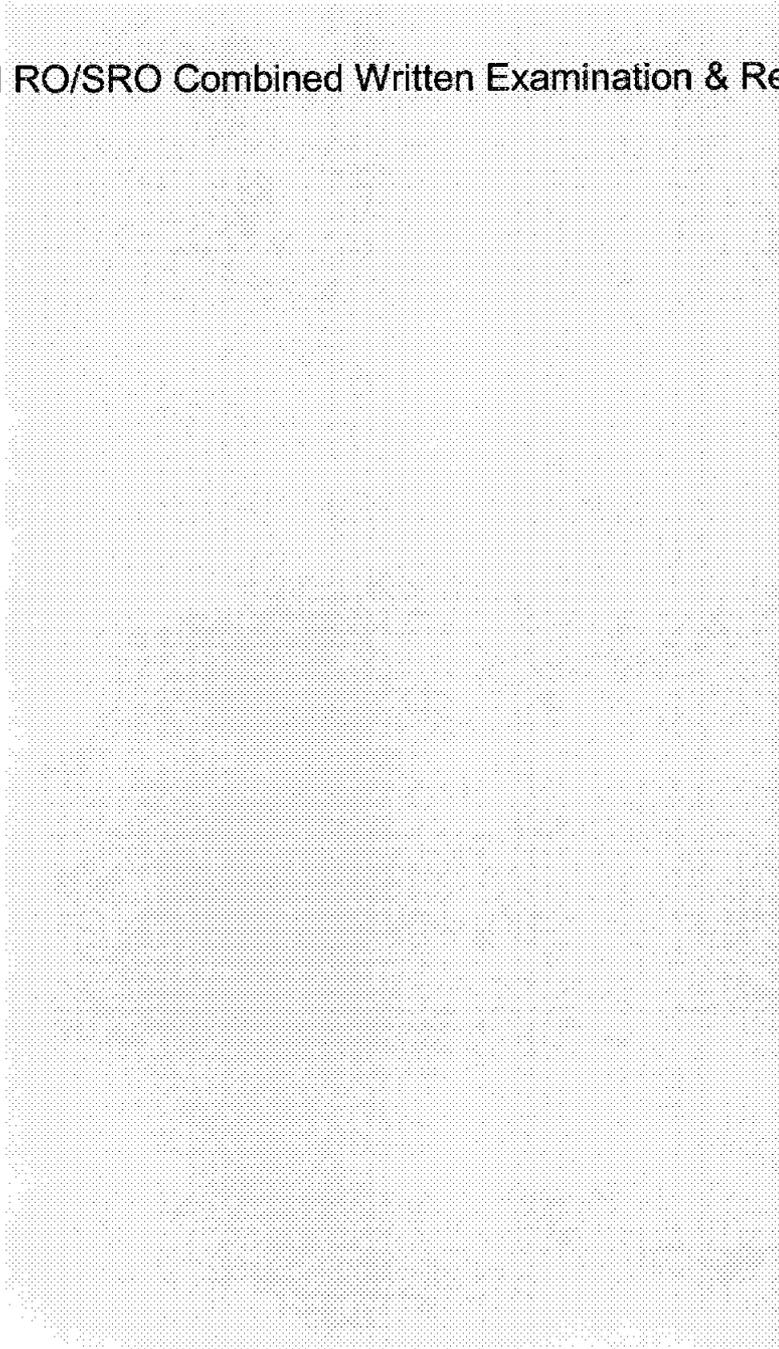


Final Submittal

**ROBINSON AUG/SEPT 2004
EXAM NO. 05000261/2004-301**

AUG. 27 - SEPT. 3, 2004

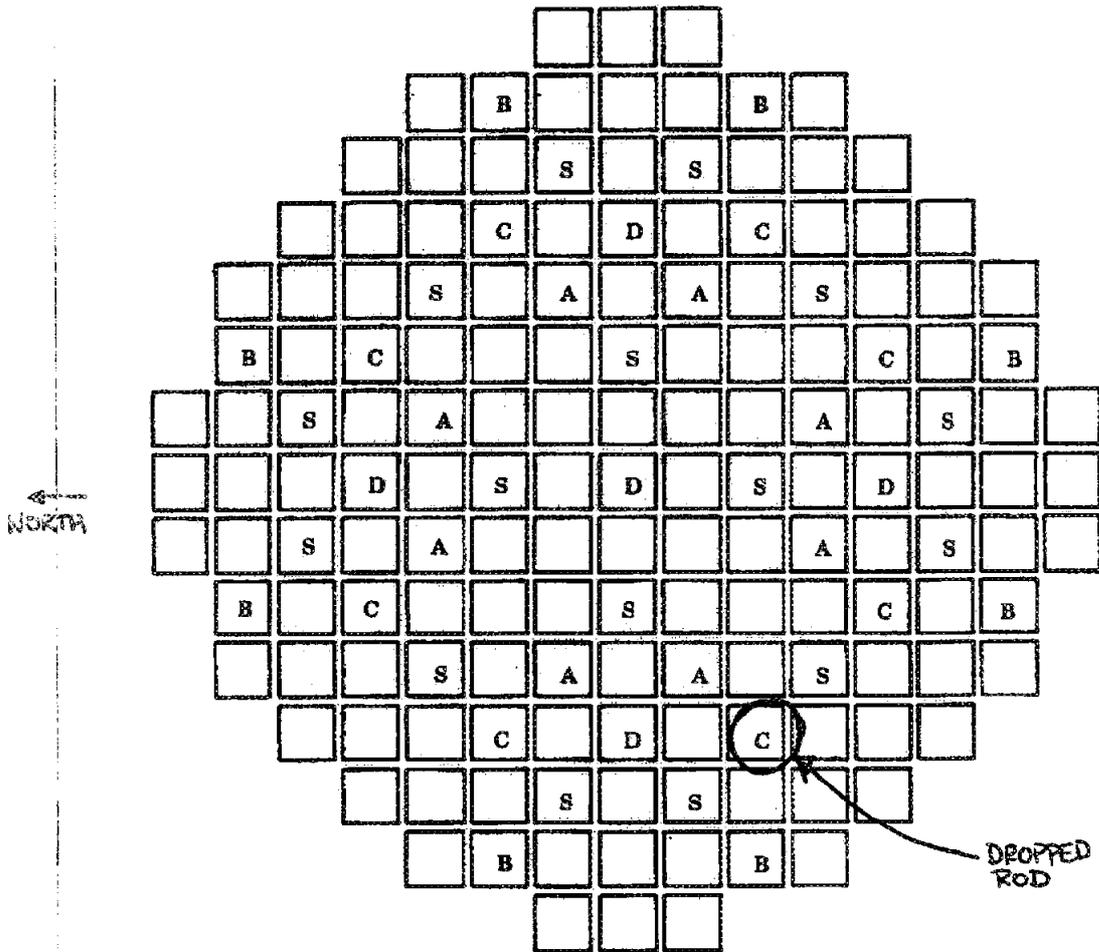
Final RO/SRO Combined Written Examination & References



CONTROL ROD CORE LOCATION

RVINT-FIGURE-14 (Rev. 0)

Pattern of Rod Cluster Control Assemblies

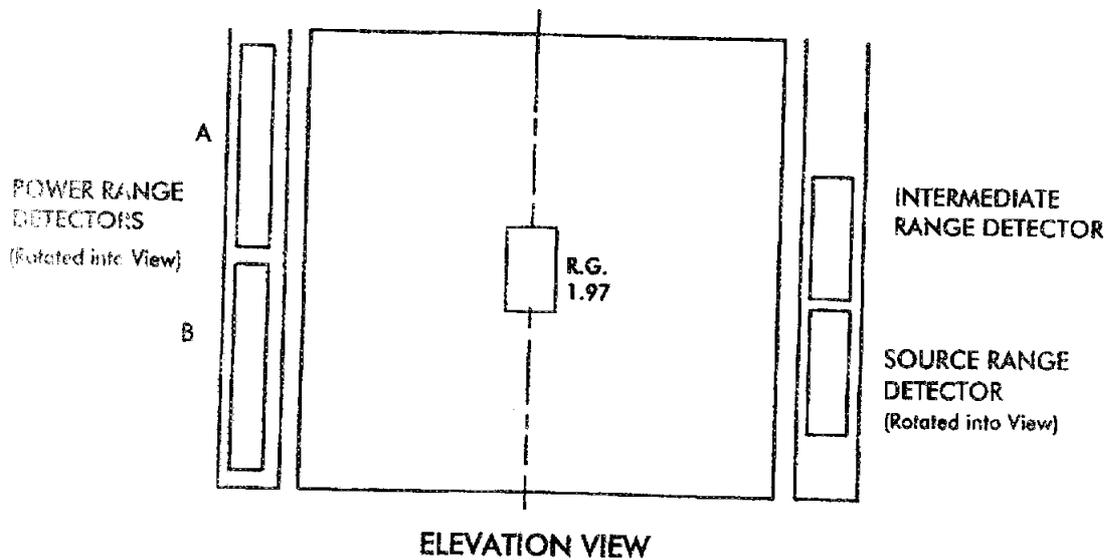
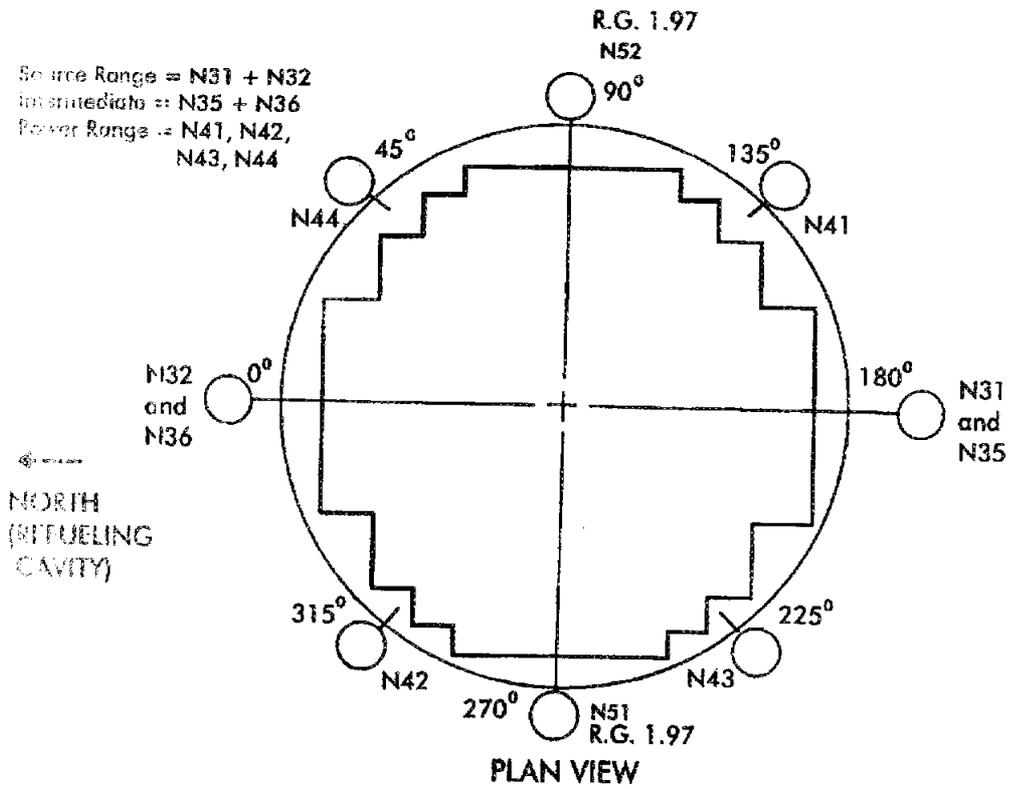


<u>RCCA</u>	<u>BANK</u>	<u>NO. OF RCCA'S IN EACH BANK</u>
Control Bank A	(A)	8
Control Bank B	(B)	8
Control Bank C	(C)	8
Control Bank D	(D)	5
Shutdown Banks A & B	(S)	<u>16</u>
	Total	45

INFORMATION USE ONLY

LOCATION OF DETECTORS

NI-FIGURE-1 (Rev. 0)



NI-F01

3.6 CONTAINMENT SYSTEMS

3.6.6 Containment Spray and Cooling Systems

LCO 3.6.6 Two containment spray trains and two containment cooling trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One containment spray train inoperable.	A.1 Restore containment spray train to OPERABLE status.	72 hours <u>AND</u> 10 days from discovery of failure to meet the LCO
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 5.	6 hours 84 hours
C. One containment cooling train inoperable.	C.1 Restore containment cooling train to OPERABLE status.	7 days <u>AND</u> 10 days from discovery of failure to meet the LCO

(continued)

Containment Spray and Cooling Systems
3.6.6

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two containment cooling trains inoperable.	D.1 Restore one containment cooling train to OPERABLE status.	72 hours
E. Required Action and associated Completion Time of Condition C or D not met.	E.1 Be in MODE 3. <u>AND</u> E.2 Be in MODE 5.	6 hours 36 hours
F. Two containment spray trains inoperable. <u>OR</u> Any combination of three or more trains inoperable.	F.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.6.1 Verify each containment spray manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	31 days

(continued)

Containment Spray and Cooling Systems
3.6.6

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.6.6.2 Operate each containment cooling train fan unit for \geq 15 minutes.	31 days
SR 3.6.6.3 Verify cooling water flow rate to each cooling unit is \geq 750 gpm.	31 days
SR 3.6.6.4 Verify each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program
SR 3.6.6.5 Verify each automatic containment spray valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	18 months
SR 3.6.6.6 Verify each containment spray pump starts automatically on an actual or simulated actuation signal.	18 months
SR 3.6.6.7 Verify each containment cooling train starts automatically on an actual or simulated actuation signal.	18 months
SR 3.6.6.8 Verify each spray nozzle is unobstructed.	Following activities which could result in nozzle blockage

QUESTIONS REPORT
for 04 NRC REV FINAL-1

1. 001 AK2.01 001

Given the following conditions:

- Control Bank C step counters indicate 220 steps.
- Control Bank D step counters indicate 92 steps.
- The RO withdraws control rods in MANUAL 5 steps for Tavg control, but rods continue to withdraw for 5 additional steps before being stopped by the RO.

Which ONE (1) of the following indicates the step counter position for Bank C and D control rods at the end of this event?

	<u>Bank C</u>	<u>Bank D</u>
A.	225 steps	92 steps
B✓	225 steps	102 steps
C.	230 steps	92 steps
D.	230 steps	102 steps

A-incorrect. Bank D will withdraw by 10 steps

B-Correct. Bank C will be fully withdrawn at 225 steps, Bank D will continue to withdraw

C-incorrect. 230 steps is past fully withdrawn. Bank D also withdraws, does not stay at 92

D-incorrect. 230 steps is past fully withdrawn

Question 57

Tier 1 / Group 2

K/A Importance Rating - RO 2.9 SRO 3.2

Knowledge of the interrelations between the Continuous Rod Withdrawal and the following: Rod bank step counters.

Reference(s) - Rod Control SD

Proposed References to be provided to applicants during examination - None

Learning Objective - RDCNT007.d

Question Source - Bank

Question History - INPO Bank Turkey Point 1999, ID # 15672

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.6

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

2. 002 K5.09 001

Given the following conditions:

- The plant tripped due to a loss of off-site power.
- All RCPs are tripped.
- The crew is performing actions of EPP-4, Reactor Trip Response.
- RCS pressure is currently 2050 psig.
- CETs indicate 611 degrees F and increasing slowly.

Which ONE (1) of the following describes the conditions currently present in the RCS, and the status of natural circulation flow IAW Supplement E, Natural Circulation Verification?

- A. Saturated conditions; Natural Circulation flow in the RCS is established.
- B. Subcooled conditions; Natural Circulation flow in the RCS is established.
- C. Saturated conditions; Natural Circulation flow in the RCS is NOT established.
- D. Subcooled conditions; Natural Circulation flow in the RCS is NOT established.

A-Incorrect. RCS is slightly subcooled and Natural Circ will not exist IAW SUPP E at saturation

B-Incorrect. Subcooling exists but not at an adequate level to support Natural Circulation. 35 deg F required

C-Incorrect. Natural circulation does not exist but the RCS is not saturated

D-Correct. Although subcooling exists, it is not high enough to consider Natural Circulation established. 35 deg F required Only about 25 deg F exists

Question 029

Tier 2 / Group 2

K/A Importance Rating - RO 3.7 SRO 4.2

Knowledge of the operational implications of the following concepts as they apply to the RCS:
Relationship of pressure and temperature for water saturation and subcooling conditions.

Reference(s) - Steam Tables, Supplement E

Proposed References to be provided to applicants during examination - Steam Tables

Learning Objective - EPP-4-006

Question Source - New

Question History -

Question Cognitive Level - Comprehension/Application

10 CFR Part 55 Content - 41.14

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

3. 003 A4.07 001

Given the following conditions:

- Plant cooldown is in progress.
- RCS temperature is 220 degrees F.
- RCS pressure is 375 psig.
- VCT pressure is 25 psig.
- RCPs are operating with all No.1 Seal Leakoff valves open.
- "B" RCP seal leakoff flow indicates 0.8 gpm and slowly decreasing.
- Seal Injection flows are normal.

Which ONE (1) of the following actions is required?

- A. OPEN CVC-307, PRI SEAL BYPASS ISO, to increase seal leakoff flow.
- B. Reduce RCS pressure while maintaining RCP NPSH to increase #1 seal DP.
- C. Trip operating RCPs and isolate seal leakoff due to insufficient seal DP.
- D. Isolate #1 seal leakoff for "B" RCP to increase #1 seal DP.

A-Correct. Opening the seal bypass valve under low pressure conditions will raise the seal leakoff flow.

B-incorrect. Reducing RCS pressure would decrease seal DP

C-incorrect. DP is 350 psig, sufficient for continued RCP operation

D-incorrect. Isolating seal leakoff will decrease the #1 seal DP, placing a boundary at #2 seal

Question 002

Tier 2 / Group 1

K/A Importance Rating - RO 2.6 SRO 2.6

Ability to manually operate and/or monitor in the control room: RCP seal bypass.

Reference(s) - GP-001 precautions, SD-001, GP-007, step 8.2.29

Proposed References to be provided to applicants during examination - None

Learning Objective - RCS-010

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

4. 003 AK1.21 001

Given the following conditions:

- The plant is at 100% RTP when ONE (1) Control Bank C rod drops from 218 steps to 100 steps.

Which ONE (1) of the following NI indications will be the MOST affected and in which direction?

Reference drawings provided

- A. N-44 Delta I will trend positive.
- B. N-44 Delta I will trend negative.
- C. N-43 Delta I will trend positive.
- D. N-43 Delta I will trend negative.

A-Incorrect. Wrong NI

B-Incorrect. Wrong NI

C-Incorrect. Correct NI, wrong direction

D-Correct. When a drops approximately half way, flux will shift to the lower detector for the closest NI to the rod

Question 58

Tier 1 / Group 2

K/A Importance Rating - RO 2.7 SRO 3.2

Knowledge of the operational implications of the following concepts as they apply to Dropped Control Rod: Delta flux (Delta I).

Reference(s) - AOP-001, section A

Proposed References to be provided to applicants during examination - RVINT Figure 14, NI Figure 1

Learning Objective -

Question Source - New

Question History -

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.1

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

5. 003 K3.03 001

Given the following conditions:

- The plant is at 17% power, normal system alignment.
- All FRVs are in AUTO.
- "A" RCP trips on overcurrent.

Which ONE (1) of the following describes the effect on Main Feedwater and AFW flow to the SGs from steady-state to steady-state?

- A. Feedwater flow remains the same to all SGs. Both MDAFW pumps will start.
- B. Feedwater flow is decreased to all SGs. Both MDAFW pumps will start.
- C. Feedwater flow to SG "A" is decreased. Feedwater flow to SG "B" and "C" is increased. No AFW pumps will start.
- D. Feedwater flow to SG "A" is increased. Feedwater flow to SG "B" and "C" is decreased. No AFW pumps will start.

A Incorrect. Assumes feed control is in manual at low power. No AFW pumps will auto start.

B Incorrect. SGs with increased heat removal requirements will have increased feed requirements. No AFW pumps will start.

C Correct. Less heat input, less feed flow.

D Incorrect. Opposite effect.

Question 001

Tier 2 / Group 1

K/A Importance Rating - RO 2.8 SRO 3.1

Knowledge of the effect that a loss or malfunction of the RCPS will have on the following: Feedwater and emergency feedwater.

Reference(s) - Simulator

Proposed References to be provided to applicants during examination - None

Learning Objective - FW LP Objective 14

Question Source - Bank

Question History - 2002 Robinson NRC RO 100

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 55.41.7

Comments - Direct match KA

QUESTIONS REPORT
for 04 NRC REV FINAL-1

6. 004 K2.03 001

Given the following conditions:

- Mode 1 at 100% RTP.
- Charging Pump "C" is running in AUTO.
- Power to the Startup Transformer is lost.

Which ONE (1) of the following describes the response of Charging Pump "C"?

- A. Continues to run because the duration of undervoltage on the emergency bus will not be long enough to start the Blackout sequence.
- B. Continues to run, but the controller will fail to maximum speed due to loss of instrument air.
- C. Trips due to an amptector overload, but may be reset and started manually after the Blackout sequence is complete.
- D. Trips due to bus undervoltage, but may be started manually after the Blackout sequence is complete.

A-Incorrect. E-2 will be lost until the EDG starts and supplies the bus

B-Incorrect. IAC D is not lost so instrument air is not lost

C-Incorrect. No overload trip of breaker. Undervoltage is cause of trip

Question 003

Tier 2 / Group 1

K/A Importance Rating - RO 3.3 SRO 3.5

Knowledge of bus power supplies to the following: charging Pumps.

Reference(s) - KVAC SD, ESF-SD-006

Proposed References to be provided to applicants during examination - None

Learning Objective - CVCS005

Question Source - Bank

Question History - Robinson 2002 Audit Exam

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

7. 005 A2.04 001

Given the following conditions:

- The plant is in Mode 5. GP-007, Plant Cooldown from Hot Shutdown to Cold Shutdown, is in progress.
- RHR is supplying core cooling.

The air supply line to HCV-758, RHR HX OUTLET FLOW TO COLD LEGS, breaks, causing a complete loss of Instrument Air to the valve.

Which ONE (1) of the following describes the effect on the plant and the action required to mitigate the transient?

- A. All RHR flow will be lost. Enter AOP-020, LOSS OF RHR (SHUTDOWN COOLING).
- B. All RHR flow will be lost. Enter PATH-1.
- C. RHR flow will remain the same and temperature will remain constant due to RHR-764, HCV-758 BYPASS, being open under these conditions. Continue in GP-007.
- D. To maintain a plant cooldown, RHR-764, HCV-758 BYPASS, will have to be manually opened IAW AOP-020, LOSS OF RHR (SHUTDOWN COOLING).

A-Incorrect. FCV-605 would throttle open to maintain flow setpoint but cooling would be lost.

B-incorrect. The valve fails closed on loss of air, but FCV-605 would throttle open to maintain flow

C-incorrect. RCS temperature goes up and 605 will throttle to maintain a flow setpoint. RHR-764 is closed during core cooling mode

D-Correct. IAW AOP-020, the HCV-758 bypass valve would be manually opened to get flow through the HXs.

Question 004

Tier 2 / Group 1

K/A Importance Rating - RO 2.9 SRO 2.9

Ability to (a) predict the impacts of the following malfunctions or operations on the RHRS, and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: RHR valve malfunction.

Reference(s) - RHR SD 003, section 3.3.6, page 12 of 50, AOP-020

Proposed References to be provided to applicants during examination - NONE

Learning Objective - RHR009

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.7,10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

8. 005 AK3.02 001

Given the following plant conditions:

- Plant is at 100% RTP.
- It has been determined that two control rods in Bank "D" are misaligned.
- All rods have been verified above the Rod Insertion limits.

Which ONE (1) of the following actions are required IAW AOP-001, MALFUNCTION OF REACTOR CONTROL SYSTEM?

Check SDM within limits of the COLR and

- A. reduce reactor power to less than 70% within 1 hour, then re-align rods.
- B. re-align the control rods within 1 hour.
- C. continue plant operations since all rods are above Rod Insertion Limits.
- D. place the unit in MODE 3 within 6 hours, since more than one rod is mis-aligned.

A Incorrect. This is an action in AOP-001, but with more than 1 misaligned rod, shutdown is required

B Incorrect. This is an alternative if 1 rod is misaligned

C Incorrect. SDM is adequate, but must shutdown with 2 rods misaligned

D Correct.

Question 059

Tier 1 / Group 2

K/A Importance Rating - RO 3.6 SRO 4.2

Knowledge of the reasons for the following responses as they apply to the Inoperable / Stuck Control Rod:
Rod insertion limits.

Reference(s) - AOP-001, Section B, step 20

Proposed References to be provided to applicants during examination - None

Learning Objective - AOP-001, Obj 3

Question Source - New

Question History -

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.1

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

9. 005 K1.01 001

The plant is in Mode 4, RHR is in service.

- A perturbation results in increased CCW flow to the RHR Heat Exchangers.
- It is desired to maintain total RHR system flow at a constant value.

Which ONE (1) of the following describes how RHR Heat Exchanger outlet temperature will be maintained constant?

- A✓ Throttle closed HCV-758, RHR HX OUTLET FLOW TO COLD LEGS.
- B. Throttle open HCV-758, RHR HX OUTLET FLOW TO COLD LEGS.
- C. Throttle closed FCV-605, RHR HX BYPASS.
- D. Throttle open FCV-605, RHR HX BYPASS.

A-Correct. The increased CCW flow will tend to increase the RCS cooldown rate. To maintain RCS temperature, a smaller amount of total RHR flow should go through the heat exchanger.

B-Incorrect. Temperature would decrease if 758 was throttled open

C-Incorrect. FCV-605 will change total flow. If it was throttled open, it would reduce severity of a cooldown, but stem states total flow should remain the same.

D-Incorrect. Throttling 605 will change total system flow

Question 005

Tier 2 / Group 1

K/A Importance Rating - RO 3.2 SRO 3.4

Knowledge of the physical connections and/or cause-effect relationships between the RHRS and the following systems: CCWS.

Reference(s) - SD-003, OP-306

Proposed References to be provided to applicants during examination - None

Learning Objective - RHR005

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

10. 006 A1.06 001

Given the following conditions:

- A small break LOCA has occurred. The crew is in EPP-8, Post LOCA Cooldown and Depressurization.
- One RCP is operating.
- One Charging Pump is operating.
- RCS subcooling is 72 degrees F. The crew has determined that one SI Pump can be stopped.

Which ONE (1) of the following describes what will happen to the value of subcooling when the selected SI pump is stopped?

- A. Decreases. RCS break flow remains constant while ECCS flow is decreased.
- B. Decreases. RCS pressure decreases in response to reduced ECCS flow.
- C. Remains the same. Flow from the running SI pump increases, reaching a balance with break flow.
- D. Remains the same. RCS temperature and pressure increase in response to the reduced ECCS flow.

A-Incorrect. Break flow is dependent on the DP across the break. With less makeup volume, DP will go down

B-Correct.

C-Incorrect. Flow from the running HPSI will not make up for the HPSI that was turned off, that's why subcooling must be elevated prior to turning off a pump

D-Incorrect. System is subcooled, distractor describes characteristics of a saturated system

Question 006

Tier 2 / Group 1

K/A Importance Rating - RO 3.6

Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the ECCS controls including: Subcooling margin.

Reference(s) - EPP-8

Proposed References to be provided to applicants during examination - None

Learning Objective - LP-EPP-8-003

Question Source - Modified Vendor Bank

Question History - 2002 Salem NRC exam

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

11. 007 A4.10 001

Given the following conditions:

The plant is operating in Mode 1 at 100% RTP.
The following indications are reported by the RO.

- TI-471, PRT Temperature is trending up and is now at 148 degree F.
- PI-472, PRT Pressure is trending up and is now at 4 psig.
- Accoustic Monitors are extinguished.

Which ONE (1) of the following leaking components will cause this condition?

- A✓ PZR PORV is leaking.
- B. CVC-209, Low Pressure Letdown Relief valve, is leaking.
- C. RC-550, N2 Supply Isolation to PRT, is leaking.
- D. PZR Safety Valve is full open.

A-Correct.

B-Incorrect. CVC-209 discharges to the VCT

C-Incorrect. CVC-382 would not cause temperature to go to 148 degrees

D-Incorrect. Safety valve leakage would be annunciate by Accoustic Monitors

Question 007

Tier 2 / Group 1

K/A Importance Rating - RO 3.6 SRO 3.8

Ability to manually operate and/or monitor in the control room: Recognition of leaking PORV/code safety.

Reference(s) - SD-059

Proposed References to be provided to applicants during examination - None

Learning Objective - PZR LP Obj 008

Question Source - Modified Bank

Question History - Robinson 2002 Audit exam

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

12. 007 G2.1.20 001

Given the following conditions:

- The reactor has tripped. The crew is performing actions of EPP-4, Reactor Trip Response.
- The CRSS is at Step 12, Determine Feedwater Status, which has an asterisk next to the step number.

Which ONE (1) of the following describes the reason for the asterisk next to this step?

- A. The substeps contained in the step must be performed in the exact order written.
- B. The substeps contained in the step may be performed in any order.
- C. The actions contained in the step are continuously applicable.
- D. The actions contained in the step must be completed prior to moving on to the next step.

A-Incorrect. Reason for letters or numbers next to substeps.

B-Incorrect. Reason for bullets next to substeps.

C-Correct.

D-Incorrect. Would be shown by notes or caution

Question 039

Tier 1 / Group 1

K/A Importance Rating - RO 4.3 SRO 4.2

Conduct of Operations: Ability to execute procedure steps.

Reference(s) - EOP User's Guide, OMM-022

Proposed References to be provided to applicants during examination - None

Learning Objective - OMM-22, obj 9

Question Source - New

Question History -

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

13. 008 A2.03 001

With the Unit at 100% power all plant systems and parameters are normal except for the following:

- CCW Heat Exchanger outlet temperature is 106 degrees F and increasing slowly.
- Lake Robinson temperature is 94 degrees F.
- All FOUR (4) Service Water Pumps are running.
- The highest reading RCP Motor bearing temperature is 180 degrees F and increasing slowly.
- Service Water pressure is 46 psig and stable on both headers.

Which ONE (1) of the following best describes existing plant conditions and the appropriate Crew response?

- A. RCP operating limits have been exceeded. Monitor all RCP parameters IAW AOP-018, RCP Abnormal Conditions.
- B. RCP operating limits have been exceeded. Trip the Reactor and stop the RCPs IAW AOP-018, RCP Abnormal Conditions.
- C. CCW system cooling capacity is degraded. **Decrease** heat loads on CCW system IAW AOP-014, CCW System Malfunction.
- D. CCW system cooling capacity is degraded. **Increase** Service Water pressure by throttling Service Water flow to the CCW Heat Exchangers IAW AOP-014, CCW System Malfunction.

A Incorrect. No operating limits exceeded yet. AOP-014 entry required on high temperature.

B Incorrect. No operating limits exceeded yet.

C Correct.

D Incorrect. Would start another pump if system pressure was low.

Question 009

Tier 2 / Group 1

K/A Importance Rating - RO 3.0 SRO 3.2

Ability to (a) predict the impacts of the following malfunctions or operations on the Component Cooling water system; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: High/Low CCW Temperature.

Reference(s) - AOP-014, section D

Proposed References to be provided to applicants during examination - None

Learning Objective - AOP-014-004

Question Source - Modified Bank

Question History - Robinson Bank AOP-014-003-002

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

14. 008 AA2.23 001

Given the following conditions:

- Reactor Trip and Safety Injection have occurred due to a stuck open PZR Safety Valve.
- The crew is performing RCS Cooldown and Depressurization IAW EPP-8, Post LOCA Cooldown and Depressurization.
- One Charging Pump is running.
- All RCPs are tripped.

Which ONE (1) of the following describes the parameters monitored to determine if SI Pumps may be stopped IAW EPP-8?

- A. RCS subcooling and RVLIS indication.
- B. RCS pressure and Pressurizer level.
- C. RCS subcooling and Pressurizer level.
- D. RCS pressure and RVLIS indication.

A-Incorrect. RVLIS not used in EPP-8

B-Incorrect. RCS pressure not directly used, only used as a function of RCS subcooling

C-Correct.

D-Incorrect. Neither pressure or RVLIS used.

Question 040

Tier 1 / Group 1

K/A Importance Rating - RO 3.6 SRO 4.3

Ability to determine and interpret the following as they apply to the Pressurizer Vapor Space Accident;
Criteria for throttling high-pressure injection after a small LOCA.

Reference(s) - EPP-8 beginning at step 27

Proposed References to be provided to applicants during examination - None

Learning Objective - EPP-8, Obj 3

Question Source - Bank

Question History - 2002 Audit retake modified context and stem. Not in Bank

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

15. 008 K2.02 001

Given the following plant conditions:

- MODE 1 at 100% power.
- The "C" Component Cooling Water pump is running.
- A loss of off-site power occurs.
- The crew initiates a manual Reactor Trip. SI is not initiated or required.
- The "A" EDG functions as designed.
- The "B" EDG does not start due to a malfunction.

Which ONE (1) of the following describes the operation of the emergency bus CCW pumps two minutes after the reactor trip?

- A. "B" CCW pump - tripped
"C" CCW pump - tripped
- B. "B" CCW pump - running
"C" CCW pump - breaker closing and tripping back open every 41.5 seconds
- C. "B" CCW pump - running
"C" CCW pump - tripped
- D. "B" CCW pump - tripped
"C" CCW pump - breaker closing and tripping back open every 41.5 seconds

"C" is correct. Reference: SD-013 and Logic Diagram sheet 14 shows that the "B" CCW pump will autostart on the E-1 blackout sequence at 30 seconds. E-1 would lose power 1 minute after the Reactor Trip (generator lockout) with no offsite power available. The "C" CCW pump will attempt to start 30 seconds after the loss of offsite power. This will only occur once (modification) since power is not restored to the E-2 bus (blackout sequence resets).

"A" incorrect. "C" CCW pump will be tripped. "B" will be running

"B" incorrect. Until recent mod this answer would be correct. Blackout sequence not resets if power not available on bus after one sequence

"D" incorrect. "C" CCW pump actions prior to mod. "B" will be running on E-1 blackout sequence

Question 008

Tier 2 / Group 1

K/A Importance Rating - RO 3.0 SRO 3.2

Knowledge of bus power supplies to the following: CCW pump, including emergency backup.

Reference(s) - SD-013, CCW, page 18 & Safeguards Logic

Proposed References to be provided to applicants during examination - NONE

Learning Objective - LP CCW Objective 14

Question Source - Bank

Question History - Robinson Bank CCW-010-006

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

16. 009 EA1.17 001

Given the following conditions:

- A small break LOCA has occurred. All equipment functions as required.
- It is determined that the cause of the LOCA was a stuck open PZR Safety Valve.
- RCS pressure is currently 1300 psig and stable.
- Containment pressure is approximately 6 psig and stable.

Which ONE (1) of the following indications will exist based on plant status?

- A. PRT pressure will be approximately 100 psig.
- B. PRT temperature will be approximately 150 degrees F.
- C✓ PRT pressure will be approximately 6 psig.
- D. PRT temperature will be at saturation for RCS pressure.

A-Incorrect. Rupture disc setpoint, will have already ruptured because containment pressure is rising

B-Incorrect. 200 is too low for a system that will be at 6 psig

C-Correct. Should be approximately containment pressure for these conditions.

D-Incorrect. Temperature, based on isenthalpic throttling process at saturation for PRT pressure, not at saturation for RCS pressure.

Question 041

Tier 1 / Group 1

K/A Importance Rating - RO 3.4 SRO 3.4

Ability to operate and monitor the following as they apply to a small break LOCA: PRT

Reference(s) - PZR SD 059

Proposed References to be provided to applicants during examination - None

Learning Objective - PZR010

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

17. 010 A1.04 001

Given the following plant conditions:

- The RCS is on RHR and solid.
- RCS pressure is 350 psig.
- RCS temperature has INCREASED 2 degrees in the last minute, and then stabilized.
- HIC-142, PURIFICATION FLOW, controller setting is at 40% demand.
- PC-145, PRESSURE, is in AUTO.

Which ONE (1) of the following describes the operation of PCV-145 to maintain system pressure due to the temperature change?

- A. Letdown pressure increases, PCV-145 automatically throttles shut to restore letdown pressure to its original value, and RCS pressure decreases.
- B. Letdown pressure increases, PCV-145 automatically throttles open to restore letdown pressure to its original value, and RCS pressure decreases.
- C. Letdown pressure decreases, PCV-145 automatically throttles shut to restore letdown pressure to its original value, and RCS pressure increases.
- D. Letdown pressure decreases, PCV-145 automatically throttles open to restore letdown pressure to its original value, and RCS pressure increases.

A Incorrect. Letdown pressure will increase and PCV-145 does throttle to respond to the pressure change and returns pressure to its original value. Incorrect since PCV-145 opens.

B Correct.

C Incorrect. RCS pressure will change and PCV-145 does throttle to respond to the pressure change and returns pressure to its original value. Incorrect since pressure initially increases, PCV-145 opens, and RCS pressure decreases.

D Incorrect. PCV-145 does throttle to respond to the pressure change and returns letdown pressure to its original value. Incorrect since RCS pressure decreases.

Question 010

Tier 2 / Group 1

K/A Importance Rating - RO 3.6 SRO 3.8

Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the PZR PCS controls including: Effects of temperature change during solid operation.

Reference(s) - SD-003 and GP-007

Proposed References to be provided to applicants during examination - None

Learning Objective - CVCS004

Question Source - Modified Bank

Question History - Robinson Bank RHR-006-005

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.3/41.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

18. 011 EK3.03 001

Given the following conditions:

- The reactor has tripped from 100% RTP. The crew transitioned from PATH-1 and is currently performing EPP-4, Reactor Trip Response.
- AFW pumps started on Lo-Lo S/G levels due to shrink after the trip.
- "A" and "C" SW pumps were running prior to the trip.

- A LOCA occurs, resulting in an automatic SI signal. All equipment functions as designed.

Which ONE (1) of the following describes the operation of safeguards equipment to this event?

- A. DGs will start ONLY if there is a loss of power to E-1 or E-2. AFW pumps will trip, and be restarted by the sequencer after "B" and "D" Service Water pumps are started.
- B. DGs will start ONLY if there is a loss of power to E-1 or E-2. AFW pumps will continue to run. "B" and "D" Service Water pumps will be started by the sequencer.
- C. DGs will automatically start. AFW pumps will trip, and be restarted by the sequencer after "B" and "D" Service Water pumps are started because Containment Cooling is a priority for SI actuation.
- D. DGs will automatically start. AFW pumps will continue to run. "B" and "D" Service Water pumps will be started by the sequencer to provide Containment Cooling.

A-incorrect. DGs start, and AFW continues to run unless loss of power

B-incorrect. DGs start

C-incorrect. DGs do start on SI signal. AFW will run

D-Correct. DGs do start on SI, sequencer will start all SI loads not already running.

Question 042

Tier 1 / Group 1

K/A Importance Rating - RO 4.1 SRO 4.3

Knowledge of the reasons for the following responses as they apply to the Large Break LOCA: Starting auxiliary feed pumps and flow, ED/G, and service water pumps.

Reference(s) - SD-006, ESF

Proposed References to be provided to applicants during examination - None

Learning Objective - ESF005

Question Source - New

Question History -

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

19. 012 K3.02 001

Given the following conditions:

- The plant is at 100% power.
- A Reactor Trip signal occurs.
- The following indications are noted:
 - RTB "A" Open.
 - RTB "B" Closed.

Which ONE (1) of the following describes the effect on the Main Turbine?

- A. Trips automatically because Reactor Trip Breaker "A" undervoltage relay deenergized.
- B. Trips automatically because Reactor Trip Breaker "A" shunt trip relay deenergized.
- C. Does NOT automatically trip because Reactor Trip Breaker "B" undervoltage relay remained energized.
- D. Does NOT automatically trip because Reactor Trip Breaker "B" shunt trip relay remained deenergized.

A-Correct. Either of 2 RTBs and associated Bypass Breaker open will send the signal to turbine trip.

B-incorrect. Shunt Trip energizes to open RTB.

C-incorrect. Will trip either of two trains of RTB

D-incorrect. Will trip either of 2 trains.

Question 011

Tier 2 / Group 1

K/A Importance Rating - RO 3.2 SRO 3.3

Knowledge of the effect that a loss or malfunction of the RPS will have on the following: T/G.

Reference(s) - RPS Figure 4

Proposed References to be provided to applicants during examination - None

Learning Objective - RPS003

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

20. 013 K3.03 001

Given the following conditions:

- A Large Break LOCA has occurred.
- Train B ESFAS has failed to actuate.
- All other actuations and Train A ECCS equipment is running as required.

Assuming no action by the crew, which ONE (1) of the following describes the effect on the plant?

- A. Containment Isolation Phase A will actuate. Phase B will NOT actuate.
- B. Containment Isolation Phase A and B will actuate.
- C. Containment Isolation Phase A will NOT actuate. Phase B will actuate.
- D. Containment Isolation Phase A will NOT actuate. Phase B will NOT actuate.

A-Incorrect. Both Phases will actuate (Phase A) on the SI and Phase B with the Hi-Hi Containment Pressure in Containment on a LBLOCA.

B. Correct.

C. See A

D. See A

Question 012

Tier 2 / Group 1

K/A Importance Rating - RO 4.3 SRO 4.7

Knowledge of the effect that a loss or malfunction of the ESFAS will have on the following: Containment.

Reference(s) - ESF SD

Proposed References to be provided to applicants during examination - NONE

Learning Objective - ESF006

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

21. 014 A1.04 001

Given the following plant conditions:

- Plant is at 90% power with AFD at -1% on all four channels.
- The RO attempts to insert control rods 5 steps for temperature control.
- The following was observed by the RO and his peer checker.

1. Group step counters counted down 5 steps.
2. IRPI indication for the affected rods did not change.

Which ONE (1) of the below describes expected responses using diverse indications assuming the IRPI System is functioning properly?

- A. AFD would go more negative, Power Range NIs would decrease, No radial flux tilt change.
- B. AFD would not change, Power Range NIs would not change, No Radial flux tilt change.
- C. AFD would go less negative (towards 0%), Power Range NIs would not change, a small radial flux tilt will be noted.
- D. AFD would not change, Power Range NIs would decrease, a small radial flux tilt will be noted.

A-incorrect. Rods did not move. Group step counters get signal from Rod Control demanding motion. No changes would be noted on diverse indications

B-Correct. Rods did not move although there was a demand from Rod Control as noted by group step counter movement

C-incorrect. See A and B

D-incorrect. See A and B

Question 030

Tier 2 / Group 2

K/A Importance Rating - RO 3.5 SRO 3.8

Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the RPIS controls, including: Axial and radial power distribution.

Reference(s) - Rod Control SD

Proposed References to be provided to applicants during examination - None

Learning Objective - RDCNT007

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

22. 015 A4.03 001

Which ONE (1) of the following is correct concerning the Source Range High Flux Trip?

In accordance with GP-003, Normal Plant Startup From Hot Shutdown to Critical, the Source Range High Flux Trip is

- A. manually blocked when both Source Range channels are greater than P-10.
- B. automatically blocked when 1 of 2 Source Range channels are greater than P-10.
- C. manually blocked when both Intermediate Range channels are greater than P-6.
- D. automatically blocked when 1 of 2 Intermediate Range channels are greater than P-6.

A Incorrect. P-10 is a power range permissive. It will deenergize SR High Volts

B Incorrect. Wrong logic, wrong permissive.

C Correct. Both required IAW GP-003. One of two gives you P-6

D Incorrect. No autoblock of this trip. P-10 deenergizes SR Hi Volts

Question 031

Tier 2 / Group 2

K/A Importance Rating - RO 3.8 SRO 3.9

Ability to manually operate and/or monitor in the control room: Trip bypasses.

Reference(s) - NIS SD and GP-003 step 8.2.23

Proposed References to be provided to applicants during examination - None

Learning Objective - NIS007

Question Source - Bank

Question History - Robinson Bank NIS-009-005

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

23. 015 AA1.22 001

Given the following plant conditions:

- An RCS heatup is in progress.
- RCS pressure is 375 psig.
- RCP "B" was started four hours ago.
- The RO has drained the RCP "B" standpipe six times since the pump was started.
- "B" RCP #1 Seal leakoff flow is 0.26 gpm.
- "B" #2 seal leakoff flow 0.6 gpm.
- #1 seal D/P is 275 psid.

Which ONE (1) of the following describes the cause of the above indications?

- A. #1 seal is not fully seated.
- B✓ #2 seal is not fully seated.
- C. Seal Injection flow is too high.
- D. VCT pressure is high.

A Incorrect. Problems with the #1 seal would not affect the standpipe level, and seal leakoff flow would be at a higher value

B Correct.

C Incorrect. The seal leakoff flows and standpipe levels would be independent of the amount of seal injection or from RCS fluid if seal injection is not available

D Incorrect. High VCT pressure can be a reason for low seal leakoff flow, but would not be a cause for standpipe high level.

Question 043

Tier 1 / Group 1

K/A Importance Rating - RO 4.0 SRO 4.2

Ability to operate and / or monitor the following as they apply to the Reactor Coolant Pump Malfunctions (Loss of RC Flow): RCP seal failure/malfunction.

Reference(s) - AOP-018, BD

Proposed References to be provided to applicants during examination - None

Learning Objective - RCS010

Question Source - Bank

Question History - AOP-018-02-004

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

24. 016 A3.01 001

Given the following conditions:

The plant is operating at 100% RTP with $T_{avg}=T_{ref}$.

T_{avg} inputs to Rod Control are as follows:

- Loop A - 575.8 degrees F
- Loop B - 575.7 degrees F
- Loop C - 575.6 degrees F

Subsequently, Loop B T_{avg} slowly fails high.

Assuming no action by the crew, which ONE (1) of the following describes the impact on the Rod Control system?

- A✓ Rods will not move because an insufficient demand signal is present.
- B. Rods will not move because an Urgent Failure alarm will be generated.
- C. Rods will insert because the controlling temperature input has failed high.
- D. Rods will insert because a sufficient demand signal is present.

A-Correct. Loop A input would be now be controlling as the median input, but there is not a high enough difference between T_{avg} and T_{ref} to cause rod motion when the controlling input failed

B-Incorrect. An urgent failure will stop all rod motion, but Urgent Failure will not be generated

C-Incorrect. True if the signal used was auctioneered high. Signal used is median T_{avg}

D-Incorrect. Median T_{avg} only increases by 0.2 degrees in this case. Insufficient to demand motion.

Question 032

Tier 2 / Group 2

K/A Importance Rating - RO 2.9 SRO 2.9

Ability to monitor automatic operation of the NNIS, including: Automatic selection of NNIS inputs to control systems.

Reference(s) - SD-007

Proposed References to be provided to applicants during examination - None

Learning Objective - RDCNT006

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

25. 022 A1.04 001

Given the following conditions:

A Large Break LOCA has occurred.

- Train "A" Engineered Safeguards did NOT automatically actuate.
- Train "B" Engineered Safeguards components automatically actuated with the EXCEPTION of "B" CV Spray Pump.
- Containment Spray Pump "A" is OOS for maintenance.
- Containment Spray Pump "B" failed to start automatically and CANNOT be started.

Which ONE (1) of the following describes the **minimum** action required to ensure containment pressure remains below its design limit?

- A. Start either Containment Air Recirc fan HVH-3 OR HVH-4 and ensure its associated cooling water outlet low flow alarm clear.
- B. Start both Containment Air Recirc fans HVH-3 AND HVH-4 and ensure their associated cooling water outlet low flow alarm clear.
- C. Start either Containment Air Recirc fan HVH-1 OR HVH-2 and ensure it's associated cooling water outlet low flow alarm clear.
- D✓ Start both Containment air Recirc fans HVH-1 AND HVH-2 and ensure their associated cooling water outlet low flow alarm clear.

A Incorrect. 4 CAR fans are required to maintain design basis. SW must be available

B Incorrect. 4 CAR fans are required to maintain design basis. SW must be available

C Incorrect. 4 CAR fans are required to maintain design basis. SW must be available

D Correct. In no Containment Spray Pumps are in service, then all 4 CAR fans are required to maintain design basis. For different combinations of available spray equipment, different numbers of fans are required. SW must be available for cooling the HVH units.

The distractors test different combinations of fan requirements.

Question 013

Tier 2 / Group 1

K/A Importance Rating - RO 3.2 SRO 3.3

Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the CCS controls including: Cooling water flow.

Reference(s) - SD024, Containment Spray

Proposed References to be provided to applicants during examination - None

Learning Objective - CV HVAC LP Objective 5

Question Source - Bank

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

26. 024 AA2.04 001

Given the following conditions:

- An ATWS has occurred.
- The crew is performing actions of FRP-S.1, Response to Nuclear Power Generation/ATWS.
- The RO has initiated Emergency Boration using MOV-350.
- All equipment associated with the Emergency Boration has operated as designed.
- SI is NOT actuated.

Which one of the following describes plant response to initiation of the boration?

- A. Boric Acid Storage Tank level will be decreasing at a rate approximately equal to the flowrate indicated on FI-110, Boric Acid Bypass Flow.
- B. Boric Acid Storage Tank level will be decreasing at a rate approximately equal to the flowrate indicated on FI-122A, Charging Flow.
- C. Refueling Water Storage Tank level will be decreasing at a rate approximately equal to Charging flowrate.
- D. Pressurizer level will be increasing at a rate approximately equal to Charging flowrate.

- A. Correct. BAST will be supplying borated water if everything works properly
- B. Incorrect. FI-110 indicates flow through MOV-350.
- C. Incorrect. RWST not supplying any water unless equipment does not work properly or SI is initiated
- D. Incorrect. In a transient like an ATWS, pressurizer level will also be in a transient state, due to RCS mass changing from temperature changing

Question 060

Tier 1 / Group 2

K/A Importance Rating - RO 3.4 SRO 4.2

Ability to determine and interpret the following as they apply to the Emergency Boration: Availability of BWST.

Reference(s) - FRP-S.1

Proposed References to be provided to applicants during examination - None

Learning Objective - FRP-S.1 Obj 3

Question Source - Bank

Question History - Vendor Bank BVPS-1 2002 NRC

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.8

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

27. 025 AA1.20 001

Given the following conditions:

- A Loss of RHR occurs with the plant in Mode 5, with the RCS in Reduced Inventory.
- The crew is performing actions of AOP-020, Loss of Residual Heat Removal (Shutdown Cooling) Section A, Loss of RHR While At Reduced Inventory.
- The RO starts "C" SI Pump to provide RCS Makeup via the hot leg injection flow path.

Which ONE (1) of the following describes the indications available to verify SI flow?

SI Pump "C" breaker indication is

- A. red light on, green light off. Flow indication of approximately 500 GPM to each hot leg.
- B. red light on, green light off. Flow indication of approximately 500 GPM Hot Leg Header Flow.
- C. red and green lights on. Flow indication of approximately 500 GPM to each Hot Leg
- D. red and green lights on. Flow indication of approximately 500 GPM Hot Leg Header Flow

A-Incorrect. Total of 1000 GPM almost double the capacity of 1 HPSI

B-Correct.

C-Incorrect. Only 1 light on, red. HLI flow is available, although they would monitor RCS level as an indication

D-Incorrect. Only 1 light on, red. HLI flow is available, but both indications would be monitored.

Question 044

Tier 1 / Group 1

K/A Importance Rating - RO 2.6 SRO 2.5

Ability to operate and / or monitor the following as they apply to the Loss of Residual Heat Removal System: HPI pump control switch, indicators, ammeter running lights, and flow meter.

Reference(s) - SI SD 002

Proposed References to be provided to applicants during examination - None

Learning Objective - SI005

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

28. 026 A1.01 001

Given the following conditions:

- A LOCA has occurred.
- 'B' CV Spray Pump is OOS for repair.
- Containment pressure is 13 psig.
- The crew is performing actions of PATH-1.
- Containment Spray did not automatically actuate and the Containment Spray pushbuttons will not function.

Which ONE (1) of the following describes the MINIMUM action required to begin reducing CV Pressure?

Manually start the "A" CV Spray pump and OPEN.....

- A. SI-845A **AND** SI-845B (spray additive tank isolation valves).
- B** SI-880A **AND** SI-880B (spray pump discharge valves).
- C. SI-845A **OR** SI-845B (spray additive tank isolation valves).
- D. SI-845C (spray additive tank throttle valve).

A-Incorrect. These valves do need to be opened for NaOH addition but no flow path to containment

B-Correct. If actuation does not work, the only valves that must be repositioned are the discharge valves. (Would also reposition chemical feed, but not required for pressure reduction)

C-Incorrect. Suction valves are open already

D-Incorrect. Simply the throttle valve for spray additive tank, used to establish 12 gpm once pumps are running and discharge valves are open

Question 014

Tier 2 / Group 1

K/A Importance Rating - RO 3.9 SRO 4.2

Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the CSS controls including: Containment Pressure.

Reference(s) - PATH-1

Proposed References to be provided to applicants during examination - NONE

Learning Objective - CSS009

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

29. 026 AA2.02 001

Given the following plant conditions:

- Mode 1 at 100% RTP.
- CCW surge tank level is 50% and decreasing.

Which ONE (1) of the following describes a potential location of this leak?

- A. Non-Regenerative Heat Exchanger tube.
- B. Regenerative Heat Exchanger tube.
- C~~Y~~ Spent Fuel Pool Heat Exchanger tube.
- D. RCP Thermal Barrier cooler.

A Incorrect. NRHX has a higher pressure on primary side, so leakage would be into CCW Surge Tank

B Incorrect. Regen HX cooled by charging flow

C Correct. Only listed component with pressure low enough to cause outflow from CCW system.

D Incorrect. RCP TBHX would cause a high level and high radiation in CCW system

Question 045

Tier 1 / Group 1

K/A Importance Rating - RO 2.9 SRO 3.6

Ability to determine and interpret the following as they apply to the Loss of Component Cooling Water:
The cause of possible CCW loss.

Reference(s) - AOP-014BD page 4

Proposed References to be provided to applicants during examination - None

Learning Objective - CCW011

Question Source - Bank

Question History - Robinson Bank AOP-014-03

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.14

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

30. 027 AA2.10 001

Given the following plant conditions:

- The plant is at 100% RTP. All control systems are in automatic.
- Pressurizer Control Group Heaters are controlling pressurizer pressure with backup heaters off and in AUTO.
- The controlling pressure input to PC-444J, Pressurizer Pressure Master Controller fails to 2225 psig.

Which ONE (1) of the following describes the initial response of the pressurizer heaters?

Control Group heaters.....

- A. and backup heaters are energized.
- B. and backup heaters are deenergized.
- C. are energized. Backup heaters are deenergized.
- D. are deenergized. Backup heaters are energized.

A-Incorrect. Pressure input of 2225 will give the controller a -10 psi signal. Variable heaters are on from 2220 psig, so they will be at least partially energized. The backup heaters should be off prior to reaching 2220 psig.

B-Incorrect. Same reason as above

C-Correct.

D-incorrect. The only scenario where the backup heaters would be energized but the variables are not is on a pressurizer level deviation.

Question 046

Tier 1 / Group 1

K/A Importance Rating - RO 3.3 SRO 3.6

Ability to determine and interpret the following as they apply to the Pressurizer Pressure Control

Malfunctions: Pressurizer heater energized/deenergized condition

Reference(s) - PZR SD 059

Proposed References to be provided to applicants during examination - None

Learning Objective - PZR005

Question Source - Bank

Question History - Vendor Bank

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

31. 028 G2.1.23 001

Given the following conditions:

- The plant is operating at 100% RTP.
- The controlling pressurizer level transmitter, LT-459, fails low.
- The crew is performing actions of AOP-025, RTGB Instrument Failure.

Which ONE (1) of the following actions will be required prior to returning the pressurizer level controller, LC-459G, to AUTO?

- A. Increase Charging flow to match actual pressurizer level with program level.
- B. Verify LR-459 is selected to controlling channel LT-460.
- C. Restore Letdown IAW OP-301-1, CVCS (Infrequent Operation).
- D. De-energize pressurizer backup heaters by placing in OFF, then back to AUTO.

A-incorrect. Charging flow will have to be decreased, because actual is higher then program due to letdown isolating.

B-incorrect. LR-459 will be selected to LT-461, which would replace LT-459. LT-460 is backup channel

C-Correct. Controlling channel fails low, letdown will isolate.

D-incorrect. Heaters will de-energize on low failure. Must be reset and turned back on as necessary

Question 061

Tier 1 / Group 2

K/A Importance Rating - RO 3.9 SRO 4.0

Conduct of Operations: Ability to perform specific system and integrated plant procedures during all modes of plant operation.

Reference(s) - AOP-025, section B

Proposed References to be provided to applicants during examination - None

Learning Objective - PZR010

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

32. 029 EA1.09 001

Given the following plant conditions:

- Reactor power is at 100%.
- All systems are in automatic.
- An Anticipated Transient Without Scram (ATWS) has occurred.
- Both manual and automatic reactor trips have failed.
- Tavg indicates 596 degrees F.
- PZR PORVs are intermittently opening
- Bank D rods are inserting automatically at approximately 16 steps per minute

Which ONE (1) of the following actions by the crew will insert negative reactivity at the **highest** rate?

- A. Place rod control in Manual and insert Control Rods while allowing the RCS to heat up.
- B✓ Place rod control in Manual and insert Control Rods while initiating RCS boration.
- C. Allow the control rods to insert AUTOMATICALLY while initiating RCS boration.
- D. Allow the control rods to insert AUTOMATICALLY while allowing the RCS to heat up.

A Incorrect. RCS Heatup will be less effective than boration

B Correct. FRP-S.1 basis. Manual speed is 45 SPM

C Incorrect. Auto is malfunctioning. Rods should be going in faster than 16 SPM

D Incorrect. Auto is malfunctioning, and allowing RCS to heat up to insert negative reactivity is a last resort. Auto rod speed with this temperature deviation should be 72 SPM

Question 047

Tier 1 / Group 1

K/A Importance Rating - RO 4.0 SRO 3.6

Ability to operate and monitor the following as they apply to a ATWS: Manual rod control.

Reference(s) - FRP-S.1 step 1 background

Proposed References to be provided to applicants during examination - None

Learning Objective - FRP-S.1-003

Question Source - Modified Bank

Question History - FRP-S.1-05-003

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

33. 029 K4.03 001

Given the following conditions:

- A plant cooldown is in progress in accordance with GP-007, Plant Cooldown from Hot Shutdown to Cold Shutdown.
- Containment Iodine Air Removal Exhaust Unit HVE-3 is running.
- CV Purge is in progress.
- R-11, Containment Particulate Radiation Monitor, goes into ALARM.
- R-12, Containment Noble Gas Radiation Monitor, is increasing slowly.

Based on the above conditions, which ONE(1) of the following describes the response of the Containment Ventilation System?

- A. CV Purge Fan, HVE-1A, will trip. CV Purge Supply and Exhaust valves V12-6, 7, 8, and 9 will close.
- B. CV Purge Fan, HVE-1A, will run until R-12 is in alarm.
- C. Containment Air Iodine Removal Exhaust Unit, HVE-3, will trip. CV Purge Supply and Exhaust valves V12-6, 7, 8, and 9 will close.
- D. Containment Air Iodine Removal Exhaust Unit, HVE-3, will run until R-12 is in alarm.

A-Correct. Either Phase A, Phase B, R-11, or R-12 will terminate CV Purge

B-Incorrect. Both monitors not required to be in alarm

C-incorrect. Iodine Removal Unit must be manually stopped.

D-incorrect. Iodine Removal Unit must be manually stopped.

Question 033

Tier 2 / Group 2

K/A Importance Rating - RO 3.2 SRO 3.5

Knowledge of design feature(s) and/or interlock(s) which provide for the following: Automatic purge isolation.

Reference(s) - HVAC SD-037

Proposed References to be provided to applicants during examination - NONE

Learning Objective - CV HVAC LP 008

Question Source - Modified Bank

Question History - Vendor Bank, 2001 Audit exam

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.7,9

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

34. 034 A2.01 001

Given the following plant conditions:

- Fuel handing offload evolutions are in progress inside containment.
- You are the Control Operator stationed in the Control Room.
- The Superintendent - Shift Operations (SSO) is on a tour.
- The Refueling SRO reports that an irradiated fuel assembly was accidentally dropped from the manipulator mast and has landed on top of the core area and that bubbles are rising from the dropped bundle due to damage.

Which ONE (1) of the following describes the expected radiation monitor response and how will the Containment evacuation be performed?

(Assume R-11/R-12 Selector switch is in the CV position)

R-11, CV Particulate, and/or R-12, CV Noble Gas radiation monitor(s).....

- A. will increase. Depress and hold the CV EVACUATION HORN button for 15 seconds.
- B. will only increase if R2, CV Low Range Monitor, is in alarm. Depress and hold the CV EVACUATION HORN button for 15 seconds.
- C. will increase. Place and Hold the EVACUATION ALARM switch in the LOCAL position for 15 sec.
- D. will only increase if R2, CV Low Range Monitor, is in alarm. Place and Hold the EVACUATION ALARM switch in the LOCAL position for 15 sec.

- A. Correct.
- B. Incorrect. Should increase anyway. CV Evacuation horn correct
- C. Incorrect. Should increase is correct. Local evacuation not appropriate
- D. Incorrect. Should increase anyway. Local evacuation not appropriate

QUESTIONS REPORT
for 04 NRC REV FINAL-1

Question 034
Tier 2 / Group 2
K/A Importance Rating - RO 3.6 SRO 4.4

Ability to (a) predict the impacts of the following malfunctions or operations on the Fuel Handling System; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Dropped fuel element.

Reference(s) - AOP-013 Step 4
Proposed References to be provided to applicants during examination - None
Learning Objective - AOP-013 Obj 3
Question Source - New
Question History -
Question Cognitive Level - Memory
10 CFR Part 55 Content - 41.10
Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

35. 035 K1.01 001

Given the following plant conditions:

- The plant is operating at 35% RTP.
- "B" Main Feedwater Pump tripped earlier in the shift and cannot be restarted.
- A clearance is being prepared for "B" Main Feedwater Pump.

- APP-007-A3, FW PUMP A MOTOR OVLD/TRIP is received.
- The BOP determines that "A" Main Feedwater Pump has tripped.
- All equipment responds as designed.

- SG levels indicate as follows:
 - SG "A" and "B" are 32% and decreasing.
 - SG "C" is 30% and decreasing.

Assuming no action by the crew, which ONE (1) of the following describes the operation of the AFW pumps at this time?

- A. ALL AFW pumps have started and are feeding SGs.
- B. NONE of the AFW pumps have started yet.
- C. ONLY MDAFW Pumps have started and are feeding SGs.
- D. ONLY the SDAFW Pump has started and is feeding the SGs.

A-Incorrect. SG level is not low enough for SDAFW pump start. 4KV breakers open autostarts, not MFWP breakers

B-Incorrect. MDAFW pumps will start when BOTH MFW Pump breakers are open

C-Correct.

D-Incorrect. SDAFW pump will not start until low level in this condition

Question 035

Tier 2 / Group 2

K/A Importance Rating - RO 4.2 SRO 3.5

Knowledge of the physical connections and/or cause-effect relationships between the S/Gs and the following systems: MFW/AFW systems.

Reference(s) - APP-007-A3, SD-042

Proposed References to be provided to applicants during examination - None

Learning Objective - AFW008

Question Source - Modified Bank

Question History - Shearon Harris 2004 NRC Question 41

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.4

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

36. 038 EA1.19 001

A large Steam Generator Tube Rupture has occurred.

Prior to the reactor trip, which ONE (1) of the following secondary system indications will identify the affected Steam Generator?

- A. Steam Generator level trending up with reduced steam flow.
- B. Feedwater Regulating Valve throttling closed with reduced Feedwater flow.
- C. Steam Generator level trending up with feedwater flow greater than steam flow.
- D. Feedwater Regulating Valve throttling closed with steam flow and feed flow trending up.

A-Incorrect. Steam flow will stay relatively constant

B-Correct. Less mass required due to primary to secondary leakage

C-incorrect. This is what could happen to a SG with no tube leakage

D-incorrect. Steam and feed flow will not trend up. Steam flow should be approximately constant while feed flow trends down

Question 048

Tier 1 / Group 1

K/A Importance Rating - RO 3.4 SRO 3.4

Ability to operate and monitor the following as they apply to a SGTR: MFW System status indicator.

Reference(s) - SOER 93-1

Proposed References to be provided to applicants during examination - None

Learning Objective -

Question Source - New

Question History -

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.4

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

37. 039 A1.06 001

Given the following conditions:

- A SGTR has occurred on SG 'A'.
- Off-Site power was lost. EDGs are operating as required.
- RCS Temperature is 532 degrees F.
- Target temperature for RCS Cooldown is 480 degrees F.

Which ONE (1) of the following describes the method required to reduce RCS temperature to the target value IAW PATH-2?

- A. Reduce "B" and "C" S/G pressures at the maximum rate using the condenser steam dump valves.
- B. Reduce "A" S/G pressure at the maximum rate using the condenser steam dump valves.
- C. Reduce "B" and "C" S/G pressures at the maximum rate using "B" and "C" Steam Line PORVs.
- D. Reduce "A" S/G pressure at the maximum rate using the "A" Steam Line PORV.

A-Incorrect because steam dumps will not be available with loss of off-site power (Circ Pumps lost)

B-Incorrect because steam dumps will not be available with loss of off-site power (Circ Pumps lost).
Would not steam the "A" S/G

C. Correct. Condenser dumps not available. Steam intact generators at maximum rate

D. Incorrect. Would not steam the "A" S/G

Question 015

Tier 2 / Group 1

K/A Importance Rating - RO 3.0 SRO 3.1

Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the MRSS controls including: Main steam pressure.

Reference(s) - PATH-2

Proposed References to be provided to applicants during examination - None

Learning Objective - Path 2-005

Question Source - New

Question History -

Question Cognitive Level - Comprehension/Application

10 CFR Part 55 Content - 41.4,10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

38. 039 K1.09 001

Which ONE (1) of the following describes the location and use of Main Steam Line Radiation Monitors R-31 A, B, and C?

- A. Mounted upstream of MSIVs. Reliable under non-accident conditions ONLY.
- B. Mounted downstream of MSIVs. Reliable under non-accident conditions ONLY.
- C. Mounted upstream of MSIVs. Designated as ACCIDENT monitors.
- D. Mounted downstream of the MSIVs. Designated as ACCIDENT monitors.

A-Incorrect. Designated as accident monitors

B-Incorrect. Mounted upstream of MSIVs, between the containment and the SG PORVs

C-Correct

D-Incorrect. Mounted upstream

Question 016

Tier 2 / Group 1

K/A Importance Rating - RO 2.7 SRO 2.7

Knowledge of the physical connections and/or cause-effect relationships between the MRSS and the following systems: RMS.

Reference(s) - RMS SD-019

Proposed References to be provided to applicants during examination - None

Learning Objective - RMS004

Question Source - New

Question History -

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.7,11

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

39. 040 AA1.13 001

Given the following conditions:

- The plant was operating at 100% RTP when a steam line break occurred.
- The following first out alarm was received in the control room with others also present:
 - APP-004-E1, HI STM FLO LO TAVG/LO SLP SFGRD/TRIP

While performing PATH-1, the crew checks that actuations have occurred as required.

Assuming all equipment operates as designed, which ONE (1) of the following describes the status of a Main Steam Line Isolation signal and the expected MSIV indications?

A Main Steam Line Isolation signal is

- A. generated. ALL MSIV positions indicate RED.
- B. generated. All MSIV positions indicate GREEN.
- C. not generated. ALL MSIV positions indicate RED.
- D. not generated. All MSIVs indicate GREEN.

A-incorrect. All MSIVs go closed on Steam Line Isolation

B-Correct. All MSIVs close due to steam line isolation signal

C-incorrect. Steam Line Isolation is generated

D-incorrect. Steam Line Isolation is generated

Question 49

Tier 1 / Group 1

K/A Importance Rating - RO 4.2 SRO 4.2

Ability to operate and / or monitor the following as they apply to the Steam Line Rupture: Steam line isolation valve indications.

Reference(s) - Main Steam SD, APP-004-E1

Proposed References to be provided to applicants during examination - None

Learning Objective - MSS006

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.4,7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

40. 041 K6.03 001

Given the following conditions:

- The plant is at 100% RTP.
- Rod Control is in MANUAL.
- All other controls are in AUTO.
- A Turbine control valve failure results in a load rejection.
- Tav_g - Tref deviation indicates 10 degrees F.
- APP-006-F5, STEAM DUMP ARMED, is illuminated.

Which ONE (1) of the following describes Steam Dump response?

- A ✓ Three Steam Dumps will modulate open. Tav_g will decrease until it is 5 degrees above Tref.
- B. Three Steam Dumps will modulate open. Tav_g will decrease until it equals Tref.
- C. Three Steam Dumps will trip open. Two additional Steam Dumps will modulate open. Tav_g will decrease until it is 5 degrees above Tref.
- D. Three Steam Dumps will trip open. Two additional Steam Dumps will modulate open. Tav_g will decrease until it equals Tref.

A Correct. 5-11.6 degrees F, 3 dumps modulate.

B Incorrect. 3 valves will not trip open until 12.1 degree mismatch.

C Incorrect. 2 additional valves begin modulation when first 3 trip open.

D Incorrect. Not enough temperature mismatch.

Question 036

Tier 2 / Group 2

K/A Importance Rating - RO 2.7 SRO 2.9

Knowledge of the effect of a loss or malfunction on the following will have on the SDS: Controller and positioners, including ICS, S/G, CRDS.

Reference(s) - Steam Dump SD P.8

Proposed References to be provided to applicants during examination - NONE

Learning Objective - SD LP Obj 5

Question Source - Bank

Question History - 2001 Audit Retake #78

Question Cognitive Level - Analysis

10 CFR Part 55 Content - 41.4,7

Comments - Setpoints have changed since the 2001 Audit Retake

QUESTIONS REPORT
for 04 NRC REV FINAL-1

41. 045 A3.05 001

Given the following conditions:

- Plant is operating at 100% RTP.
- The turbine is in OPERATOR AUTO and IMP IN.
- The turbine is approaching an overspeed condition due to a grid disturbance.

Which ONE (1) of the following describes the functions that would occur to prevent overspeeding the main turbine?

The governor and

- A. stop valves will close to reduce turbine speed, then reopen when speed returns to normal.
- B. intercept valves will close to reduce turbine speed, then reopen when speed returns to normal.
- C. stop valves will close to reduce turbine speed and remain closed until EH is placed in MANUAL.
- D. intercept valves will close to reduce turbine speed and remain closed until EH is placed in MANUAL.

A Incorrect. Stop valves don't move on overspeed protection required

B Correct.

C Incorrect. Stop valves don't move on overspeed protection required

D Incorrect. Correct valves but valves will reopen automatically

Question 037

Tier 2 / Group 2

K/A Importance Rating - RO 2.6 SRO 2.9

Ability to monitor automatic operation of the MT/G system, including: Electrohydraulic control.

Reference(s) - EHC SD-032

Proposed References to be provided to applicants during examination - None

Learning Objective - EHC006

Question Source - Bank(slightly modified)

Question History - Modified from EHC-08-005

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

42. 054 AA2.08 001

The plant is at 100% RTP.

The following alarms are received in the Control Room:

- A, B, C SG Level Deviation.
- A, B, C SG Level Low.

The BOP determines the following for all 3 SGs:

- SG level is DECREASING.
- Steam Flow is STABLE.
- Feed Flow is DECREASING.
- Feed Reg Valve positions are all going OPEN.

Assuming no action has been taken by the crew, which ONE (1) of the following events is the likely cause of these indications?

- A. Secondary Load Rejection.
- B. Main Feedwater Pump trip.
- C. Feed Flow transmitter failed low.
- D. Steam Pressure transmitter failed high.

A-Incorrect. On a load rejection, valves would close and pressure would rise

B-Correct.

C-Incorrect. If a Feed pressure transmitter failed low, it would not affect SGWLC system

D-Incorrect. If Stm Hdr Pressure failed high, the feedwater pressure would be attempting to match it

Question 050

Tier 1 / Group 1

K/A Importance Rating - RO 2.9 SRO 3.3

Ability to determine and interpret the following as they apply to the Loss of Main Feedwater (MFW):
Steam flow-feed trend recorder.

Reference(s) - AOP-010, APP-006-D1

Proposed References to be provided to applicants during examination - None

Learning Objective - AOP-010 LP #5

Question Source - Bank

Question History - Vendor Bank, 2002 BVPS-1 NRC Exam

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.4,7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

43. 056 AA2.56 001

The reactor has tripped due to a loss of off-site power. Natural circulation flow has been established.

The present plant conditions are:

- PZR level 50%.
- All SG pressures are ~1000 psig.
- RCS subcooling is 87 degrees F.

Given Steam Tables, what should RCS loop wide range cold leg temperatures be indicating?

- A. 532 - 536 degrees F.
- B. 538 - 542 degrees F.
- C✓ 544 - 548 degrees F.
- D. 550 - 554 degrees F.

Tc should follow Tsat for the Psat on SGs during natural circulation. Tsat for 1000 psig = 546.38F

A-Incorrect. Approximately 10 degrees low, but reasonable if expected Tavg is considered.

B-Incorrect. Reasonable if expected Tavg is considered and steam dumps are available

C-Correct.

D-Incorrect. Reasonable if Safety Valves were providing heat removal

Question 051

Tier 1 / Group 1

K/A Importance Rating - RO 3.6 SRO 3.7

Ability to determine and interpret the following as they apply to the Loss of Off-Site Power: RCS T-ave.

Reference(s) - Steam Tables, Supplement E

Proposed References to be provided to applicants during examination - Steam tables

Learning Objective -

Question Source - Bank

Question History - 2001 Audit Retake

Question Cognitive Level - Comprehension/Application

10 CFR Part 55 Content - 41.4,5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

44. 056 K1.03 001

Given the following conditions:

- Power is being reduced to less than 50% because of high vibrations on Condensate Pump "A".
- The plant is currently at 82% RTP.
- Two Main Feedwater Pumps, two Condensate Pumps and Two Heater Drain Pumps are in service.
- Condensate Pump "A" trips.

Which ONE (1) of the following describes the expected plant response?

- A. Both Main Feedwater Pumps will trip resulting in a Reactor trip due to low Steam Generator level.
- B. ONLY the "A" Main Feedwater Pump will trip but sufficient Feedwater flow exists to maintain Steam Generator level.
- C. ONLY the "A" Main Feedwater Pump will trip which will result in insufficient Feedwater flow to maintain Steam Generator level.
- D. Feedwater Regulating Valves will open to match feedwater flow with existing steam flow. Current power level can be maintained.

A Incorrect. The only FWP trip will be the associated FWP with the tripped Condensate Pump

B Incorrect. At 82% power, one FWP will be insufficient to provide the feed requirement

C Correct.

D Incorrect. Same reason as B, the remaining FWP will not provide sufficient flow, although the FRVs will open in an attempt to maintain SG levels

Question 017

Tier 2 / Group 1

K/A Importance Rating - RO 2.6 SRO 2.6

Knowledge of the physical connections and/or cause-effect relationships between the Condensate System and the following systems: MFW.

Reference(s) - SOER 84004, FW SD 027 page 23 and AOP-010 requires RX Trip at above 80% on loss of a feed pump

Proposed References to be provided to applicants during examination - None

Learning Objective - FW009

Question Source - Bank

Question History - AOP-010-03-002

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.7

Comments - AOP-010 will direct power reduction to less than 50%.

QUESTIONS REPORT
for 04 NRC REV FINAL-1

45. 057 AA2.17 001

Given the following plant conditions:

The plant is at 100% RTP and has experienced a loss of Instrument Bus 6.

Which ONE (1) of the following describes the effect of this failure on the Feedwater Reg. Valves?

- A. ONLY "A" S/G Feedwater Reg Valve controller reverts to MANUAL.
- B. ONLY "B" S/G Feedwater Reg Valve controller reverts to MANUAL.
- C. ONLY "C" S/G Feedwater Reg Valve controller reverts to MANUAL.
- D. All three S/G Feedwater Reg Valve controllers revert to MANUAL.

A Correct. IB-6 feeds controller power to "A" S/G FW REG Valve controller

B Incorrect.

C Incorrect.

D Incorrect.

Question 052

Tier 1 / Group 1

K/A Importance Rating - RO 3.1 SRO 3.4

Ability to determine and interpret the following as they apply to the Loss of Vital AC Instrument Bus:
System and component status, using local or remote controls.

Reference(s) - AOP-024BD page 9

Proposed References to be provided to applicants during examination - None

Learning Objective - AOP-024, obj 3

Question Source - New

Question History -

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

46. 058 AK3.02 001

A Loss of DC Bus "A" has occurred.

The Crew is performing actions contained in EPP-26, Loss of DC Bus A.

480 Volt Bus 2B is being energized from 480 Volt Bus 3.

Which ONE (1) of the following describes the reason that the control switch for the tie breaker is held in the CLOSE position for 5 seconds?

Ensures that the

- A. undervoltage relays on Bus 2B are energized.
- B. undervoltage relays on Bus 3 are energized.
- C. Amptector overcurrent devices on Bus 2B are energized.
- D. Amptector overcurrent devices on Bus 3 are energized.

A Correct. The undervoltage relays need time to pick up.

B Incorrect. Bus 3 is energized to supply Bus 2B

C Incorrect. The amptectors provide overcurrent protection for busses without DC control power. They are not affected by the operation of the tie breaker control switch from Bus 3.

D Incorrect. The amptectors provide overcurrent protection for busses without DC control power. they are not affected by the operation of the tie breaker control switch from Bus 3.

Question 053

Tier 1 / Group 1

K/A Importance Rating - RO 4.0 SRO 4.2

Knowledge of the reasons for the following responses as they apply to the Loss of DC Power: Actions contained in EOP for loss of DC power.

Reference(s) - EPP-26, Loss of DC bus "A" step 10 (Page 6 of 45)

Proposed References to be provided to applicants during examination - None

Learning Objective - LP EPP 26 Objective 3

Question Source - Bank (slightly modified)

Question History - Robinson 2001 NRC Retake Exam #44

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

47. 059 K3.04 001

Given the following conditions:

- The plant is operating at 100% RTP.
- A Large Feedwater Line Break just downstream of the Main Feed Pumps and upstream of the FW-8 stop check valves results in a total loss of Main Feedwater.

Which ONE (1) of the following describes the effect of this event on the RCS?

- A. RCS temperature will **increase** prior to the reactor trip. Post trip, the temperature **increase** is terminated by the introduction of AFW flow.
- B. RCS temperature will **increase** prior to the reactor trip. Post trip, the temperature **increase** continues due to the unavailability of AFW flow.
- C. RCS temperature will **decrease** prior to the reactor trip. Post trip, the temperature **decrease** is stabilized by MSIV closure.
- D. RCS temperature will **decrease** prior to the reactor trip. Post trip, temperature continues to **decrease** until the most affected SG blows down and dries out.

A-Correct. Temperature rises due to the imbalance caused by the lack of colder feedwater going in the SGs. The plant will trip on Low SG level, and when AFW flow is initiated, RCS has a heat sink to once again remove the heat generated.

B-Incorrect. AFW will be available because the break is upstream of the check valves.

C-Incorrect. Temperature will not drop, because this is a feedwater break, not a steam break. There is no excessive steam demand to overcool the RCS

D-Incorrect. Temperature will not drop. This describes a feedwater line break downstream of the check valve where the affected SG blows down after the trip

Question 018

Tier 2 / Group 1

K/A Importance Rating - RO 3.6 SRO 3.8

Knowledge of the effect that a loss or malfunction of the MFW will have on the following: RCS.

Reference(s) - Sim/Plant design

Proposed References to be provided to applicants during examination - None

Learning Objective - RCS012

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

48. 061 K6.02 001

Given the following plant conditions:

- The Plant is in Mode 3.
- "B" MDAFW pump is running.
- A small feedline break occurs between FCV-1425, MDAFW pump "B" FCV, and isolation valve V2-16C, SG C AFW Isolation Valve.

The RO closes FCV-1425 and the break flow stops.

A plant clearance is hung to isolate the leak from all water sources.

With MDAFW Pump B unavailable due to this event, which ONE (1) of the following describes the SGs available to be fed from MDAFW Pump A?

- A. SG A ONLY.
- B. SG B ONLY.
- C. SGs A and B ONLY.
- D. SGs A, B, and C.

A Incorrect. May also feed B SG

B Incorrect. May also feed A SG

C Correct. Location of break will still allow flow to A and B SGs because the AFW lines are cross connected upstream of the break location

D Incorrect. Break location would require isolating flow to C SG

Question 019

Tier 2 / Group 1

K/A Importance Rating - RO 2.6 SRO 2.7

Knowledge of the effect that a loss or malfunction of the following will have on the AFW Components: Pumps.

Reference(s) - SD-042, Figure 2, Page 39 of 50

Proposed References to be provided to applicants during examination - NONE

Learning Objective - AFW LP Objective 3

Question Source - Modified Bank

Question History - Robinson Bank, old question discarded(AFW-004-007)

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.4,7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

49. 062 AA1.07 001

The plant is in Mode 1, 100% RTP.

- During recovery from a loss of a running Service Water pump, the crew has entered AOP-014, Component Cooling Water System Malfunction, due to increasing CCW outlet temperature.
- The crew has subsequently restored Service Water pressure to 41 psig.
- CCW Heat Exchanger outlet temperature is 109 degrees F and increasing slowly.
- SFP temperature is 105 degrees F.

Which ONE (1) of the following describes the appropriate action to reduce heat load on the Component Cooling Water System?

- A. Isolate Normal Letdown and place Excess Letdown in service.
- B. Place an additional Charging Pump in service and increase its speed to maximum.
- C. Throttle OPEN CC-775, CC FROM SFP HX BUTTERFLY, to decrease SFP temperature to less than 100 degrees F.
- D. Throttle CLOSED CC-775, CC FROM SFP HX BUTTERFLY, to raise SFP temperature to 115 degrees F to 120 degrees F.

A-Incorrect. Increases heat load

B-Incorrect. Increases heat load.

C-Incorrect. Increases heat load

D-Correct.

Question 054

Tier 1 / Group 1

K/A Importance Rating - RO 2.9 SRO 3.0

Ability to operate and / or monitor the following as they apply to the Loss of Nuclear Service Water. Flow rates to the components and systems that are serviced by the CCWS; interactions among the components.

Reference(s) - AOP-014, Section D pages 3 and 6

Proposed References to be provided to applicants during examination - None

Learning Objective - AOP-014 Obj 8

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.4,10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

50. 062 K4.02 001

Given the following plant conditions:

- Auxiliary loads are being transferred from the Startup Transformer to the Unit Auxiliary Transformer IAW OP-603, ELECTRICAL DISTRIBUTION.
- UNIT AUX TO 4KV Bus 1 (52/7) is closed and the switch is released.

Which ONE (1) of the following should occur after releasing breaker 52/7 switch?

- A. 4KV BUS 1-2 TIE BKR (52/10) will open.
- B. STARTUP TO BUS 2 (52/12) will open.**
- C. 4KV BUS 3-4 TIE BKR (52/19) will open.
- D. UNIT AUX TO BUS 4 (52/20) will close.

A Incorrect. Tie breaker not interlocked with 52/7. Will trip on overload.

B Correct. Interlocked to prevent prolonged parallel operation

C Incorrect. Interlocked with 52/19, in same manner as above

D Incorrect. Interlocked with 52/20, in same manner as above.

Question 020

Tier 2 / Group 1

K/A Importance Rating - RO 2.5 SRO 2.7

Knowledge of AC Distribution System design feature(s) and/or interlock(s) which provide for the following:
Circuit breaker automatic trips.

Reference(s) - SD-039

Proposed References to be provided to applicants during examination - None

Learning Objective - KVAC007

Question Source - Bank

Question History - KVAC-007-005

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

51. 063 K2.01 001

Given the following conditions:

- A fire has occurred in DC Distribution Panel 'B'. The panel is de-energized.

Which ONE (1) of the following describes the effect on the Electrical Distribution System?

- A. Control Power lost to 4160V Busses 3 & 4. Control Power can be restored using a safety switch in the 4160 Switchgear Room.
- B. Control Power lost to 4160V Busses 3 & 4 and cannot be restored.
- C. Control Power lost to 4160V Busses 1 & 2. Control Power can be restored using a safety switch in the 4160 Switchgear Room.
- D. Control Power lost to 4160V Busses 1 & 2 and cannot be restored.

A-Correct. EPP-27, Attachment 2, Locally Restoring Deenergized AC Busses, step 6

B-Incorrect. Control Power can be restored using the safety switch

C-Incorrect. Control Power lost to 4160V Busses 3 & 4

D-Incorrect. Control Power lost to 4160V Busses 3 & 4

Question 021

Tier 2 / Group 1

K/A Importance Rating - RO 2.9 SRO 3.1

Knowledge of bus power supplies to the following: Major DC loads.

Reference(s) - EPP-27

Proposed References to be provided to applicants during examination - None

Learning Objective - DC LP Obj 8

Question Source - Bank

Question History - 2002 NRC Common 25

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

52. 064 A2.13 001

Given the following conditions:

- A reactor trip has occurred. The crew is performing immediate actions of PATH-1.
- SI has not actuated and is not required.
- 52/18B, E-1 Normal Supply Breaker, shows green breaker indication.
- The crew reports that E-1, Instrument Bus 1 and MCC-5 are deenergized and the "A" EDG did not start.
- There is NO indication of a bus fault.

Which ONE (1) of the following describes the impact of this condition on DG "A" and the action required?

- A. DG "A" cannot be started. Energize MCC-5 from the DS Bus IAW Foldout "A" to restore power for starting the DG.
- B. DG "A" cannot be started. Place Instrument Bus 1 on its alternate supply IAW Foldout "A" to restore power for starting the DG.
- C. DG "A" should have started. Start the "A" EDG and close its output breaker. Instrument Bus 1 and MCC-5 will re-energize when E-1 energizes.
- D. DG "A" should have started. Start the "A" EDG and close its output breaker. Transfer Instrument Bus 1 to MCC-8 and MCC-5 to the DS Bus IAW Foldout 'A'.

A-Incorrect. Starting power still available (DC). MCC-5 switchover for auxiliaries

B-Incorrect. IB 1 will be deenergized because MCC-5 lost, but will not restore DG auxiliaries

C-Correct. All breakers will trip on E-1 (load stripping) except MCC-5/16, thus they will auto re-energize when E-1 is reenergized from the EDG

D-Incorrect. Actions of Foldout A. Not necessary. Loads will re-energize once E-1 is energized from EDG

Question 022

Tier 2 / Group 1

K/A Importance Rating - RO 2.6 SRO 2.8

Ability to (a) predict the impacts of the following malfunctions or operations on the ED/G system; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Consequences of opening auxiliary feeder bus (ED/G sub supply).

Reference(s) - SD-006 page 25 and actions of Foldout A for distractors

Proposed References to be provided to applicants during examination - None

Learning Objective -

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.7,8

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

53. 065 AK3.03 001

Given the following conditions:

- Plant was at 100% RTP.
- A Loss of Instrument Air pressure has occurred.
- Instrument Air to Containment Isolation valve, PCV-1716, is closed.

Which ONE (1) of the following methods will be used to mitigate a high RCS pressure condition in this alignment?

- A✓ Pressurizer PORVs.
- B. Auxiliary Spray Valve.
- C. Normal Spray Valves using their individual RTGB controllers.
- D. Pressurizer Safety Valves.

A Correct. PZR PORVs use nitrogen as motive force. IA is a backup during LTOPP operation

B Incorrect. Air is required to operate

C Correct. Air is required to operate

D Incorrect. PORVs are available

Question 055

Tier 1 / Group 1

K/A Importance Rating - RO 2.9 SRO 3.4

Knowledge of the reasons for the following responses as they apply to the Loss of Instrument Air:
Knowing effects on plant operation of isolating certain equipment from instrument air.

Reference(s) - AOP-017

Proposed References to be provided to applicants during examination - None

Learning Objective - AOP-017, Obj 4

Question Source - Bank

Question History - 2001 Robinson Audit Retake

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.7,10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

54. 068 AA1.02 001

Given the following conditions:

- The crew is performing actions of DSP-002, Hot Shutdown Using the Dedicated/Alternate Shutdown System, due to a fire in an unknown location in the control room that has forced an evacuation.
- The emergency busses have been deenergized to allow manual valve operations safely.

Which ONE (1) of the following describes the method that will be used to control AFW flow and SG levels?

- A. SDAFW pump manually feeding SGs, maintaining levels between 8 and 50% NR.
- B. SDAFW pump manually feeding SGs, maintaining levels between 60 and 68% WR.
- C. MDAFW pump "A" aligned to the DS Bus with manual control of SG levels between 8 and 50% NR.
- D. MDAFW pump "A" aligned to the DS Bus with manual control of SG levels between 60 and 68% WR.

A-Incorrect. Levels on DSP are WR.

B-Correct

C-Incorrect. MDAFW pumps not available and can not be placed on DS bus. NR levels not used.

D-Incorrect. See C

Question 062

Tier 1 / Group 2

K/A Importance Rating - RO 4.3 SRO 4.5

Ability to operate and / or monitor the following as they apply to the Control Room Evacuation: AFW emergency pump.

Reference(s) - DSP-002 att. 1

Proposed References to be provided to applicants during examination - None

Learning Objective -

Question Source - New

Question History -

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

55. 073 A4.02 001

Given the following plant conditions:

- A large break LOCA has occurred resulting in fuel damage.
- Radiation levels have increased in the auxiliary building resulting in high airborne activity levels.
- Radiation monitor R-14C, Effluent Noble Gas Low Range, was steadily increasing and is now reading 1M cpm.

Which ONE (1) of the following describes how actual radiation levels measured by R-14 will be determined as radiation levels increase?

- A. Place the Range Switch on R-14C to the next highest indicating range.
- B. A valid reading is available on radiation monitor R-14D (Plant Effluent NG- MID).
- C. A valid reading is available on radiation monitor R-14B (Plant Effluent - Iodine).
- D. The R-14 channels are no longer valid. Use diverse indicators.

A Incorrect. R-14C has no range switch

B Correct.

C Incorrect. R-14D is an iodine monitor and as such, provides a different measured parameter.

D Incorrect. R-14D and E are available

Question 024

Tier 2 / Group 1

K/A Importance Rating - RO 3.7 SRO 3.7

Ability to manually operate and/or monitor in the control room Radiation monitoring system control panel.

Reference(s) - AOP-005

Proposed References to be provided to applicants during examination - None

Learning Objective - AOP-005 Obj 8

Question Source - AOP-005-08-002

Question History - Modified

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.11

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

56. 073 K5.02 001

Which ONE (1) of the following identifies a process radiation monitor and how the detector output will change (if at all) when the detector is moved a few feet away from the monitored medium?

- A. R-5, Spent Fuel Building. Its output would decrease.
- B. R-5, Spent Fuel Building. Its output would remain the same due to the automatic background subtraction circuitry.
- C. R-20, Fuel Handling Building. Its output would decrease.
- D. R-20, Fuel Handling Building. Its output would remain the same due to the automatic background subtraction circuitry.

A incorrect. Area monitor, not process monitor. Output would decrease (inverse square ratio)

B incorrect. Area monitor, not process monitor. Background radiation would not change with movement of detector in vicinity of normal location.

C Correct. Process monitor. Inverse square ratio.

D. Incorrect. It is a process monitor, but background subtraction not applicable for this question

Question 023

Tier 2 / Group 1

K/A Importance Rating - RO 2.5 SRO 3.1

Knowledge of the operational implications as they apply to the PRM system: Radiation intensity changes with source distance.

Reference(s) - Radiation Fundamentals

Proposed References to be provided to applicants during examination - NO

Learning Objective - Radiation Fundamentals; AOP-005 LP #3

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.11,12

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

57. 076 G2.1.33 001

Given the following plant conditions:

- Mode 1 at 100% RTP.
- Service Water Pump "C" has been OOS for 8 hours due to required maintenance.
- Service Water Booster Pump "A" suddenly trips and CANNOT be restarted.

Which ONE (1) of the following is the correct response for this information?

- A. An LCO applies but NO additional action is required because only ONE (1) Train of Service Water is affected.
- B. An LCO applies and additional action IS required because BOTH Trains of Service Water are affected.**
- C. No LCO is applicable because only ONE (1) Train of Service Water is affected.
- D. No LCO is applicable because the Service Water Booster Pump is NOT required by ITS.

A-Incorrect. Opposite train inop requires 3.0.3

B-Incorrect. Same as above

C-Incorrect. Same as above

D-Correct.

Question 025

Tier 2 / Group 1

K/A Importance Rating - RO 3.4 SRO 4.0

Conduct of Operations: Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.

Reference(s) - Technical Specifications section 3.0.3

Proposed References to be provided to applicants during examination - None

Learning Objective - SW-010, 011

Question Source - Bank (slightly modified)

Question History - Robinson Bank #SW-012-003

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.10/43.2

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

58. 078 A4.01 001

Which ONE (1) of the following describes the operation of Instrument Air Compressor "A" when its control switch is placed in the AUTO position?

- A. Compressor will start and load when pressure drops to 90 psig. Compressor will stop when pressure increases to 105 psig.
- B. Compressor will run continuously. Unloader valves will CLOSE when pressure drops to 98 psig. Unloader valves will OPEN when pressure rises to 102 psig.
- C. Compressor will start and load when pressure drops to 98 psig. Compressor will stop when pressure rises to 102 psig.
- D. Compressor will run continuously. Unloader valves will OPEN when pressure drops to 90 psig. Unloader valves will CLOSE when pressure rises to 102 psig.

A-Correct.

B-Incorrect. Runs continuously in manual

C-Incorrect. Wrong setpoints (Manual setpoints)

D-Incorrect. Compressor will not run continuously. Valves perform opposite function

Question 027

Tier 2 / Group 1

K/A Importance Rating - RO 3.1 SRO 3.1

Ability to manually operate and/or monitor in the control room: Pressure gauges.

Reference(s) - AIR SD-017 section 5.4.1

Proposed References to be provided to applicants during examination - None

Learning Objective - AIR007

Question Source - Bank

Question History - 2001 NRC Retake Exam

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.4,7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

59. 078 K2.02 001

Given the following plant conditions:

- The unit has been tripped for over two minutes.
- A loss of offsite power just occurred.
- 480V Busses E-1 and E-2 are energized.

Which ONE (1) of the following describes the air compressors available to be restarted under these conditions?

- A. Instrument Air Compressor "D" and the Primary Air Compressor.
- B. Instrument Air Compressor "D" and the Station Air Compressor.
- C. Primary Air Compressor and Station Air Compressor.
- D. Instrument Air Compressor "A" and Instrument Air Compressor "B".

Correct answer is D. IAC "A" & "B" are powered from MCC-5 & 6 which are powered from E-1 & 2 which are the only 480V busses energized under these conditions. (Ref: SD-017 3.0)

- A. IAC "D" is the normal supply to the IA system and is a 480V load which could be powered from E-1/2; PAC is the standby to IA and is a 480V load / IAC "D" is powered from MCC-13; PAC is powered from 480V Bus 2A
- B. See A regarding IAC "D"; SAC is normal supply to Station Air System / SAC is powered from 480V Bus 2B
- C. See A & B regarding PAC & SAC.

Question 026

Tier 2 / Group 1

K/A Importance Rating - RO 3.3 SRO 3.5

Knowledge of bus power supplies to the following Emergency Air Compressor.

Reference(s) - AIR SD

Proposed References to be provided to applicants during examination - None

Learning Objective - AIR005

Question Source - Bank

Question History - AIR-06-04

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.7,8

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

60. 086 A2.01 001

Given the following conditions:

- The Fire Protection System actuated due to a Main Transformer Fire.
- System pressure dropped to 80 psig before recovering due to the actuation of necessary equipment.
- The fire is out.
- The deluge valve is isolated and reset.

Which ONE (1) of the following describes the equipment that is running, and the method of shutting the equipment down?

- A. ONLY the Motor Driven Fire Pump running; must be stopped locally IAW APP-044, Fire Alarm Console.
- B. ONLY the Motor Driven Fire Pump running; may be stopped locally or in the control room IAW APP-044, Fire Alarm Console.
- C. The Motor Driven and Engine Driven Fire Pumps are running. Both must be stopped locally IAW OP-801, Fire Water System.
- D. The Motor Driven and Engine Driven Fire Pumps are running. The Motor Driven Pump may be stopped locally or in the control room, the Engine Driven Pump must be stopped locally IAW OP-801, Fire Water System.

A-Incorrect. If system pressure is reduced to 80 psig then both pumps automatically started. The MDFP may be stopped in the c/r

B-Incorrect. Both pumps start.

C-Incorrect. MDFP may be stopped in c/r

D-Correct.

Question 038

Tier 2 / Group 2

K/A Importance Rating - RO 2.9 SRO 3.1

Ability to (a) predict the impacts of the following malfunctions or operations on the Fire Protection System; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Manual shutdown of the FPS.

Reference(s) - Fire Water SD-041 pages 8 and 34. OP-801, Fire Water System

Proposed References to be provided to applicants during examination - None

Learning Objective - FWP004

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

61. 103 G2.1.2 001

Given the following conditions:

- Mode 1 at 100% RTP.
- APP 002-B7, CV NAR RANGE HI/LO PRESS illuminates.
- CV Pressure indicates -0.4 psig, decreasing (more negative) slowly.

Which one of the following describes the action necessary to clear the alarm IAW OP-921, Containment Air Handling?

- A. Open Containment Pressure Relief Valves V12-10 and V12-11 until pressure is restored.
- B. Close Containment Pressure Relief Valves V12-10 and V12-11 until pressure is restored.
- C. Open Containment Vacuum Relief Valves V12-12 and V12-13 until pressure is restored.
- D. Close Containment Vacuum Relief Valves V12-12 and V12-13 until pressure is restored.

A-Incorrect. Wrong valves. Appropriate for pressure relief

B-Incorrect. Wrong valves. Normal lineup, may think that excessive pressure release would draw a vacuum

C-Correct. Negative pressure requires vacuum relief

D-Incorrect. Wrong manipulation. Need valves open.

Question 028

Tier 2 / Group 1

K/A Importance Rating - RO 3.0 SRO 4.0

Conduct of Operations: Knowledge of operator responsibilities during all modes of plant operation.

Reference(s) - SD 037 CV HVAC section 6.1, page 24 of 57

OP-921 section 8.4.3

APP-002-B7, action 5

Proposed References to be provided to applicants during examination - None

Learning Objective - LP CVHVAC, Objective 3

Question Source - Bank

Question History - Unused but previously developed

Question Cognitive Level - Comprehension

1

0 CFR Part 55 Content - 41.9,10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

62. E02 EK1.2 001

Given the following plant conditions:

- The main steam header (72" header) ruptures.
- All Reactor Protection and Engineered Safeguards Features equipment operate as designed.
- The crew is performing PATH-1.

Which ONE (1) of the following would be the first procedure used after entering PATH 1?

- A. EPP-004, Reactor Trip Response.
- B. EPP-016, Uncontrolled Depressurization of all Steam Generators.
- C. EPP-007, SI Termination.
- D. EPP-008, Post LOCA Cooldown and Depressurization.

A Incorrect. With a steam break, SI will actuate. EPP-4 will not apply.

B Incorrect. The fault will be isolated upon Main Steam Isolation. Only entry to EPP-16 is EPP-11

C Correct. When PATH-1 diagnostics are complete, the fault will be isolated and EPP-7 will be the correct transition.

D Incorrect. PATH-1 will place the crew in EPP-8 when there is a LOCA, not a faulted SG

Question 063

Tier 1 / Group 2

K/A Importance Rating - RO 3.4 SRO 3.9

Knowledge of the operational implications of the following concepts as they apply to the (SI Termination) Normal, Abnormal, and Emergency Procedures associated with (SI Termination).

Reference(s) - PATH-1 coordiante F-9

Proposed References to be provided to applicants during examination - None

Learning Objective - Path 1-007

Question Source - Bank

Question History - EPP-007-02-004

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

63. E05 EK3.4 001

The crew is responding to a Loss of Heat Sink per FRP-H.1, Response to Loss of Secondary Heat Sink

- All Steam Generator Wide Range levels are Off-Scale low.
- RCS Bleed and Feed has been successfully established.

When a MDAFW pump becomes available, which ONE (1) of the following describes the preferred AFW flow rate and the associated reason?

Feed at

- A. >300 GPM to reestablish secondary heat sink.
- B. > 325 GPM to increase RCS cooldown rate.
- C. <25 GPM to prevent possible SG tube failures.
- D. <10 GPM, (minimum observable), to establish a controllable cooldown rate and prevent loss of RCS inventory.

Correct. Establish >300 gpm to establish heat sink allowing termination of bleed and feed

B Incorrect. Cooldown not an issue with Bleed and Feed active

C Incorrect. Insufficient flow to establish heat sink

D Incorrect. Insufficient flow and Re-establish heat sink before establishing cooldown rate

Question 056

Tier 1 / Group 1

K/A Importance Rating - RO 3.7 SRO 3.9

Knowledge of the reasons for the following responses as they apply to the (Loss of Secondary Heat Sink) RO or SRO function as a within the control room team as appropriate to the assigned position, in such a way that procedures are adhered to and the limitations in the facilities license and amendments are not violated.

Reference(s) - FRP-H.1 Background section 2.4

Proposed References to be provided to applicants during examination - None

Learning Objective - FRP-H.1 Obj 3

Question Source - New

Question History -

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

64. E06 EK2.1 001

Given the following plant conditions:

- Plant was at 100% RTP.
- A small break LOCA occurred.
- The reactor has tripped and SI has been initiated.
- Numerous ECCS components did not start/reposition as required.
- FRP-C.2, "Response to Degraded Core Cooling", is entered.

You have been directed to verify SI Valves are properly aligned using Supplement "A", Safety Injection Component Alignment.

Which ONE (1) of the following sets of valves should have automatically opened upon receipt of an SI signal?

- A. SI-864A and SI-864B, RWST DISCHARGE VALVES.
- B. SI-866A and SI-866B, HOT LEG INJECTION VALVES.
- C. SI-867A and SI-867B, BIT INLET VALVES.
- D. SI-870A and SI-870B, BIT OUTLET VALVES.

A Incorrect. These are ECCS valves but are normally open and remain open during normal and SI injection phase

B Incorrect. These are ECCS valves, but are normally closed and deenergized by key switches in back of RTGB

C Incorrect. These are ECCS valves. They do receive and SI signal to open, but are already open during normal alignment

D Correct. These are normally closed valves that receive an SI signal to open.

Question 064

Tier 1 / Group 2

K/A Importance Rating - RO 3.6 SRO 3.8

Knowledge of the interrelations between the (Degraded Core Cooling) and the following: Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Reference(s) - FRP-C.2 and Supplement A

Proposed References to be provided to applicants during examination - None

Learning Objective - FRP-C.2-003

Question Source - Bank

Question History - FRP-C.2-005-001

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

65. E13 EK3.1 001

Given the following plant conditions:

- The plant has tripped late in core life from 100% RTP.
- Steam dumps, steam line PORVs and Main Steam Safety Valves have failed to respond.

Which ONE (1) of the following is the entry condition for FRP-H.2, Response to Steam Generator Overpressure and what is the basis for actions in this FRP?

Entry condition for this FRP is steam generator pressure reaching.....

- A✓ the highest main steam safety valve setpoint of 1140 psig. Mitigation is to help maintain secondary integrity.
- B. the highest main steam safety valve setpoint of 1140 psig. Mitigation is to help maintain feedwater system integrity.
- C. the lowest main steam safety valve setpoint of 1085 psig. Mitigation is to help maintain secondary integrity.
- D. the lowest main steam safety valve setpoint of 1085 psig. Mitigation is to help maintain feedwater system integrity.

A Correct. 1140 psig is highest Safety valve setpoint. Maintain secondary system integrity

B Incorrect. Correct setpoint. Feedwater system is designed for a higher pressure

C Incorrect. 1085 is lowest safety valve setpoint. Secondary integrity is correct.

D Incorrect. 1085 is lowest safety valve setpoint.

Question 065

Tier 1 / Group 2

K/A Importance Rating - RO 2.9 SRO 3.2

Knowledge of the reasons for the following responses as they apply to the (Steam Generator Overpressure) Facility operating characteristics during transient conditions, including coolant chemistry and the effects of temperature, pressure, and reactivity changes and operating limitations and reasons for these operating characteristics.

Reference(s) - FRP-H.2 Background doc and CSFSTs

Proposed References to be provided to applicants during examination - None

Learning Objective - FRP-H.2-003

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.4,7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

66. E16 EA2.1 001

Given the following plant conditions:

- A LOCA has occurred with subsequent fuel damage.
- SPDS shows a Yellow ball for CV High Radiation.

Which ONE (1) of the following states the radiation monitor(s) used for SPDS and the setpoint for entry into FRP-J.3?

Either.....

- A. R-11 or R-12 at 1 R/HR.
- B. R11 or R-12 at 10 R/HR.
- C. R-32A or R-32B at 1 R/HR.
- D~~✓~~ R-32A or R-32B at 10 R/HR.

A Incorrect. R-11 and 12 read out in CPM and are not in the CSFTs

B Incorrect. R-11 and 12 read out in CPM and are not in the CSFTs

C Incorrect. Correct monitors, but setpoint wrong

D Correct.

RO Question 073

Tier 1 / Group 1

K/A Importance Rating - RO 2.9 SRO 3.3

Ability to determine and interpret the following as they apply to the (High Containment Radiation) Facility conditions and selection of appropriate procedures during abnormal and emergency operations.

Reference(s) - FRP-J.3/CSFSTs

Proposed References to be provided to applicants during examination - None

Learning Objective - FRP-J.3-002

Question Source - New

Question History -

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

67. G2.1.1 001

Given the following plant conditions:

A licensed operator who has an inactive license has been performing administrative duties in the Training Section for twelve months.

He is returning to Operations and is to be placed back on shift.

Which ONE (1) of the following are the minimum requirements for returning his license to an active status?

- A. Complete FOUR normal shifts, including either the on-coming or off-going shift relief, and review all the procedure changes for the past 7 days.
- B. Complete FOUR normal shifts, including shift turnovers before and after each shift, and conduct a complete plant tour.
- C. Complete FIVE normal shifts, including either the on-coming or off-going shift relief, and review all the procedure changes for the past 7 days.
- D. Complete FIVE normal shifts, including shift turnovers before and after each shift, and conduct a complete plant tour.

A-Incorrect. Do not have to review procedure changes, must perform both turnovers.

B-Correct.

C-Incorrect. Only 4 shifts required, (Once active, 5 per quarter maintains active) no procedure changes, and must perform both turnovers

D-Incorrect. Only 4 shifts required

Question 067

Tier 3

K/A Importance Rating - RO 3.7 SRO 3.8

Knowledge of conduct of operations requirements.

Reference(s) - OMM-001-05

Proposed References to be provided to applicants during examination - None

Learning Objective - OMM-001 Obj 5

Question Source - Bank

Question History - OMM-001-05-05 editorially modified to raise discriminatory value

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

68. G2.1.28 001

Given the following plant conditions:

- The plant was at 29% power and increasing IAW GP-005, Power Operation.
- A loss of Feedwater results in a Reactor Trip.
- All three S/G NR levels are at 0%.
- It is now 30 seconds later.

Which ONE (1) of the following is the expected response of the ATWS Mitigation System Actuation Circuitry (AMSAC)?

- A✓ AMSAC will NOT actuate because it was not armed.
- B. AMSAC will TRIP the Main Turbine and START the AFW pumps.
- C. AMSAC will NOT actuate because the time delay is not satisfied.
- D. AMSAC will START the AFW pumps, and close the SG blowdown sample valves.

A-Correct. Approx 35%power equivalent on First Stage shell pressure

B-Incorrect. Arms at approx 35%

C-Incorrect. Time dealy for actuation is 25 seconds. Not armed

D-Incorrect. AMSAC will not actuate-Not armed

Question 066

Tier 3

K/A Importance Rating - RO 3.2 SRO 3.3

Knowledge of the purpose and function of major system components and controls.

Reference(s) - AMSAC SD section 2

Proposed References to be provided to applicants during examination - None

Learning Objective - AFW008

Question Source - Modified

Question History - 2001 Audit Retake

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.8

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

69. G2.2.13 001

Given the following plant conditions:

- Unit 2 is in Cold Shutdown in preparation for Refueling.
- Maintenance is planning to disassemble and inspect the SI Pump "C".
- A clearance is issued.

Which ONE (1) of the following describes the proper sequence specified by OPS-NGGC-1301 for installing this clearance to prevent damage to equipment?

- A. Shut and tag the pump discharge valve, shut and tag the pump suction valve, tag the pump's motor breaker open, place a red cap on the control switch.
- B. Shut and tag the pump suction valve, shut and tag the pump discharge valve, place a red cap on the control switch, tag the pump's motor breaker open.
- C. Place a red cap on the control switch, tag the pump's motor breaker open, shut and tag the pump discharge valve, shut and tag the pump suction valve.
- D. Tag the pump's motor breaker open, place a red cap on the control switch, shut and tag the pump suction valve, shut and tag the pump discharge valve.

Correct Answer is C (Ref:)

- A. Pump discharge valve should be shut before pump suction / Control switch and breaker need to be tagged before closing valves
- B. Tag control switch before pump breaker / Control switch and breaker need to be tagged before closing valves
- D. Power to the pump should be removed before closing the suction and discharge valves / control switch should be tagged before breaker opened, discharge valve should be closed before suction valve

Question 069

Tier 3

K/A Importance Rating - RO 3.6 SRO 3.8

Knowledge of tagging and clearance procedures.

Reference(s) - OPS-NGGC-1301 9.2.1.12

Proposed References to be provided to applicants during examination - NO

Learning Objective - NGGC-1301 LP #3

Question Source - Bank

Question History - NGGC-1301-NEW

Question Cognitive Level - MEMORY

10 CFR Part 55 Content - 41.10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

70. G2.2.14 001

You as the RO have directed an AO to verify a valve lineup per the applicable OP and flow diagram. The AO reports later that an existing valve was listed in the OP but was not on the drawing.

Which ONE (1) of the following describes the required actions for this plant configuration situation?

Notify the CRSS and initiate.....

A. an Operator Workaround and markup the drawing with the missing valve.

B. an Engineering Change Request (ECR) to update the drawing.

C. an Operator Workaround and annotate on the OP that the valve is not shown on the drawing.

D. a Work Request to update the drawing.

A-Incorrect. Workaround plausible if OP does not work. OP is correct. Drawing is missing valve and needs revision

B-Correct.

C-Incorrect. See A

D-Incorrect. WR written for problems with valves. No problems noted except drawing does not reflect as built configuration and OP

Question 068

Tier 3

K/A Importance Rating - RO 2.1 SRO 3.0

Knowledge of the process for making configuration changes.

Reference(s) - MOD-004, Page 8 step 8.1.1

Proposed References to be provided to applicants during examination - None

Learning Objective - OMM-001-08 obj 2

Question Source - New

Question History -

Question Cognitive Level - Memory

10 CFR Part 55 Content - 43.3/45.13

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

71. G2.2.28 001

Which ONE (1) of the following, as a **minimum**, shall be present in the Containment to monitor all activities during Core loading or unloading?

- A✓ Refueling Senior Reactor Operator (SRO)
- B. Shift Technical Adviser (STA)
- C. CV Coordinator
- D. Reactor Engineer

A-Correct. The Refueling SRO must be present for all activities related to core load/offload

B-Incorrect. The STA is not required in Mode 6

C-Incorrect. CV Coordinator may be in Containment, but not related to fuel movement heirarchy

D-Incorrect. RE will be in CR as reactivity monitor

Question 070

Tier 3

K/A Importance Rating - RO 2.6 SRO 3.5

Knowledge of new and spent fuel movement procedures.

Reference(s) - OMM-001-18

Proposed References to be provided to applicants during examination - None

Learning Objective - OMM-001-18 Obj-2

Question Source - Bank (modified to increase plausibility of distractors)

Question History - OMM-001-18-02-2

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.10/43.7

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

72. G2.3.1 001

Given the following plant conditions:

- Mode 1 at 100% RTP.
- You have been directed to enter Containment to perform a task.
- Your RWP states that your EPD dose alarm will be set at 80 mrem and your rate alarm will be set at 160 mrem/hr.
- As you log-in you note that the electronic access is in the Local Emergency Mode (LEM).

Which ONE (1) of the following describes the default settings for your EPD dose and rate alarms and what is the appropriate response to a Dose alarm while you are performing the task?

- A✓ Dose - 50mrem; Rate 100 mrem/hr. Stop what you are doing, exit the area, and notify Health Physics.
- B. Dose - 50mrem; Rate 100 mrem/hr. Complete your task if you are close to completion because this will save dose overall, then exit the area, and notify Health Physics.
- C. Dose - 40mrem; Rate 80 mrem/hr. Stop what you are doing, exit the area, and notify Health Physics.
- D. Dose - 40mrem; Rate 80 mrem/hr. Complete your task if you are close to completion because this will save dose overall, then exit the area, and notify Health Physics.

A Correct.

B Settings are correct. Actions are wrong. You are required to stop and exit immediately if you receive an alarm.

C One-half of the RWP settings, which would be a conservative factor of 2. Default settings are 50mrem and 100mrem when RIMS is not operational.

D One-half of the RWP settings, which would be a conservative factor of 2. OE at HBR during an outage where a worker decided to complete the task upon receiving an alarm instead of exiting. The workers' conclusion was that staying and completing the task would save dose overall. The settings and the actions are wrong.

Question 072

Tier 3

K/A Importance Rating - RO 2.6 SRO 3.0

Knowledge of 10 CFR: 20 and related facility radiation control requirements.

Reference(s) - PLP-016

Proposed References to be provided to applicants during examination - NO

Learning Objective - Rad Fundamentals

Question Source - Bank

Question History - 10CFR20-03-002

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.12

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

73. G2.3.2 001

Given the following conditions:

- A 25 year old male started working for the Operation Department at H.B. Robinson on June 2nd of this year.
- He previously worked at Millstone Unit 3 as part of the Maintenance Department.
- His exposure for this year at Millstone was 1600 mRem.
- He has received NO CP&L management exposure extensions and NO emergency exists.

Which one of the following is the TOTAL ADDITIONAL effective dose equivalent that the individual can receive WITHOUT management concurrence at Robinson this year?

- A. 400 mRem.
- B. 2000 mRem.
- C. 2400 mRem.
- D. 3400 mRem.

A-Incorrect. Adding the 400 plus his current exposure would make 2000

B-Correct. Total allowable exposure for work performed at CP&L plants is 2000 mRem. The individual has 1600 already, so the lower of 2000 mRem at CP&L or 4000 mRem total will apply

C-Incorrect. Adding 2400 to his current would give 4000, the total yearly allowable

D-Incorrect. Adding 3400 to 1600 gives the TEDE limit of 5 Rem 5(N-18)

Question 071

Tier 3

K/A Importance Rating - RO 2.5 SRO 2.9

Knowledge of facility ALARA program.

Reference(s) - NGGM-PM-002(Not available)

Proposed References to be provided to applicants during examination - None

Learning Objective - LP 10CFR20 Objective 3(Not available)

Question Source - Modified Bank

Question History - 2001 Robinson Audit Retake Exam

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.12

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

74. G2.4.26 001

Which ONE (1) of the following contains the specific room guidelines for the Fire Brigade to fight a fire in the Aux Building?

- A. OMM-002, Fire Protection Manual.
- B. OMM-003, Fire Protection Pre-Plans.
- C. FP-001, Fire Emergency.
- D. APP-044, Fire Alarm Response Manual.

A Incorrect. Contains rules and guidelines for fire protection policy, etc.

B-Correct.

C-Incorrect. Provides Control Room action and responsibility.

D-Incorrect. Provides alarm responses for FAC.

Question 074

Tier 3

K/A Importance Rating - RO 2.9 SRO 3.3

Knowledge of facility protection requirements including fire brigade and portable fire fighting equipment usage.

Reference(s) - OMM-003

Proposed References to be provided to applicants during examination - NONE

Learning Objective - OMM-003 LP Objective 1

Question Source - Bank

Question History - 2002 NRC Common 43

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

75. G2.4.4 001

Given the following conditions:

- A power reduction is in progress from 22% due to degrading condenser vacuum.
- The unit is currently at 8% power.
- REACTOR TRIP FROM TURB BLOCK P-7 permissive is illuminated.
- Condenser backpressure is approaching 10 inches Hg absolute .
- NO cause has been determined.

Which one of the following actions should be taken IAW AOP-012, Partial Loss of Condenser Vacuum or Circulating Water Pump Trip?

- A. Trip the reactor and go to PATH-1.
- B✓ Trip the turbine and go to AOP-007, Turbine Trip Below P-7.
- C. Trip the turbine and go to GP-006, Normal Plant Shutdown from Power Operations to Hot Shutdown.
- D. Trip the reactor and go to AOP-007, Turbine Trip below P-7.

A incorrect. Backpressure > 10" requires turbine trip if P-7 BLOCK is illuminated. Above P-7, reactor would also require trip

B-Correct.

C-Incorrect. Once Turbine is on-line and must be tripped, go to AOP

D-Incorrect. If reactor was tripped, would go to Path-1. Reactor trip is not required.

Question 075

Tier 3

K/A Importance Rating - RO 4.0 SRO 4.3

Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.

Reference(s) - AOP-012, Section A

Proposed References to be provided to applicants during examination - None

Learning Objective - LP AOP-012, Objective 8

Question Source - Bank

Question History - Robinson 2001 Audit Retake

Question Cognitive Level - Analysis

10 CFR Part 55 Content - 41.10

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

76. S006 A2.12 001

Given the following conditions:

- A reactor trip has occurred.
- The crew has transitioned to EPP-4, Reactor Trip Response.
- Foldout "A" is in effect.

The following conditions develop:

- RCS pressure is 1950 psig and decreasing slowly.
- All 3 Charging pumps are running.
- Letdown is isolated.
- RCS temperature is stable at 546 degrees F.
- Pressurizer level is 12% and decreasing.

Which ONE (1) of the following actions is required?

- A. Initiate SI and continue in EPP-4.
- B✓ Initiate SI and return to PATH-1.
- C. Start SI pumps as required to maintain pressurizer level and continue in EPP-4.
- D. Start SI pumps as required to maintain pressurizer level and return to PATH-1.

A-Incorrect. Would return to PATH-1 where SI actions are contained.

B-Correct per foldout A

C-Incorrect. Would perform after an SI flow reduction as part of reinitiation criteria, but not in EPP-4

D-Incorrect. Would perform after an SI flow reduction as part of reinitiation criteria.

SRO Question 088

Tier 2 / Group 1

K/A Importance Rating - SRO 4.8

Ability to (a) predict the impacts of the following malfunctions or operations on the ECCS: and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Conditions requiring actuation of ECCS.

Reference(s) - Foldout A

Proposed References to be provided to applicants during examination - None

Learning Objective - EPP4 obj 3

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

77. S009 EA2.04 001

Given the following conditions:

A LOCA has occurred. The crew is performing actions of EPP-8, Post LOCA Cooldown and Depressurization.

- "C" RCP is operating.
- The RO is depressurizing the RCS using Normal Spray.
- RCS Subcooling indicates 37 degrees F.
- Pressurizer Level is coming on scale and is increasing steadily.

Which ONE (1) of the following describes the actual status of RCS inventory and the action required?

Pressurizer level indication is...

- A. Accurate. Continue RCS depressurization IAW EPP-8 until pressurizer is solid.
- B. Accurate. Continue RCS depressurization until PZR level is restored sufficiently in preparation for stopping SI pumps IAW EPP-8.
- C. Inaccurate. A void has formed in the reactor vessel head. Stop the depressurization immediately IAW EPP-8.
- D. Inaccurate. A void has formed in the reactor vessel head. SI pumps must be started as necessary and transition made to PATH-1, Entry Point "C" IAW EPP-8

A-Incorrect. Depressurization stopped at 24%.

B-Correct. It is the purpose of the procedure to depressurize to refill pZR.

C-Incorrect. Unlikely to void with RCP operating.

D-Incorrect. Unlikely to void with RCP operating. And at this point, SI has not been stopped.

C and D are plausible because conditions resemble voiding and it is important to know the difference between RV head voiding and refilling PZR during the performance of an EOP. The key in this item is that an RCP is running and the procedure being performed will cause PZR level to come back on scale in this manner. RV head voiding CAN occur even though there is indication of sufficient subcooling

QUESTIONS REPORT
for 04 NRC REV FINAL-1

SRO Question 076
Tier 1 / Group 1
K/A Importance: SRO 4.0

Ability to determine or interpret the following as they apply to a small break LOCA: PZR level.

Reference - EPP-8

Proposed References to be provided to applicants during examination: None

Learning Objective: EPP-8 obj 3

Question Source: New

Question History:

Question Cognitive Level: Comprehension

10 CFR part 55 Content: 41.10/43.5

Comments:

QUESTIONS REPORT
for 04 NRC REV FINAL-1

78. S010 G2.4.50 001

Given the following plant conditions:

- A plant cooldown is in progress.
- RCS temperature is 357F.
- RCS Pressure is 370 psig.
- Both PORV OVERPRESSURE PROTECTION Permissive switches have been placed in LOW-PRESSURE position.

Following the switch alignment, the following alarm is received in the control room:

- APP-003-A3, PCV-456 LP PROT ACT/TROUB

Which ONE (1) of the following is the likely cause of this alarm, and what action is required?

- A. RC-535, PORV BLOCK, is open. Close RC-535.
- B. RCS temperature is too high to place LTOPP in service. Ensure RC-535 is closed and return PORV Permissive switches to NORMAL.
- C. RC-535, PORV Block Valve, breaker tripped open. Check Block Valve position indication, and if necessary, dispatch an AO to check RC-535 breaker position.
- D. RCS Pressure is too high to place LTOPP in service. Close the PORV when RCS pressure is below the setpoint.

- | |
|---|
| A- Incorrect. When LTOPP is in service, alarm will come in either when the block valve is closed or when actuation occurs. |
| B- Incorrect. If a temperature instrument fails high, the auctioneered low input is still providing alarm control, and would not check RC-535 closed and reverse previous action. |
| C- Correct. Breaker position will cause the alarm. |
| D- Incorrect. Pressure must be at or above 400 psig for actuation to occur. Current pressure is only 370 psig |

QUESTIONS REPORT
for 04 NRC REV FINAL-1

SRO Question 091
Tier 2 / Group 1
K/A Importance Rating - SRO 3.3

Emergency Procedures/Plan: Ability to verify system alarm setpoints and operate controls identified in the alarm response manual

Reference(s) - APP-003-A3
Proposed References to be provided to applicants during examination - None
Learning Objective - PZR006
Question Source - Modified Bank
Question History - 2001 NRC retake
Question Cognitive Level - Comprehension
10 CFR Part 55 Content - 41.7,10/43.5
Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

79. S012 G2.4.31 001

Given the following conditions:

- The plant is operating at 85% RTP.
- "A" Feedwater Regulating Valve failed in automatic and the crew is recovering SG level with the FRV in Manual IAW AOP-010, Main Feedwater/Condensate Malfunction.

The following annunciators are received in the control room:

- APP-006-A2, SG A STM > FW FLOW
- APP-006-A3, SG A LVL DEV

Following acknowledgment of the alarms, the following annunciator is received:

- APP-004-A5, SG A LO LVL& STM>FWF TRIP

The BOP reports "A" SG Level is approximately 30% and stable.

Which ONE (1) of the following actions are required?

- A✓ Manually trip the reactor and enter PATH-1.
- B. Manually trip the reactor and enter FRP-S.1, Response to Nuclear Power Generation/ATWS.
- C. Continue in AOP-010, Main Feedwater/Condensate Malfunction.
- D. Direct the RO/BOP to Scan the RTGB for confirmation that a reactor trip is NOT required.

A-Correct. Transient in progress and a first out annunciator.

B-Incorrect. An ATWS may have occurred but go to PATH-1 first to attempt trip

C-Incorrect. The PO may have control, but a transient is in progress and a trip setpoint has been exceeded.

D-Incorrect. Would only take these actions if a transient was not in progress. Trip should have occurred.

SRO Question 089

Tier 2 / Group 1

K/A Importance Rating - SRO 3.4

Emergency Procedures / Plan Knowledge of annunciators alarms and indications, and use of the response instructions.

Reference(s) - APP-004-A5

Proposed References to be provided to applicants during examination - None

Learning Objective - RPS008, RPS009

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.4,10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

80. S022 A2.03 001

Given the following conditions:

- The plant is operating at 100% RTP.
- CV Spray Pump "A" has been OOS for 30 hours.
- Containment Cooling Unit HVH-2 has been OOS for 22 hours.

The following annunciator is received in the control room:

- APP-002-C6, HVH-3 OVLD/TRIP

Dual indication exists for HVH-3 on the RTGB. The RO starts HVH-4 to provide Containment Cooling.

Which ONE (1) of the following additional actions are required?
(Reference provided; ITS 3.6.6)

- A. Immediately enter LCO 3.0.3 to make preparations for a plant shutdown.
- B. Return either HVH-2 OR HVH-3 to service within 50 hours or be in Mode 3 within the following 6 hours.
- C. Return HVH-2 OR HVH-3 to service within 72 hours or be in Mode 3 within the following 6 hours.
- D. Return HVH-2 AND HVH-3 to service within 7 days or be in Mode 3 within the following 6 hours.

A-Correct. 3 Trains out of service, enter 3.0.3

B-Incorrect. Misapplication of the 72 hour rule for 2 trains of cooling units

C-Incorrect. Would be correct if CV Spray was not OOS

D-Incorrect. Action for one cooler out of service, but plausible because either unit OOS would put the system in that action

SRO Question 090

Tier 2 / Group 1

K/A Importance Rating - SRO 3.0

Ability to (a) predict the impacts of the following malfunctions or operations on the CCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Fan motor thermal overload/high-speed operation.

Reference(s) - APP-002-A6, T.S. 3.6.6

Proposed References to be provided to applicants during examination - TS 3.6.6

Learning Objective - CVHVAC009

Question Source - New

Question History -

Question Cognitive Level - Comprehension/Application

10 CFR Part 55 Content - 41.7,8,10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

81. S027 G2.4.49 001

Given the following conditions:

- The plant is operating at 70% RTP.
- APP-003-D8, PZR CONTROL HI/LO PRESS is received in the control room.
- Pressurizer Pressure Transmitter, PT-444, indicates 2310 psig and INCREASING.
- Pressurizer Pressure Transmitter, PT-445, indicates 2225 psig and DECREASING.

The RO reports that PT-444 appears to be failing high.

Which ONE (1) of the following actions is immediately required?

- A. Place Pressurizer Pressure Controller PC-444J in Manual and enter AOP-019, Malfunction of RCS Pressure Control.
- B. Place Pressurizer Pressure Controller PC-444J in Manual and enter AOP-025, RTGB Instrument Failure.
- C. Ensure PORVs close when pressure is reduced below the setpoint and enter AOP-019, Malfunction of RCS Pressure Control.
- D. Ensure PORVs are closed and restore pressure using heaters and spray and enter AOP-025, RTGB Instrument Failure.

A-Incorrect. Placing controller in manual not an IA. Procedure for instrument failure based on APP

B-Incorrect. Right procedure, wrong action for IA

C-Incorrect. Wrong procedure, and PORVs should not be opened at 2310 psig

D-Correct. IAs in either procedure check PORVs closed if pressure <2335 and control pressure with heaters and spray

SRO Question 077

Tier 1 / Group 1

K/A Importance Rating - SRO 4.0

Emergency Procedures / Plan Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.

Reference - AOP-019, AOP-025, Section C

Proposed References to be provided to applicants during examination - None

Learning Objective - PZR010

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.7,10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

82. S029 EA2.09 001

Given the following conditions:

- An ATWS has occurred.
- The CRSS has transitioned to FRP-S.1, Response to Nuclear Power Generation/ATWS.
- The RO determines that the following occurs in rapid succession:
 - RCS temperature and pressure increasing rapidly.
 - BOTH PZR PORVs are Open.
 - PRT temperature, level, and pressure increasing.

Which ONE (1) of the following has occurred and which procedural action is required?

- A. The Main Turbine has tripped. Return to PATH-1.
- B✓ The Main Turbine has tripped. Continue in FRP-S.1.
- C. The SDAFW Pump has tripped. Return to PATH-1.
- D. The SDAFW Pump has tripped. Continue in FRP-S.1.

A-Incorrect. Do not return to Path-1 until reactor is tripped

B-Correct. Large load rejection

C-Incorrect. Temperature and pressure would have a slower rise. MDAFW still available. No Path-1

D-Incorrect. MDAFW still available, and would take some time to lose all heat sink, and cause the primary plant indications seen.

SRO Question 078

Tier 1 / Group 1

K/A Importance Rating - SRO 4.5

Ability to determine or interpret the following as they apply to a ATWS: Occurrence of a main turbine/reactor trip.

Reference(s) - FRP-S.1 and background doc

Proposed References to be provided to applicants during examination - None

Learning Objective - FRP-S.1 Obj 3

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

83. S029 G2.2.25 001

Which ONE (1) of the following describes the basis for the operability requirements of the Containment Purge Filter System?

The Containment Purge Filter System shall be OPERABLE.....

- A. during movement of recently irradiated fuel assemblies in Containment to mitigate the consequences of a Fuel Handling Accident in the CV.
- B. during movement of recently irradiated fuel assemblies in Containment to mitigate the consequences of a Fuel Handling accident in the SFP.
- C. prior to entering MODE 6 to reduce radiation levels once the Reactor Vessel head is detensioned and moved to the storage stand.
- D. prior to entering MODE 6 to reduce airborne activity during cavity flood up for core offload.

A-Correct.

B-Incorrect. Required to be operating while moving fuel in CV. SFP has its own filtering system that must be OPERABLE.

C-Incorrect. Flood up reduces radiation levels after head removal

D-Incorrect. See C.

SRO Question 092

Tier 2 / Group 2

K/A Importance Rating - SRO 3.7

Equipment Control Knowledge of bases in technical specifications for limiting conditions for operations and safety limits.

Reference(s) - TS 3.9.7 and basis

Proposed References to be provided to applicants during examination - None

Learning Objective - TS1 &2, Obj 2

Question Source - New

Question History -

Question Cognitive Level - Memory

10 CFR Part 55 Content - 43.2

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

84. S034 G2.1.23 001

Given the following conditions:

- The plant is in Mode 6 for refueling.
- Core reload from the SFP to containment is in progress.
- A fuel assembly has just been placed in the SFP upender to send to containment.

Which ONE (1) of the following conditions describes required actions to transfer the conveyor to the Containment?

- A. Both Containment and SFP Upender Operators are involved and must coordinate their actions.
- B. The SFP Upender Operator controls the entire evolution.
- C. The Containment Upender Operator controls the entire evolution.
- D. The CRSS directs the entire evolution.

A. Correct. Both operators involved. Switches on both panels must be manipulated

B. Incorrect. See A

C. Incorrect. See A

D. Incorrect. The CRSS does not direct Fuel Transfer activities.

SRO Question 093

Tier 2 / Group 2

K/A Importance Rating - SRO 4.0

Conduct of Operations: Ability to perform specific system and integrated plant procedures during all modes of plant operation.

Reference(s) -

Proposed References to be provided to applicants during examination - None

Learning Objective - FHS008

Question Source - Bank

Question History - 2001 Audit Exam. Not in RNP Bank

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.7,10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

85. S036 G2.4.6 001

Given the following conditions:

- The plant is in MODE 6 with fuel offload almost complete.
- The CV Manipulator is over the outer edge of the core with a bundle in the mast.
- Refueling cavity level is 36 inches below the operating deck and decreasing rapidly.

The crew enters AOP-020, Section B, Loss of RHR-Vessel Head OFF.

Which ONE (1) of the following describes the proper location for the fuel assembly?

- A. Original core location.
- B. CV RCC Change Fixture.
- C. Any empty core location.
- D. Cavity keyway area.

A-Correct. With the crane over the core, that is the safest place to put it.

B-Incorrect. RCC Change fixture is in area of CV Upender, but assembly could become uncovered.

C-Incorrect. Original location is only preferable

D-Incorrect. This area could become uncovered if the cavity continues to leak

SRO Question 083

Tier 1 / Group 1

K/A Importance Rating - SRO 4.0

Emergency Procedures / Plan Knowledge symptom based EOP mitigation strategies.

Reference(s) - AOP-020, section B, step 3 and basis

Proposed References to be provided to applicants during examination - None

Learning Objective - AOP 20, obj 3

Question Source - Bank

Question History - 2001 Audit Exam

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.7,10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

86. S056 G2.4.50 001

Given the following conditions:

- The plant is operating at 100% RTP.
- The following alarm is received in the Control Room:
 - APP-009-D7, GEN LO FREQ

The System Operator calls and reports grid instabilities and other area generating facilities have tripped off line.

- He reports that a low frequency condition is expected for the next 2 hours.
- Upon receiving the information, you are informed by the BOP that grid frequency has dropped to 58.2 Hz and has stabilized.

Which ONE (1) of the following actions is required IAW AOP-026, Low Frequency Operation?

- A. Reduce Turbine Load to maintain reactor power less than 100%.
- B. Reduce Generator Excitation to maintain stator current within limits of the generator capability curve.
- C. Monitor the low frequency condition, and if it exists for 5 minutes, trip the reactor and enter PATH-1.
- D. Trip the reactor, trip RCPs, and enter PATH-1.

A-Incorrect. Would perform if frequency was higher than 58.4 hz

B-Incorrect. May perform if required if frequency was greater than 59 hz

C-Incorrect. Action for frequency between 58.4 and 59 hz for 5 minutes

D-Correct.

SRO Question 079

Tier 1 / Group 1

K/A Importance Rating - SRO 3.3

Emergency Procedures / Plan Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.

Reference(s) - APP-009-D7, AOP-026

Proposed References to be provided to applicants during examination - None

Learning Objective - PATH-1 Obj 2

Question Source - New

Question History -

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

87. S062 AA2.02 001

Given the following plant conditions:

- The plant is at 100% RTP.
- AOP-022, Loss of Service Water, has been entered due to a leak on the North Service Water Header in the Auxiliary Building.

Which ONE (1) of the following components must be "VERIFIED STOPPED" or taken out of service to comply with AOP-022?

- A. "B" CCW Heat Exchanger and Excess Letdown.
- B. "B" EDG and "B" MDAFW pump.
- C. "A" CCW Heat Exchanger and "A" MDAFW pump.
- D. Both Service Water Booster pumps.

A Incorrect. Not on North header

B Correct.

C Incorrect. Wrong header

D Incorrect. "B" must be stopped, "A" must be running

SRO Question 080

Tier 1 / Group 1

K/A Importance Rating - SRO 3.6

Ability to determine and interpret the following as they apply to the Loss of Nuclear Service Water: The cause of possible CCW loss.

Reference(s) - AOP-022, Section C

Proposed References to be provided to applicants during examination - None

Learning Objective - SW010

Question Source - Bank

Question History - AOP-022-003-005

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

88. SE03 G2.4.16 001

Given the following conditions:

- A LOCA has occurred.
- The crew is performing PATH-1.
- The following parameters exist:
 - All SG pressures – 800 psig and slowly trending down.
 - All SG levels – being controlled at 28% NR.
 - PZR level – off-scale low.
 - Containment Pressure – 8 psig.
 - APP-002-A3, RWST HI/LO LVL, and APP-002-B3, RWST LO-LO LVL are extinguished.
 - RCS pressure – 500 psig and stable.

Based on these indications, which ONE (1) of the following procedures will the crew enter next?

- A. EPP-7, "SI Termination" to stop ECCS pumps.
- B. EPP-8, "Post-LOCA Cooldown and Depressurization" to cooldown and reduce RCS pressure.
- C. EPP-9, "Transfer to Cold Leg Recirculation" to allow for long term recirculation of the RCS.
- D. EPP-15, "Loss of Emergency Coolant Recirculation" to initiate makeup and minimize SI flow.

A-Incorrect. RCS Pressure not high enough, and no RCS inventory

B-Correct. Conditions require EPP-8 to depressurize and cooldown. RWST must be >27%

C-incorrect. RCS pressure and RWST level are high. Entry to EPP-9 is 27% RWST level.

D-incorrect. No indication that equipment needed for recirc is not available

SRO Question 085

Tier 1 / Group 1

K/A Importance Rating - SRO 3.4

Emergency Procedures / Plan Knowledge of EOP implementation hierarchy and coordination with other support procedures

Reference(s) - PATH-1, EPP-8

Proposed References to be provided to applicants during examination - None

Learning Objective - EPP-8 obj 2

Question Source - Modified Bank

Question History - 2002 Audit retake

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

89. SE04 G2.1.28 001

Given the following conditions:

- The reactor has tripped.
- Safety Injection is initiated. All equipment is operating as designed.
- The crew is performing the second column actions of PATH-1.
 - RCS Pressure is 1500 psig and stable.
 - PZR level is off scale low.
 - Containment pressure 0.2 psig.
 - The BOP is controlling S/G levels at desired band.
 - Containment and Secondary plant Radiation Monitors are at normal values.
 - Aux. Building Radiation Monitors are in alarm.

Which ONE (1) of the following describes the action required?

- A. Go to EPP-20, LOCA Outside Containment, and close RHR-744A and 744B, RHR Cold Leg Injection valves, to isolate a potential break in the RHR Cold Leg Injection piping.
- B. Go to EPP-20, LOCA Outside Containment, Trip both RHR pumps, then close RHR-744A and 744B, RHR Cold Leg Injection valves, to reduce break flow in the low pressure portions of the RHR system.
- C. Remain in PATH-1 until transition to EPP-15, Loss of Emergency Coolant Recirculation criteria is met.
- D. Remain in PATH-1 until SI Termination criteria is met, and then go to EPP-7, SI Termination to stop SI and RHR pumps.

A-Correct. 744A and B are able to isolate only the Cold Leg piping

B-Incorrect. RHR suction is unprotected by closing 744A/B

C-Incorrect. Indications are available for EPP-20. Sump level would never support recirculation with LOCA outside containment.

D-Incorrect. RCS pressure is high and stable, but indications are available for EPP-20 entry.

SRO Question 081

Tier 1 / Group 1

K/A Importance Rating - SRO 3.3

Conduct of Operations: Knowledge of the purpose and function of major system components and controls.

Reference(s) - EPP-20

Proposed References to be provided to applicants during examination - None

Learning Objective - EPP 20 obj 2

Question Source - New

Question History -

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.8/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

90. SE05 G2.1.27 001

Given the following conditions:

- A reactor Trip and Safety Injection have occurred.
- The crew has performed the actions of PATH-1.
- AFW flow cannot be established.
- All SG NR levels are off-scale low.
- The crew has entered FRP-H.1, Response to Loss of Secondary Heat Sink.
- RCS Pressure is 175 psig and stable.
- Intact SG pressures are 475 psig and trending down.

Which ONE (1) of the following describes the plant conditions and action required?

Steam Generators are...

- A. required to provide secondary heat sink. Remain in FRP-H.1.
- B. NOT required to provide secondary heat sink. Remain in FRP-H.1.
- C. required to provide secondary heat sink. Return to PATH-1.
- D. NOT required to provide secondary heat sink. Return to PATH-1.

A-Incorrect. Secondary heat sink is not required if SGs are at a higher pressure than the RCS. They act as a heat source.

B-Incorrect. If SGs are NOT required for heat sink, the crew will return to PATH-1.

C-Incorrect. SGs are NOT required, because RCS pressure is below SG pressure

D-Correct. LBLOCA, RCS less than SG pressure, return to PATH-1.

SRO Question 082

Tier 1 / Group 1

K/A Importance Rating - SRO 2.9

Conduct of Operations: Knowledge of system purpose and or function.

Reference(s) - FRP-H.1 and background doc

Proposed References to be provided to applicants during examination - None

Learning Objective - FRP-H.1 Obj 3

Question Source - Modified Bank

Question History - 2002 Audit Examination

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.10/43.5

Comments - System purpose relating to FRP-H.1, question is designed to assess knowledge of purpose of SGs as a heat sink during LOCA

QUESTIONS REPORT
for 04 NRC REV FINAL-1

91. SE06 EA2.1 001

Given the following plant conditions:

- A loss of coolant accident has taken place.
- Safety systems have not functioned as designed.
- RCPs are tripped.
- CETC temperature is 626 degrees.
- RVLIS Full Range is 40%.
- All S/G pressures are approximately 1025 psig.
- Total AFW flow is 325 gpm.
- S/G levels are 15%, 15% and 17% respectively.
- CV Pressure peaked at 7 psig.

Which ONE (1) of the following procedures should the operator implement at this time to respond to this event?

- A. FRP-H.1, "Response to Loss of Secondary Heat Sink".
- B. FRP-H.2, "Response to Steam Generator Overpressure".
- C. FRP-C.1, "Response To Inadequate Core Cooling".
- D. FRP-C.2 "Response To Degraded Core Cooling".

A Incorrect. Levels are not adequate but have sufficient flow.

B Incorrect. S/G pressures are <1140 psig.

C Incorrect. Temperature <700 degrees, so not C.1

D Correct. Temperature <700 degrees and RVLIS Full Range <41% with no RCPs

SRO Question 084

Tier 1 / Group 1

K/A Importance Rating - SRO 4.2

Ability to determine and interpret the following as they apply to the (Degraded Core Cooling) Facility conditions and selection of appropriate procedures during abnormal and emergency operations.

Reference(s) - CSFSTs

Proposed References to be provided to applicants during examination - None

Learning Objective - FRP-C.2

Question Source - Bank

Question History - FRP-C.2-02-003(slightly modified)

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

92. SE14 EA2.1 001

Given the following plant conditions:

- Large break LOCA in progress.
- RWST level is 33% and decreasing.
- Containment sump level 383 inches.
- Containment pressure 43 psig.
- Containment radiation level 11 R/hr.

Which ONE (1) of the following procedures should be entered?

- A. FRP-J.1, "Response To High Containment Pressure".
- B. FRP-J.2, "Response To Containment Flooding".
- C. FRP-J.3, "Response To High Containment Radiation Level".
- D. EPP-009, "Transfer To Cold Leg Recirculation".

A Correct.

B Incorrect. Sump level is high (orange), but the Red condition on pressure will take precedence

C Incorrect. Radiation would be a yellow condition on Ctmt CSF, but can't get there with correct path

D Incorrect. Level in sump satisfies inventory for recirc, but RWST level is too high at this time

SRO Question 086

Tier 1 / Group 1

K/A Importance Rating - SRO 3.8

Ability to determine and interpret the following as they apply to the (High Containment Pressure) Facility conditions and selection of appropriate procedures during abnormal and emergency operations.

Reference(s) - CSFSTs

Proposed References to be provided to applicants during examination - None

Learning Objective - FRP-J.2-002

Question Source - Bank

Question History - FRP-J.2-02-001

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 41.10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

93. SG2.1.11 001

Given the following plant conditions:

- Unit is operating at 100% RTP.
- An instrument failure causes PCV-455C to lift.
- PCV-455C tailpipe temperature remains elevated.
- RCS Pressure is recovering at a slower rate than expected.
- The operators respond per AOP-025.
- RCS pressure is 1950 psig and INCREASING slowly.

Which ONE (1) of the following describes the required actions in accordance with Technical Specifications?

- A. Close and remove power from associated block valve within one hour, restore RCS pressure to ≥ 2000 psig within 1 hour.
- B. Close and maintain power available to associated block valve within one hour, restore RCS pressure to ≥ 2000 psig within 2 hours.
- C. Close and remove power from associated block valve within one hour, restore RCS pressure to > 2205 psig within 1 hour.
- D. Close and maintain power available to associated block valve within one hour, restore RCS pressure to > 2205 psig within 2 hours.

A. Incorrect. 2000 psig is setpoint for PORV closure and SI unblock / PORV cannot be cycled manually, therefore remove power to block valve; must be > 2205 psig to satisfy ITS 3.4.1. 2 hours allowed

B. Incorrect action for PORV that cannot be cycled; 2000 psig is setpoint for PORV closure and SI unblock / must be > 2205 psig to satisfy ITS 3.4.1

C. Incorrect. Don't have to remove control power if PORV is able to be manually cycled

D. Correct action if PORV capable of being cycled; correct action for RCS pressure; have 2 hours to restore RCS pressure

SRO Question 094

Tier 3

K/A Importance Rating -SRO 3.8

Knowledge of less than one hour technical specification action statements for systems.

Reference(s) - AOP-025 Sect C, PZR-FIGURE-9, ITS 3.4.11, B3.4.11 & 3.4.1
Proposed References to be provided to applicants during examination - NONE

Learning Objective - TS

Question Source - Modified Bank

Question History - TS 3.4.11-1

Question Cognitive Level - Comprehension

10 CFR Part 55 Content - 43.2

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

94. SG2.1.3 001

Given the following plant conditions:

- The Unit is in Mode 2.
- A reactor startup is in progress IAW GP-003, Plant Startup From Hot Shutdown to Critical.
- The on-coming shift has arrived in the control room for shift relief.

Which ONE (1) of the following is correct concerning shift turnover IAW OMM-001-12, Minimum Equipment List and Shift Turnover?

- A. Turnover can occur at any convenient point during the start-up but may ONLY be performed at the normal watchstation for the person being relieved.
- B. Turnover during the approach to criticality should be avoided. The shift can be turned over only with the approval of the SSO.
- C. Turnover during the approach to criticality should be avoided. The shift can be turned over only with the approval of the Manager - Operations.
- D. Turnover can occur at any convenient point during the startup as long as NO other evolutions are in progress.

A-Incorrect

B-Correct. Turnover during the approach to criticality should be avoided. Major evolutions in progress should be completed prior to relief of on -shift personnel. Evolutions in progress will be turned over only with the approval of the SSO.

C-Incorrect.

D-Incorrect.

SRO Question 095

Tier 3

K/A Importance Rating - SRO 3.4

Knowledge of shift turnover practices.

Reference(s) - OMM-001-12, section 8.1.3

Proposed References to be provided to applicants during examination - None

Learning Objective - LP OMM-001-12, Objective 3

Question Source - Bank

Question History - Robinson Bank OMM-001-12-03-004

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

95. SG2.2.12 001

A partial OST has been directed to perform a Post Maintenance Test (PMT).

Which ONE (1) of the following describes a condition where a step in the OST may be marked "N/A"?

- A. To change the conditions or intent of the OST to meet the PMT requirements.
- B. When a prerequisite of the OST can not be met.
- C. To designate components that are not being used as part of the PMT or are not applicable to test performance.
- D. Identifies components that are out of service during the performance of the OST.

A Incorrect. Using N/A to change conditions or intent is forbidden.

B Incorrect. Using N/A to change prerequisites is forbidden.

C Correct. N/A should be used when performing partial OSTs to designate components that will not be used in the OST.

D Incorrect. If required equipment is OOS, OOS should be marked next to the step as well as action taken in the OST "comments" section.

SRO Question 097

Tier 3

K/A Importance Rating - SRO 3.4

Knowledge of surveillance procedures.

Reference(s) - OMM-015, section 8.2.2 and 8.2.3

Proposed References to be provided to applicants during examination - NO

Learning Objective - OMM-015 Objective 2

Question Source - Bank

Question History - 2001 NRC Retake #8

Question Cognitive Level - Memory

10 CFR Part 55 Content - 43.2

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

96. SG2.2.25 001

Which ONE (1) of the following describes ONLY components assumed to operate at their setpoints to prevent exceeding the Technical Specification Safety Limit on RCS pressure?

- A. Pressurizer PORVs and Main Steam Safety Valves.
- B. Pressurizer Safety Valves and Main Steam Safety Valves.
- C. Pressurizer PORVs and Main Steam Line PORVs.
- D. Pressurizer Safety Valves and Main Steam Line PORVs.

A Incorrect. PORVs not assumed.

B Correct.

C Incorrect. PORVs not assumed.

D Incorrect. PORVs not assumed.

SRO Question 098

Tier 3

K/A importance Rating - SRO 3.7

Knowledge of basis in technical specifications for limiting conditions for operations and safety limits.

Reference(s) - TS Basis Pg. B 2.0.6-2.07

Proposed References to be provided to applicants during examination - NONE

Learning Objective - TS LP Objective 3

Question Source - Bank

Question History - 2002 NRC SRO 78

Question Cognitive Level - Memory

10 CFR Part 55 Content - 43.1

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

97. SG2.2.6 001

A Procedure Revision Request (PRR) has been initiated on an overdue OST due to the possibility of equipment damage if performed as written.

Which ONE (1) of the following describes the priority that will be assigned to the PRR and what other actions are required?

- A. Priority 1. Make immediate change and initiate NCR.
- B. Priority 1. Place procedure on Administrative Hold until next biennial review.
- C. Priority 2. Make immediate change and initiate NCR.
- D. Priority 2. Place procedure on Administrative Hold until next biennial review.

A-Correct.

B-Incorrect. Won't place procedure on admin hold because it is an OST (overdue)

C-Incorrect. Equipment damage would be priority 1. Actions are correct.

D-Incorrect. Wrong priority, wrong actions.

SRO Question 096

Tier 3

K/A Importance Rating - SRO 3.3

Knowledge of the process for making changes in procedures as described in the safety analysis report.

Reference(s) - PRO-NGGC-0204, page 18 of 59, step 9.1.3.2

Proposed References to be provided to applicants during examination - None

Learning Objective -

Question Source - New

Question History -

Question Cognitive Level - Memory

10 CFR Part 55 Content - 43.3

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

98. SG2.3.9 001

Which ONE (1) of the following describes the correct sequence for initiating a Containment Purge for Refueling Operations?

- A✓ Place the Purge or Refuel valves control switch in the REFUEL position, place a CV Purge Fan control switch in START, verify purge supply and exhaust valves and containment intake damper open, then verify the fan starts.
- B. Place a CV Purge Fan control switch in START, verify containment intake damper opens, verify fan starts, verify purge supply and exhaust valves open. Place the Purge or Refuel valves control switch in the REFUEL position.
- C. Place the Purge or Refuel valves control switch in the REFUEL position, place a CV Purge Fan control switch in START, verify the fan starts first, then verify purge supply and exhaust valves and containment intake damper open.
- D. Place a CV Purge Fan control switch in START, verify fan starts, verify containment intake damper opens and purge supply and exhaust valves open. Place the Purge or Refuel valves control switch in the REFUEL position.

A-Correct sequence

B-Incorrect. Fan does NOT start first

C-Incorrect. The fan will not start until valves and dampers realign

D-Incorrect. Switch is placed in REFUEL prior to starting fan

SRO Question 099

Tier 3

K/A Importance Rating - SRO 3.4

Knowledge of the process for performing a containment purge.

Reference(s) - OP-921 section 8.4.2

Proposed References to be provided to applicants during examination - None

Learning Objective - CVHVAC004

Question Source - Bank

Question History - Robinson 2001 NRC Retake

Question Cognitive Level - Memory

10 CFR Part 55 Content - 43.4

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

99. SG2.4.16 001

Given the following conditions:

- A loss of Component Cooling Water has occurred.
- The reactor was tripped in accordance with AOP-014, Loss of Component Cooling Water.
- The crew has entered PATH-1.

Which ONE (1) of the following describes the continued use of AOP-014, Loss of Component Cooling Water?

- A. Use of AOP-014 is NOT allowed during EOP performance.
- B. AOP-014 may ONLY be used concurrently with actions of PATH-1.
- C. AOP-014 may be used concurrently with EOPs ONLY if NO Red or Orange FRP's are being performed.
- D. AOP-014 may be used concurrently as necessary under all conditions of EOP use.

A-Incorrect. AOP-014 is designated as a concurrent use AOP

B-Incorrect. May also be used with other EPPs

C-Correct.

D-Incorrect. During Red or Orange procedure implementation, all other procedure usage stops

SRO Question 100

Tier 3

K/A Importance Rating - SRO 4.0

Knowledge of EOP implementation hierarchy and coordination with other support procedures.

Reference(s) - OMM-22 section 8.3.14

Proposed References to be provided to applicants during examination - None

Learning Objective - OMM-022, Obj 3

Question Source - Modified Bank

Question History - 2002 NRC Question 87 Modified

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.10/43.5

Comments -

QUESTIONS REPORT
for 04 NRC REV FINAL-1

100. SG2.4.37 001

Given the following conditions:

- An ALERT has been declared.
- The SSO has assumed responsibility as the SEC.
- The EOF and TSC are not yet activated.

Which ONE (1) of the following may the SEC delegate to another individual?

- A. Re-Classifying the event in progress.
- B. Terminating the event when conditions are no longer met.
- C. Making Protective Action Recommendations (PARs).
- D. Notifying Off-Site agencies.

A-Incorrect. Reclassification is non-delegable

B-Incorrect. Termination is non-delegable

C-Incorrect. PARs are to be performed by the SEC

D. Correct. A communicator may make the notifications

Question SRO 087

Tier 3

K/A Importance Rating - SRO 3.5

Knowledge of the lines of authority during an emergency.

Reference(s) - PLP-007

Proposed References to be provided to applicants during examination - None

Learning Objective - E-Plan Obj 1

Question Source - New

Question History -

Question Cognitive Level - Memory

10 CFR Part 55 Content - 41.10

Comments -