

QUESTIONS REPORT
for Final Draft

37. 056 G2.1.30 001/BANK/1608/LOWER//2/2/RO/

A clogged main condensate pump suction strainer can normally be detected locally by _____ and from the control room by _____.

- A. a decrease in pump noise level; low feedwater pump suction pressure
- B. a decrease in pump noise level; low feedwater pump discharge pressure
- C. pressure gauges on either side of the strainer; fluctuating motor current and low feedwater pump suction pressure
- D. pressure gauges on either side of the strainer; fluctuating motor current and low feedwater pump discharge pressure

A and B are incorrect because pump noise would increase.

B is incorrect because noise would increase

B and D are incorrect because feedwater pump suction pressure will be low (not discharge pressure).

Ability to locate and operate components, including local controls.

Question Number: 65

Tier 2 Group 2

Importance Rating: RO 3.9

Technical Reference: NCRODP-25

Proposed references to be provided to applicants during examination: None

Learning Objective: OB 16478

Question Source: Bank

Question History: 1608

Question Cognitive Level: Lower

10 CFR Part 55 Content: 41

Comments:

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38. 057 AA2.15 001/NEW//HIGHER//1/1/RO/

Given the following conditions:

Unit 1 is at 100% power.
All equipment is in service.
The following events occur:

RPS Channel III status lights illuminate.
NIS Cabinet N-43 indication is extinguished.
Multiple control room annunciators are received.
The crew is performing appropriate actions in accordance with plant procedures.

Which ONE of the following describes the event that has occurred, and the initial response of the unit?

- A. Loss of Bus 1J; an automatic reactor trip will occur.
- B. Loss of Inverter 1-III; an automatic reactor trip will occur.
- C. Loss of Bus 1J; an automatic reactor trip will NOT occur.
- D. Loss of Inverter 1-III; an automatic reactor trip will NOT occur.

D. Correct. All channel III bistables illuminate on loss of inverter 1-III and subsequent loss of 120VAC vital bus 1-III. Reactor will not automatically trip on loss of a single protection channel (need at least two channels).

A and C are incorrect because a loss of 1J bus will not cause a loss of the inverter, which is supplied with DC power from the associated battery and charger. Plausible because bus 1J supplies the associated battery charger.

A and B are incorrect because an automatic reactor trip will not occur.

Ability to determine and interpret the following as they apply to: That a loss of AC has occurred.

Question Number: 11

Tier 1 Group 1

Importance Rating: RO 3.8

Technical Reference: NCRODP-35-NA

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: New

Question History:

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

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39. 058 AK1.01 001/NEW//HIGHER//1/1/RO/

Given the following conditions:

Unit 1 is at 100% power.

The following alarm is received in the control room:

1H-B1, BATTERY CHGR 1-I TROUBLE

Which ONE of the following describes the indication(s) that may be used to determine whether a ground exists on the associated DC bus?

- A. 0-150 VDC negative/positive ground meters on battery charger AND negative/positive ground indicating lights on DC bus panel.
- B. 0-150 VDC negative/positive ground meters AND test jacks on battery charger.
- C. Negative/positive ground indicating lights on DC bus panel ONLY.
- D. Test jacks on battery charger ONLY.

A. Correct. The charger has meters and the DC Panel has light indication to determine if a ground exists.

B and D are incorrect because jacks are for transferring loads one-by-one to the adjacent DC bus for identification of the grounded load.

C is incorrect because there are also meters on the charger that can be used.

Knowledge of the operational implications of the following concepts as they apply to the: Battery charger equipment and instrumentation.

Question Number: 12

Tier 1 Group 1

Importance Rating: RO 2.8

Technical Reference: NCRODP-35-NA

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: New

Question History:

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

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40. 059 K1.03 001/NEW//HIGHER//2/1/RO/

Given the following:

Unit 1 is at 75% power.

"B" Main Feedwater Regulating Valve fails open.

"B" SG level indicates 76% NR and trending up.

Which ONE of the following describes the plant response?

- A. HI-HI SG level directly initiates a Reactor Trip and Feedwater Isolation. Main Feedwater Pumps remain running
- B. HI-HI SG level directly initiates a Reactor Trip, Feedwater Isolation, and Main Feedwater Pump trip.
- C. HI-HI SG level directly initiates a Turbine Trip and Feedwater Isolation. Main Feedwater Pumps remain running.
- D. HI-HI SG level directly initiates a Turbine Trip, Feedwater Isolation, and Main Feedwater Pump trip.

D. Correct. HI-HI SG level (P-14) directly initiates a turbine trip, MFW trip, and feedwater isolation.

A and B are incorrect because P-14 does not directly initiate a reactor trip.

A and C are incorrect because MFW pumps do not remain running.

Knowledge of the physical connections and/or cause-effect relationships between (SYSTEM) and the following:
S/GS.

Question Number: 40

Tier 2 Group 1

Importance Rating: RO 3.1

Technical Reference: NCRODP-26-NA

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: New

Question History:

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

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41. 059 K3.02 001/NEW//HIGHER//2/1//

Given the following conditions:

Unit 1 is at 100% power.

A Main Feed Line Rupture has occurred in the Turbine Building.

SG N/R levels are lowering at a rate of approximately 50% per minute and are currently as follows:

SG "A" 26% N/R

SG "B" 24% N/R

SG "C" 21% N/R

All equipment operates as required.

Which ONE of the following describes the status of the unit?

- A. A reactor trip setpoint has been exceeded. AFW Pumps are running.
- B. A reactor trip setpoint has been exceeded. AFW Pumps are NOT running.
- C. A reactor trip setpoint has NOT been exceeded. AFW Pumps are running.
- D. A reactor trip setpoint has NOT been exceeded. AFW Pumps are NOT running.

B. Correct. AFW Pumps will start at 18% SG Level in 1/3 SGs. Level is too high for AFW initiation. A trip setpoint would be exceeded if there is a steam flow/feed flow mismatch and SG level below 25%. In this case, 50% per minute level decrease would mean a significant deviation exists (FF < SF).

A and C are incorrect because AFW pumps are NOT running.

C and D are incorrect because a reactor trip setpoint has been exceeded.

Knowledge of the effect that a loss or malfunction of the (SYSTEM) will have on the following: AFW system.

Question Number: 53

Tier 2 Group 1

Importance Rating: RO 3.6

Technical Reference: NCRODP-26-NA

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: New

Question History:

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

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42. 061 AK1.01 001/NEW//LOWER//1/2/RO/

Which ONE of the following describes the MAXIMUM reading that can be obtained on the Containment High Range Area Radiation Monitors, 1-RMS-RM-165 and 166?

- A. 10^3 R/Hr
- B. 10^5 R/Hr
- C. 10^6 R/Hr
- D. 10^7 R/Hr

D. Correct. Range for Hi Range Monitors is 10^0 to 10^7 R/Hr.

A, B, C are incorrect (see D). Other area radiation monitor upper limits are 10^6 and/or 10^3 R/Hr. The adverse containment setpoint is 10^5 R/Hr.

Knowledge of the operational implications of the following concepts as they apply to the: Detector limitations.

Question Number: 21

Tier 1 Group 2

Importance Rating: RO 2.5
Technical Reference: NCRODP-46-NA
Proposed references to be provided to applicants during examination: None
Learning Objective:
Question Source: New
Question History:
Question Cognitive Level: Lower
10 CFR Part 55 Content: 41

Comments:

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43. 061 K6.08 001/NEW//HIGHER//2/1/RO/

Given the following conditions:

A reactor trip has occurred on Unit 1 due to a loss of Main Feedwater. During the performance of 1-E-0, Reactor Trip or Safety Injection, AFW Pump 1-FW-P-2 trips on overspeed.

Prior to any action by the crew, which ONE of the following describes the Steam Generators that are being supplied with AFW flow?

- A. All SGs
- B. A and B SGs only
- C. A and C SGs only
- D B and C SGs only

D. Correct. 1-FW-P-2 is normally aligned to SG 1A. If it trips, SG 1A will be supplied by the other AFW pumps only after manual alignment.

A, B, and C are all incorrect, since SG 1A will have no AFW flow without crew manual actions.

Knowledge of the effect that a loss of malfunction of the following will have on the (SYSTEM): Pumps.

Question Number: 41

Tier 2 Group 1

Importance Rating: RO 2.6

Technical Reference: NCRODP-26-NA

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: New

Question History:

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

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44. 062 AG2.4.6 001/NEW//HIGHER//1/1/RO/

Given the following:

A large-break LOCA has occurred on Unit 1.
The crew is performing actions of 1-E-0, Reactor Trip or Safety Injection.
The crew determines that there is **NO** SW flow to the RS Heat Exchangers.

Which ONE of the following actions is required **in accordance with 1-E-0?**

- A. Go to 0-AP-12, Loss of Service Water. When completed, return to 1-E-0.
- B. Continue with 1-E-0 to transition, then perform Attachment 2, Verification of Phase B Isolation, to establish RSHX SW flow.
- C. Initiate Attachment 2, Verification of Phase B Isolation, to establish RSHX SW flow while continuing with 1-E-0.
- D. Perform 0-AP-12, Loss of Service Water, while continuing with 1-E-0.

C. Correct. Per DNAP-0509 rules of usage, the EOPs have priority over APs and ARs. Also, 0-AP-12 does not address loss of SW flow to RSHX's.

A. Incorrect. (see C).

B. Incorrect. Attachment 2 is directed by 1-E-0 step 11 and also by CAP.

D. Incorrect. (see C).

Knowledge of symptom based EOP mitigation strategies.

Question Number: 13

Tier 1 Group 1

Importance Rating: RO 3.1

Technical Reference: 1-E-0

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: None

Question History:

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
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45. 062 K2.01 001/BANK/5998/HIGHER//2/1/RO/

The following plant conditions exist.

- Unit 1 is at 100% power
- Unit 2 is in Mode 3 following a refueling outage with all 3 RCPs running
- Bus 5 in the switchyard is out of service
- An earthquake occurs that causes Unit 1 to trip and the loss of bus 4 in the switchyard

Which ONE of the following describes the Unit 1 and Unit 2 Reactor Coolant Pump (RCP) status? (assume all equipment operates normally)

- A. Only Unit 1 "C" and Unit 2 "C" RCPs are running.
- B. All RCP's running except Unit 2 "A" & "B".
- C. All RCPs running except Unit 1 "C" and Unit 2 "C".
- D. Only Unit 1 "A" and Unit 2 "A" RCPs are running.

B. Correct. Bus 4 supplies "A" and "B" RSST, which will be supplying unit-2 "A" and "B" 4160V SS busses. Loss of bus 4 will cause unit-2 "A" and "B" RCPs to trip on UF/UV. Unit-2 "C" RCP will be unaffected, since it is powered from "C" SS bus, which is powered from "C" RSST, which is powered from bus 3. None of unit-1 RCPs will be affected, since unit-1 SS busses are powered from generator output via SS Xfmrs. A, C, D all incorrect (see B).

Knowledge of electrical power supplies to the following: Major system loads.

Question Number: 42

Tier 2 Group 1

Importance Rating: RO 3.3

Technical Reference:

Proposed references to be provided to applicants during examination: None

Learning Objective: OB 16091

Question Source: Bank

Question History: 5998

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

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46. 063 K2.01 001/BANK/3136/HIGHER//2/1/RO/

Given the following conditions:

- Unit 2 was operating at 100% power.
- 2-CH-P-1A was running.
- A loss of DC control power to the 2J bus has occurred.
- While stabilizing the unit, Safety Injection actuated.

Which ONE of the following pump combinations will exist as a result of these failures?

- A. 2-CH-P-1A running, 2-CH-P-1B not running, 2-CH-P-1C not running
- B. 2-CH-P-1A running, 2-CH-P-1B not running, 2-CH-P-1C running
- C. 2-CH-P-1A running, 2-CH-P-1B running, 2-CH-P-1C not running
- D. 2-CH-P-1A not running, 2-CH-P-1B running, 2-CH-P-1C running

A. Correct. Bus 2J supplies power to 2-CH-P-1B. Losing DC control power to bus 2J will cause equipment to NOT start as required. 2-CH-P-1A will remain running. 2-CH-P-1C has no auto-start features so will remain not running.

B and D are incorrect because 2-CH-P-1C has no auto-start feature.

C and D are incorrect because 2-CH-P-1B has no control power and will not be running.

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

Question Number: 43

Tier 2 Group 1

Importance Rating: RO 2.9

Technical Reference: NCRODP-18-NA

Proposed references to be provided to applicants during examination: None

Learning Objective: OB 11969

Question Source: Bank

Question History: 3136

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

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47. 064 A3.01 001/NEW//HIGHER//2/1/RO/

Given the following:

Unit 1 is at 100% power.

1H 4160V bus normal feeder breaker 15H11 spuriously tripped open.

Which ONE of the following describes the response of 1H EDG and starting air system?

1H EDG will...

- A. start and load. The starting air compressors will start directly from the EDG start signal, and will stop when air receiver pressure reaches 200 psig.
- B. start and load. The starting air compressors will start when air receiver pressure drops to 200 psig, and will stop when air receiver pressure reaches 240 psig.
- C. start and run unloaded. The starting air compressors will start directly from the EDG start signal, and will stop when air receiver pressure reaches 200 psig.
- D. start and run unloaded. The starting air compressors will start when air receiver pressure drops to 200 psig, and will stop when air receiver pressure reaches 240 psig.

D. Correct. The EDG will start and load on bus UV if there is a spurious breaker trip that de-energizes the bus. The air compressors will start on low pressure in the associated receiver. They automatically stop when 240 psig is restored. The EDG output breaker would not close onto the bus if there was a lockout, but in this case there is no lockout.

A and C are incorrect because the starting air compressors do not start directly from a EDG start signal.

C and D are incorrect because the EDG will load (see D).

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Ability to monitor automatic operations of the (SYSTEM) including: Automatic start of compressor and ED/G.

Question Number: 44

Tier 2 Group 1

Importance Rating: RO 4.1

Technical Reference: NCRODP-55-NA

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: New

Question History:

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

48. 065 AG2.1.23 001/BANK/3744/HIGHER//1/1/RO/

The crew is responding to a loss of instrument air using 1-AP-28, "Loss of Instrument Air," when the RO identifies that pressurizer level is 5% and lowering rapidly.

Which ONE of the following describes the actions required?

- A. Continue performance of 1-AP-28 until an automatic reactor trip occurs, then exit 1-AP-28 and initiate performance of 1-E-0.
- B. Immediately initiate performance of 1-E-0, "Reactor Trip or Safety Injection," and continue performance of 1-AP-28 as resources permit.
- C. Exit 1-AP-28 and immediately initiate performance of 1-E-0. Resume actions of 1-AP-28 upon exiting the EOPs.
- D. Continue performance of 1-AP-28 until completion, then if the cause for the pressurizer level decrease has not been corrected, trip the reactor and perform 1-E-0.

B. Correct. The crew should trip the reactor if PRZR level is 5% and lowering rapidly to prevent an automatic reactor trip on PRZR low pressure. 1-AP-28 is allowed to be used concurrently if necessary with 1-E-0.

A. Incorrect. A manual trip is required in order to prevent an automatic trip, and EOPs take precedence over APs.

C. Incorrect. 1-AP-28 can be performed concurrently with 1-E-0 as resources permit.

D. Incorrect. (see A).

Ability to perform specific system and integrated plant procedure during all modes of plant operation.

Question Number: 14

Tier 1 Group 1

Importance Rating: RO 3.9

Technical Reference: 1-AP-28

Proposed references to be provided to applicants during examination: None

Learning Objective: OB 18877

Question Source: Bank

Question History: 3744

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
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49. 069 AK1.01 001/NEW//HIGHER//1/2/RO/

In accordance with the accident analyses, which ONE of the following events would result in the HIGHEST peak Containment pressure?

- A. DBA LOCA, Beginning of Core Life, 100% power.
- B. DBA LOCA, End of Core Life, 0% power.
- C. Main Steam Break inside Containment, Beginning of Core Life, 100% power.
- D. Main Steam Break inside Containment, End of Core Life, 0% power.

D. Correct. Per TS 3.6.4 basis, limiting MSLB would be at EOL, with 0% power resulting in additional mass from SG. DBA LOCA is credible because it is the other analyzed accident and results in containment pressure increasing.

A, B, C all incorrect (see D).

Knowledge of the operational implications of the following concepts as they apply to the: Effect of pressure on leak rate.

Question Number: 22

Tier 1 Group 2

Importance Rating: RO 2.6

Technical Reference: TS 3.6.4.1 Basis

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: New

Question History:

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41/43

Comments:

QUESTIONS REPORT
for Final Draft

50. 073 A1.01 001/BANK/5164/LOWER//2/1/RO/

With a containment vacuum pump running on each unit, process vent particulate radiation monitor 1-GW-RI-178-3 indication spiked, causing an ALERT and HIGH alarm to lock in.

Which ONE of the following describes the plant response?

- A. ONLY the unit 1 vacuum pump will trip.
- B. Both units' vacuum pumps will trip, but discharge valves remain open.
- C. Both units' vacuum pump discharge valves will automatically close.
- D. ONLY the unit 1 vacuum pump discharge valve will automatically close.

C. Correct. Discharge valves for both units vacuum pumps will close.

A. Incorrect. Both units' vacuum pump discharge valves will close and pumps will then trip.

B. Incorrect. Discharge valves will close.

D. Incorrect. (see A)

Ability to predict and/or monitor changes in parameters associated with operating the (SYSTEM) controls including:
Radiation levels.

Question Number: 45

Tier 2 Group 1

Importance Rating: RO 3.2

Technical Reference: NCRODP-46-NA

Proposed references to be provided to applicants during examination: None

Learning Objective: OB 17679

Question Source: Bank

Question History: 5164

Question Cognitive Level: Lower

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

51. 076 GG2.1.2 001/BANK/5901/HIGHER//2/1/RO/

Given the following:

- Both units are operating at 100% power.
- The unit 2 Service Water pumps are running.
- A rupture occurs on an expansion joint on the "B" SW header in the Auxiliary Building.
- The control room crew enters 0-AP-12, Loss of Service Water.
- The unit 2 "B" SW pump trips and the unit 1 "A" pump CANNOT be started.

Which ONE of the following describes the required action?

- A. enter action of T.S. 3.7.8.C only and restore SW loop within 72 hours
- B. start unit 1 "B" SW pump to restore flow to one header
- C. trip both reactors due to no flow to an intact header
- D. evaluate the need to perform an orderly shut down on either or both units

C. Correct. Total Loss of SW with inability to regain will require tripping both units per step 2 of AP.

A. Incorrect. This is the action for one loop inoperable, but both loops are inoperable.

B. Incorrect. Do not start a SW pump on a ruptured SW header.

D. Incorrect. Orderly shutdown is not appropriate with no SW flow.

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

Question Number: 46

Tier 2 Group 1

Importance Rating: RO 3.0

Technical Reference: 0-AP-12

Proposed references to be provided to applicants during examination: None

Learning Objective: OB 19102

Question Source: Bank

Question History: 5901

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

52. 076 K1.17 001/NEW//LOWER//2/1/RO/

Which ONE of the following describes the operation of the Radiation Monitoring Pumps on the Recirculation Spray Heat Exchangers following a large-break LOCA?

- A. Starts immediately. Pump will stop when Phase B isolation is reset.
- B. Starts immediately. Pump will only stop by resetting Phase B isolation and placing the pump in STOP.
- C. Starts after 2 minutes. Pump will stop when Phase B isolation is reset.
- D. Starts after 2 minutes. Pump will only stop by resetting Phase B isolation and placing the pump in STOP.

D. Correct. 1-SW-P-5, 6, 7, 8 will automatically start 2 minutes after CIB. Once running, it takes 2 actions to stop (if running due to auto actuation).

A and B are incorrect because the pump does not start immediately.

A and C are incorrect because the pump must be placed in STOP.

Knowledge of the physical connections and/or cause-effect relationships between (SYSTEM) and the following: PRMS.

Question Number: 51

Tier 2 Group 1

Importance Rating: RO 3.6

Technical Reference: NCRODP-46-NA

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: New

Question History:

Question Cognitive Level: Lower

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

53. 078 GG2.1.28 001/NEW//LOWER//2/1/RO/

Which ONE of the following describes the function of the Turbine Building Instrument Air Dryer Bypass Valve, 2-IA-TV-211?

- A. Opens at 90 psig decreasing instrument air header pressure; automatically closes at 90 psig increasing instrument air header pressure
- B. Opens at 90 psig decreasing instrument air header pressure; must be manually reset to close above 90 psig increasing instrument air header pressure
- C. Opens at 80 psig decreasing instrument air header pressure; automatically closes at 80 psig increasing instrument air header pressure
- D. Opens at 80 psig decreasing instrument air header pressure; must be manually reset to close above 80 psig increasing instrument air header pressure

B. Correct. Dryer bypass will auto open at 90 psig and decreasing. Must be manually reset to allow closing valve.

A and C are incorrect because valve will not automatically close on increasing pressure.

C and D are incorrect because the pressure setpoint is 90 psig.

Distractors are plausible because they represent setpoints that are close to actual. Also plausible that signal resets without manual action.

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

Question Number: 47

Tier 2 Group 1

Importance Rating: RO 3.2

Technical Reference: NCRODP-17-NA; 12050-P-IA-222

Proposed references to be provided to applicants during examination: None

Learning Objective: OB 18573

Question Source: New

Question History:

Question Cognitive Level: Lower

10 CFR Part 55 Content: 41

Comments:

Similar to bank questions

QUESTIONS REPORT
for Final Draft

54. 078 K4.01 001/NEW//LOWER//2/1/RO/

Given the following:

Service Air Compressor 1-SA-C-1 is in HAND.
Service Air Compressor 2-SA-C-1 is in AUTO.

Which ONE of the following describes the operation of each compressor in this configuration?

- A. 1-SA-C-1 will run unloaded as long as SA pressure remains above its unload setpoint.
- B. 2-SA-C-1 will run unloaded as long as SA pressure remains above its unload setpoint.
- C. 1-SA-C-1 will load and unload at lower air pressure setpoints than 2-SA-C-1.
- D. BOTH Service Air Compressors will load and unload at the same air pressure setpoints.

A. Correct. In HAND, if the compressor is running unloaded, it will remain running as long as SA pressure is > the unload S/P.

B. Incorrect. In AUTO, if the compressor is running unloaded for 15 minutes, it will shut down.

C. Incorrect. The compressor in HAND loads and unloads at higher SA pressure than the compressor in AUTO.

D. Incorrect. (see C).

Knowledge of design feature(s) and or interlock(s) which provide for the following: Manual/automatic transfers of control.

Question Number: 54

Tier 2 Group 1

Importance Rating: RO 2.7

Technical Reference: NCRODP-17-NA

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: New

Question History:

Question Cognitive Level: Lower

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
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55. 086 G2.1.28 001/BANK//LOWER//2/2/RO/

Which ONE of the following best describes the operation of the pre-action sprinkler system for the Records Room vault?

- A. Piping is always full of water requiring only sprinkler head actuation based on detection of either heat or smoke.
- B. Sprinkler head actuates when heat is detected, to discharge compressed air, allowing water to flow through the system against a lowering pressure.
- C. Compressed air is bled off when smoke is detected, allowing water to flow through the system against a lowering pressure.
- D. A stop valve opens when smoke is detected, and then the sprinkler head actuates if exposed to heat.

D. Correct. Pre-Action requires operation of a stop valve prior to filling pipe, ensuring that failure of a sprinkler head will not cause system actuation.

A. Incorrect. Piping is not full of water and sprinkler heads do not actuate on smoke.

B. Incorrect. Piping is not full of compressed air and water will not flow unless smoke is detected.

C. Incorrect. Piping is not full of compressed air.

Distractors are credible because they all represent operation or partial operation of other fire protection systems

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

Question Number: 61

Tier 2 Group 2

Importance Rating: RO 3.2

Technical Reference: NCRODP-6-NA

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: Bank

Question History:

Question Cognitive Level: Lower

10 CFR Part 55 Content: 41

Comments:

Modified distractors significantly, but editorial in nature

QUESTIONS REPORT
for Final Draft

56. 103 K4.01 001/NEW//LOWER//2/1/RO/

Which ONE of the following describes the operation of Containment Vacuum pumps 3A and 3B?

- A. Automatically operate to maintain Containment Vacuum. A vacuum breaker ensures containment vacuum is not reduced below 5.5 psia.
- B. Automatically operate to maintain Containment Vacuum. Vacuum breaker protection is NOT provided.
- C. Manually operated to maintain Containment Vacuum. A vacuum breaker ensures containment vacuum is not reduced below 5.5 psia.
- D. Manually operated to maintain Containment Vacuum. Vacuum breaker protection is NOT provided.

D. Correct. Pumps are manually operated to maintain containment vacuum within limits. Vacuum breaker protection is not required because it would take a vacuum pump running for a significant period of time (weeks) to lower vacuum enough to cause damage to containment. Multiple alarms exist to alert operators to containment vacuum below setpoint.

A and B are incorrect because vacuum pumps are not run in automatic.

A and C are incorrect because there is no vacuum breaker to protect containment from excessive vacuum.

Knowledge of (SYSTEM) design feature(s) and or interlock(s) which provide for the following: Vacuum breaker protection.

Question Number: 48

Tier 2 Group 1

Importance Rating: RO 3.0

Technical Reference: NCRODP-57-NA

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: New

Question History:

Question Cognitive Level: Lower

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

57. E03 EA2.1 002/BANK/WTSI/HIGHER//1///

Given the following conditions:

- A LOCA has occurred
- The crew is performing 1-E-1, Loss of Reactor or Secondary Coolant
- The following parameters exist:
 - All SG pressures – 930 psig and slowly trending down
 - All SG levels – being controlled at 42% NR
 - PRZR level – off-scale high
 - RVLIS Full Range indicates 20%
 - Containment Pressure – 23 psia
 - RWST level – 74% and decreasing slowly
 - RCS pressure – 800 psig and decreasing slowly

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

- A. 1-ES-1.1, SI Termination
- B. 1-ES-1.2, Post-LOCA Cooldown and Depressurization
- C. 1-ES-1.3, Transfer to Cold Leg Recirculation
- D. 1-E-2, Faulted Steam Generator Isolation

B-Correct. RCS Pressure not stable, and low RCS inventory (low reactor vessel level and high PRZR level indicates a large head bubble).

A-Incorrect. (see B)

C-Incorrect. RCS pressure and RWST level are high. Entry to ES-1.3 on low RWST level.

D-Incorrect. SG pressures are trending down because RCS temperature is trending down.

QUESTIONS REPORT

for Final Draft

Ability to determine and interpret the following as they apply to: Facility conditions and selection of appropriate procedures during abnormal and emergency operations.

Question Number: 24

Tier 1 Group 2

Importance Rating: RO 3.4

Technical Reference: 1-E-1

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: Bank

Question History: WTSI Bank (Harris 2005 Audit)

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41/43

Comments:

QUESTIONS REPORT

for Final Draft

58 X. E04 EK3.4 001/BANK/HARRIS 2005 NRC/LOWER//1/1/RO/

Given the following conditions:

- A LOCA outside containment has occurred.
- The crew is performing the actions in 1-ECA-1.2, LOCA Outside Containment.

Which ONE of the following actions will be attempted to isolate the break and which indication is used to determine if the leak has been isolated in accordance with 1-ECA-1.2?

- A✓ Isolate Low Head Safety Injection piping; RCS pressure is monitored, because SI flow will repressurize the RCS with the break isolated.
- B. Isolate Low Head Safety Injection piping; PRZR level is monitored, because with the break isolated, RCS inventory will rapidly rise.
- C. Isolate High Head Safety Injection piping; RCS pressure is monitored, because SI flow will repressurize the RCS with the break isolated.
- D. Isolate High Head Safety Injection piping; PRZR level is monitored, because with the break isolated, RCS inventory will rapidly rise.

A-Correct. Per 1-ECA-1.2, monitor RCS pressure. The design basis LOCA outside containment is on the LHSI piping, not HHSI piping.

B and D are incorrect because RCS inventory will increase, but may not immediately show up on PRZR level.

C and D are incorrect because the design basis LOCA outside containment is on LHSI piping

Knowledge of the reasons for the following responses as they apply to: RO or SRO function 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.

Question Number: 15

Tier 1 Group 1

Importance Rating: RO 3.6

Technical Reference: 1-ECA-1.2

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: Bank

Question History: Harris 2005 NRC (Editorially Modified)

Question Cognitive Level: Lower

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

59. E05 EK1.3 001/BANK/BVPS-2 2002/HIGHER//1/1/RO/

A reactor trip has occurred due to a loss of all feedwater.

The following conditions exist:

The crew has entered 1-FR-H.1, Response To Loss of Secondary Heat Sink.
SG levels are 38% wide range and slowly trending down.

RCS pressure is 2240 psig and lowering.

SG pressure is 1040 psig and lowering.

Annunciators AUX FD PP 3A-3B AUTO TRIP and TURBINE DRIVEN AFW
PUMP TROUBLE OR LUBE OIL TRBL are both lit.

Attempts to establish AFW flow were unsuccessful.

No other actions have been taken in 1-FR-H.1.

Which ONE of the following is performed NEXT?

- A✓ Stop RCPs and attempt to initiate main feedwater flow.
- B. Stop RCPs and establish bleed and feed cooling of the RCS.
- C. Return to 1-E-1, Loss Of Reactor Or Secondary Coolant, for the LOCA in progress.
- D. Depressurize SGs and initiate feed using the condensate pumps.

A. Correct. These are the next actions per 1-FR-H.1.

B. Incorrect. Bleed and feed is only required if SG WR level is less than 14% (32% adverse).

C. Incorrect. No LOCA indicated. RCS pressure is greater than SG pressures.

D. Incorrect. Action may be taken if AFW cannot be restarted and MFW cannot be started.

QUESTIONS REPORT
for Final Draft

Knowledge of the operational implications of the following concepts as they apply to the: Annunciators and conditions indicating signals, and remedial actions associated with the Loss of Secondary Heat Sink.

Question Number: 18

Tier 1 Group 1

Importance Rating: RO 3.9

Technical Reference: 1-FR-H.1, 1-AR-F-D8, 1-AR-F-C5

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: Bank

Question History: BVPS-2 2002 NRC

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

60. E06 EK3.1 001/BANK/BVPS-1 2002 NRC/HIGHER//1/2/RO/

Given the following conditions:

A LOCA has occurred.

Due to ECCS failures, the crew is performing 1-FR-C.2, Response to Degraded Core Cooling.

The crew is depressurizing steam generators to inject SI Accumulators.

Which ONE of the following Critical Safety Functions could potentially exhibit a RED condition as a result of this action?

- A. Containment, because the resulting reactor vessel reflood will result in large energy release to containment.
- B. Core Cooling, because the equipment failures that required entry to 1-FR-C.2 may lead to conditions resulting in a red path in Core Cooling.
- C. Heat Sink, due to the inability to maintain SG inventory during depressurization.
- D. Integrity, due to injection of SI accumulators following SG depressurization.

D. Correct. Per 1-FR-C.2, injection of SI accumulators could result in a red path on Integrity.

A. Incorrect. Energy addition due to vessel reflood will not be sufficient to cause containment red path.

B. Incorrect. Current condition may worsen to red condition but not due to actions taken in 1-FR-C.2.

C. Incorrect. Adequate feed flow is available to avoid red path on heat sink.

Knowledge of the reasons for the following responses as they apply to: 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.

Question Number: 27

Tier 1 Group 2

Importance Rating: RO 3.4

Technical Reference: 1-FR-C.2

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: Bank

Question History: BVPS-1 2002 NRC

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

61. E09 EA1.3 002/BANK/WTSI/HIGHER//1/2/RO/

Given the following conditions:

A reactor trip has occurred due to a loss of offsite power.
The crew is performing actions of 1-ES-0.2A, Natural Circulation Cooldown with CRDM Fans.
RVLIS is NOT available.
The crew has commenced RCS depressurization to 1950 psig.

The following conditions are indicated:

RCS pressure is 2030 psig and trending DOWN.
RCS Tavg is 547°F and trending DOWN slowly.
PRZR Level is 26% and stable.

Which ONE of the following actions is required?

- A. Continue depressurization to 1950 psig and block the Low PRZR Pressure SI inputs.
- B. Initiate Safety Injection and go to 1-E-0, Reactor Trip Or Safety Injection.
- C. Stop the cooldown, Block the Low PRZR Pressure SI inputs, and initiate depressurization to 1950 psig.
- D. Stop the depressurization and go to 1-ES-0.4, Natural Circulation Cooldown With Steam Void In Vessel (Without RVLIS)

- A. Correct. For the stated conditions, the next action is to depressurize and block Low PRZR pressure SI.
- B. Incorrect. SI actuation criteria are not met.
- C. Incorrect. RCS must be depressurized to 1950 psig prior to blocking Low PRZR SI inputs.
- D. Incorrect. Indications of voiding, or conditions that may cause voiding, do not exist.

QUESTIONS REPORT
for Final Draft

Ability to operate and/or monitor the following as they apply to : Desired operating results during abnormal and emergency situations.

Question Number: 25

Tier 1 Group 2

Importance Rating: RO 3.5

Technical Reference: 1-ES-0.2A

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: Bank

Question History: WTSI Bank (Harris Audit Exam)

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

62. E10 EK2.2 001/BANK/WOLF CREEK/HIGHER//1/2/RO/

Given the following:

- The reactor was tripped due to a loss of all Component Cooling Water.
- The crew is performing the actions of 1-ES-0.4, Natural Circulation Cooldown with Steam Void in Vessel (without RVLIS)

The following conditions currently exist:

- RCS pressure is 1600 psig
- RCS temperature is 450°F

Which ONE of the following describes the reason for equalizing charging and letdown flows during the subsequent depressurization?

- A✓ Allows pressurizer level to be used to monitor void growth.
- B. Charging and letdown flows by themselves are the only true measure of RCS inventory at this point in the procedure.
- C. Ensures that stable conditions are established to ensure that the pressurizer does not go solid.
- D. Ensures pressurizer heaters will remain energized and available to collapse any voids that may be present.

A. Correct. Equalizing Charging and letdown will allow the crew to determine that RCS inventory is not changing. Without RVLIS, the only way to determine if the void is growing is to determine if PRZR level is changing. The PRZR may indicate 100% due to void growth, but the size of the void is measured by the amount of level increase if charging and letdown is equal.

B. Incorrect. Matched charging and letdown flows must be used in conjunction with PRZR level to gauge RCS inventory.

C. Incorrect. PRZR going solid is not a concern, since a head bubble will exist and RCS overpressurization will not occur.

D. Keeping PRZR heaters covered is not the goal of matching charging and letdown flows.

QUESTIONS REPORT for Final Draft

Knowledge of the interrelations between (Emergency Plant Evolution) and the following: Facility's heat removal systems, including primary coolant, emergency coolant, the decay heat removal systems and relations between the proper operation of these systems to the operation of the facility.

Question Number: 26

Tier 1 Group 2

Importance Rating: RO 3.6

Technical Reference: 1-ES-0.4

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: Bank

Question History: Wolf Creek (2006 Audit)

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

63. E11 EK2.1 001/BANK/BVPS-2 2005 NRC/HIGHER//1/1/RO/

Given the following conditions:

- A LOCA has occurred.
- Due to multiple equipment failures, the crew is performing actions of 1-ECA-1.1, Loss Of Emergency Coolant Recirculation.
- Two charging pumps and two LHSI pumps are running.
- RWST level is approximately 3% and continues to lower.

Which ONE of the following describes the NEXT actions required in accordance with 1-ECA-1.1?

- A. Stop ONE charging pump and ONE LHSI pump and verify NO backflow from the RWST to containment sump.
- B. Stop ONE charging pump and ONE LHSI pump and initiate secondary depressurization to facilitate SI accumulator injection.
- C. Stop ALL pumps taking a suction from the RWST and verify NO backflow from the RWST to containment sump.
- D✓ Stop ALL pumps taking a suction from the RWST and initiate secondary depressurization to facilitate SI accumulator injection.

- A. Incorrect. RWST level is too low to leave any pumps running.
- B. Incorrect. RWST level is too low to leave any pumps running.
- C. Incorrect. Correct action for pumps, but instead of being concerned with backflow, the crew must initiate depressurization.
- D. Correct. RWST level at 3% requires immediately stopping all pumps taking suction from the RWST.

QUESTIONS REPORT
for Final Draft

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

Question Number: 16

Tier 1 Group 1

Importance Rating: RO 3.6

Technical Reference: ECA-1.1

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: Bank

Question History: BVPS-2 2005 NRC

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

64. E12 EK2.1 001/BANK/HARRIS 2003 NRC/HIGHER//1/1/RO/

Given the following conditions:

-1-ECA-2.1, Uncontrolled Depressurization of All Steam Generators is being performed.

-The crew has reduced AFW flow to all steam generators (SG) to minimum as they continue attempts to isolate the SGs.

Which ONE of the following describes the expected plant response to the AFW flow reduction and what actions are to be taken as SG pressures decrease?

- A. RCS hot leg temperatures will eventually begin to increase due to reduction of SG inventory and the crew will then transition to 1-ES-1.1, Safety Injection Termination.
- B. RCS hot leg temperatures will eventually begin to increase due to reduction in SG inventory and the crew will then increase AFW flow while continuing in 1-ECA-2.1, Uncontrolled Depressurization of All Steam Generators.
- C. The SGs will eventually become completely depressurized due to inadequate secondary heat sink and the crew will then transition to 1-E-2, Faulted Steam Generator Isolation.
- D. The SGs will eventually become completely depressurized due to inadequate secondary heat sink and the crew will then transition to 1-ES-1.1, Safety Injection Termination.

B. Correct. When AFW flow is reduced, eventually hot leg temperatures will rise when SG inventory is depleted. The purpose of minimizing AFW flow is to minimize RCS cooldown and inventory loss.

A. Incorrect. 1-ECA-2.1 must be performed to completion unless a SG is isolated or tubes rupture.

C. Incorrect. The SGs depressurize as long as they are faulted, but transition to 1-E-2 is only performed when 1 SG repressurizes.

D. Incorrect. (see A).

QUESTIONS REPORT
for Final Draft

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

Question Number: 17

Tier 1 Group 1

Importance Rating: RO 3.4

Technical Reference: 1-ECA-2.1

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: Bank

Question History: Harris 2003 NRC

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

65. E15 EG2.1.23 001/NEW//HIGHER//1/2/RO/

Given the following conditions:

- A LOCA has occurred.
- RCS pressure is 220 psig.
- Containment pressure peaked at 41 psia.
- Containment Pressure is 26 psia and lowering slowly.
- All automatic actuations have occurred as required.
- The crew is about to transition from 1-E-0, Reactor Trip or Safety Injection.
- Due to an ORANGE condition on the Containment CSF Status Tree, the US has determined that transition to FR-Z.2, Response to High Containment Sump Level is required.

Which ONE of the following describes the likely sources of leakage that may require action to isolate?

- A. Component Cooling Water
- B Service Water
- C. Primary Grade Water
- D. Chilled Water

B. Correct. Service Water will be flowing to the RS Heat Exchangers.
A, C, and D are all incorrect because CCW, Chilled Water and PG are all isolated by either CIA and/or CIB actuations.

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

Question Number: 23

Tier 1 Group 2

Importance Rating: RO 3.9

Technical Reference: 1-FR-Z.2

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: New

Question History:

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

66. G2.1.1 001/BANK/NORTH ANNA 2004 NRC/LOWER/3/1/RO/NORTH ANNA 2004 NRC

Valve lineups are in progress to support unit startup. The valve lineup being worked specifies that a valve should be "locked 2 turns open."

Which ONE of the following correctly describes the process for initially checking, and for independently verifying the valve's position?

- A✓ The valve should be fully closed, then re-opened 2 turns with a simultaneous verifier observing and concurring that the valve is opened 2 turns, then the lock should be installed.
The independent verifier should verify the lock is properly installed on the correct valve.
- B. The valve should be fully closed, then re-opened 2 turns, then the lock should be installed. No SV is required.
The independent verifier should visually verify valve position and check that the lock is properly installed.
- C. The valve should be fully closed, then re-opened 2 turns with a simultaneous verifier observing and concurring that the valve is opened 2 turns, then the lock should be installed.
The independent verifier should remove the lock and fully close the valve, then re-open the valve 2 turns and install the lock.
- D. The valve should be fully closed, then re-opened 2 turns with a simultaneous verifier observing and concurring that the valve is opened 2 turns.
The independent verifier should visually verify valve position and install the lock.

A. Correct. The valve would be simultaneously verified when it was positioned since an OP-1A was being performed (could not be sure of valve's initial position). The IV'er would verify that a lock was installed on the correct valve and that it was properly locked (plant OE where a lock was found to be improperly locked).

B. Incorrect. The valve would need to be simultaneously verified when it was positioned. The IV'er would be unable to determine whether the valve was in the correct position. This is the way a locked closed or locked open valve would be positioned and verified.

C. Incorrect. There still needs to be independent verification that the lock is installed correctly on the valve.

D. Incorrect. This would ensure the valve was placed in the correct position; however, without the lock being initially installed, there would be no guarantee that it was still positioned correctly when the IV'er arrived.

QUESTIONS REPORT
for Final Draft

Knowledge of conduct of operations requirements.

Question Number: 68

Tier 3 Group 1

Importance Rating: RO 3.7

Technical Reference: OPAP-0012

Proposed references to be provided to applicants during examination: None

Learning Objective: 13611

Question Source: Bank

Question History: North Anna 2004 NRC

Question Cognitive Level: Lower

10 CFR Part 55 Content: 41

Comments:

Conduct of Operations

Knowledge of conduct of operations requirements

North Anna bank question 60113

References:

OPAP-0012

Objective 13611 in study guide for Administrative procedures (Not included as is parrots OPAP-0012)

QUESTIONS REPORT
for Final Draft

67. G2.1.22 001/MODIFIED/NORTH ANNA 2004 NRC/LOWER//3/2/RO/

RCS temperature is currently stable at 355° F. Rated thermal power is <5% and Keff is <0.99.

Which ONE of the following is the correct operational mode for the given condition?

- A. Mode 5
- B. Mode 4
- C. Mode 3
- D. Mode 2

Incorrect. Mode 5 is defined as < 200°F.

Incorrect. Mode 4 is defined as > 200°F but < 350°F

Correct. Mode 3 is defined as > 350°F.

Incorrect. Mode 2 is defined as < 5% power.

Ability to determine Mode of Operation.

Question Number: 67

Tier 3 Group 1

Importance Rating: RO 2.8

Technical Reference: TS Table 1.1-1

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: MODIFIED

Question History: MOD From 2004 NRC Exam

Question Cognitive Level: Lower

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

64

G2.1.3 001/BANK/2754/LOWER//3/1/RO/

As the Unit-2 OATC, you are preparing to take a mid-day meal break.

Based on the requirements of OPAP-0005, "Shift Relief and Turnover," which of the following is required?

- A. All activities in which you are involved must be stopped until you return.
- B. Since you will be returning very soon, only a short-term relief is required.
- C. You must perform a shift turnover as if you were leaving for the day.
- D. The applicable unit SRO must remain in the control room until you return.

B. Correct. For rest room and meal breaks, short-term relief is all that is required.

A. Incorrect. There is no requirement to stop all activities, only to ensure the unit is stable prior to turnover.

C. Incorrect. (see B).

D. Incorrect. There is no requirement for the on shift SRO to remain in the control room, although it is plausible considering one person on shift will be leaving.

Knowledge of shift turnover practices.

Question Number: 66

Tier 3 Group 1

Importance Rating: RO 3.0

Technical Reference: OPAP-0005

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: Bank

Question History: 2754

Question Cognitive Level: Lower

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

69. G2.2.11 001/NEW//LOWER//3/2/RO/

In accordance with VPAP-1403, Temporary Modifications, which ONE of the following conditions must be controlled as a Procedurally Controlled Temporary Modification?

- A✓ Plugs installed in floor drains in the New Fuel Receiving area.
- B. Portable HVAC unit installed in Warehouse #5 fire pump house.
- C. Temporary lead shielding package installed per applicable VPAP.
- D. Hose connected to 2-CD-289, CD circ pumps discharge drain valve, for CD system blowdown.

A. Correct. Per VPAP-1403, this requires a PCTM.

B, C, and D are all incorrect. The stated conditions are all excluded from being controlled as TMs per VPAP-1403.

Knowledge of the process for controlling temporary changes.

Question Number: 69

Tier 3 Group 2

Importance Rating: RO 2.5

Technical Reference: VPAP-1403

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: New

Question History:

Question Cognitive Level: Lower

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

70. G2.2.24 001/NEW//HIGHER//3/2/RO/

Which ONE of the following activities requires entry into a technical specification LCO **limiting** action statement? Assume both units at 100% power.

- A. 1-CC-P-1B seal repair with the remaining CCW subsystems operable
- B. Breaker PMs on PRZR backup heater group 5 supply breaker
- C. Casing cooling tank level transmitter loop calibration per ICP
- D. Boron injection tank recirculation local flow indicator leak repair

C. Correct. Per 1-ICP-RS-L-103A and TS-3.6.7, performance of LT loop calibration renders the associated train of Containment Recirculation Spray inoperable.

A. Incorrect. Per TS-3.7.19, with either unit in Mode 1 - 4, a single CC subsystem can be removed from service without entering the TS action (TS-3.7.19 only requires three out of four CC subsystems to be operable). Plausible if candidate believes all four CC subsystems must be operable.

B. Incorrect. Per TS-3.4.9, with unit in mode 1 - 3, two groups of PRZR heaters must be operable and capable of being powered from emergency bus. Backup heater group 5 is powered from SS bus. Plausible is candidate believes group 5 is powered from emergency bus.

D. Incorrect. Per SR-3.5.6.2, with unit in mode 1 - 3, BIT volume must be verified in spec every 7 days. The BIT recirc flow indicator is used to satisfy this surveillance. If the flow indicator is removed from service for leak repair, the surveillance is satisfied by opening a vent on top of the BIT. This does not render the BIT inoperable. Plausible if candidate misunderstands the definition of a limiting action.

Ability to analyze the affect of maintenance activities on LCO status.

Question Number: 70

Tier 3 Group 2

Importance Rating: RO 2.6

Technical Reference: 1-ICP-RS-L-103A; TS-3.7.19; TS-3.4.9; TS-3.5.6; PRZR Control & Protection Self-Study Guide, p. 20

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: New

Question History:

Question Cognitive Level: Higher

10 CFR Part 55 Content:

Comments:

QUESTIONS REPORT
for Final Draft

71. G2.2.4 001/BANK//LOWER//3/2/RO/

Which ONE of the following identifies a difference between unit 1 and unit 2?

- A. Unit 1 train "A" emergency loads are normally powered from "B" RSST;
Unit 2 train "A" emergency loads are normally powered from "A" RSST.
- B. Common radiation monitors are powered from either unit 1 train "B" (1J1-1) or unit 2 train "A" (2H1-1).
- C. Unit 1 train "A" emergency loads are normally powered from "C" RSST;
Unit 2 train "A" emergency loads are normally powered from "B" RSST.
- D. Common radiation monitors are powered from either unit 1 train "A" (1H1-1) or unit 2 train "B" (2J1-1).

C. Correct. Unit-1 train A is supplied from "C" RSST; unit-2 train "A" is supplied from "B" RSST.

A. Incorrect. (see C).

B and D are incorrect. Common Radiation Monitors are powered from 1J1-1 and 2J1-1. Ability to explain the variations in control board layouts, systems, instrumentation and procedural actions between units at a facility.

Question Number: 71

Tier 3 Group 2

Importance Rating: RO 2.8

Technical Reference:

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: Bank

Question History:

Question Cognitive Level: Lower

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

72. G2.3.2 001/BANK/NORTH ANNA 2004 NRC/LOWER/2.9/3/3/RO/Y

Which ONE of the following is NOT part of the ALARA plan for reducing dose during a unit refueling outage?

- A✓ Using the gas stripper to degas the primary during RCS cooldown.
- B. Fully opening one RCS loop bypass MOV during RCS cooldown.
- C. Fully opening PRZR spray valves one at a time after blocking Low PRZR Pressure SI inputs.
- D. Keeping RCPs running as long as possible during RCS cooldown.

A. Correct. The RCS is degassed to reduce hydrogen concentration to allow the loops to be opened for maintenance.

B. Incorrect. This is an ALARA practice to allow cleanup of the inactive bypass lines. This answer could be chosen if the examinee does not realize that it is allowable to open one bypass MOV as long as the other two RCS loops are operable.

C. Incorrect. This is an ALARA practice to flush hot spots out of the spray lines. Examinee could choose this answer if he/she does not realize that a spray valve may be opened as long as RCP NPSH requirements and pressurizer cooldown limits are monitored.

D. Incorrect. Keeping the RCPs running during cooldown keeps crud deposits from forming in the idle loops causing hot spots. An examinee could choose this answer if he/she does not realize that hot spots can form in idle loops.

Knowledge of facility ALARA program.

Question Number: 73

Tier 3 Group 3

Importance Rating: RO 2.5

Technical Reference: 1-OP-3.2, "Unit Shutdown from Mode 3 to Mode 4."

Proposed references to be provided to applicants during examination: None

Learning Objective: 12958

Question Source: Bank

Question History: 2004 NRC Exam

Question Cognitive Level: Lower

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

73. G2.3.9 001/NEW//LOWER//3/3/RO/

Given the following:

Unit 1 has just entered Mode 5.

A Containment Purge is being initiated per 1-OP-21.2, Containment Purge.

Containment Partial Pressure is 9.8 psia.

The crew is preparing to establish atmospheric conditions in Containment.

Which ONE of the following describes the method that will be used to establish atmospheric conditions in Containment?

- A. Open 1-HV-MOV-102, CONT PURGE RELIEF VALVE
- B. Open 1-MOV-HV-100A **OR** 1-MOV-HV-100B, CONT PURGE SUPPLY VALVE
- C. Open 1-MOV-HV-100A **AND** 1-MOV-HV-100B, CONT PURGE SUPPLY VALVE
- D. Open 1-MOV-HV-101, CONT PURGE EXH BYPASS VALVE

A. Correct. Relief Valve is used for raising containment pressure to atmospheric

B and C are incorrect. Outside Purge Supply valve should not be opened because it could cause a collapse of Purge system ductwork, although the actions would result in Cnmt pressure increase

D is incorrect. Valve would be opened when purge initiated if less than 11000 CFM. Opening the valve would cause containment pressure to rise.

Knowledge of the process for performing a containment purge.

Question Number: 72

Tier 3 Group 3

Importance Rating: RO 2.5

Technical Reference: 1-OP-21.2

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: New

Question History:

Question Cognitive Level: Lower

10 CFR Part 55 Content: 41

Comments:

QUESTIONS REPORT
for Final Draft

74. G2.4.14 001/BANK/BVPS-2 NRC 2005/HIGHER/3/4/RO/

Given the following conditions:

A LOCA has occurred.

'A' train ECCS equipment is operating as required.

'B' train is deenergized and ECCS equipment HAS NOT been started.

The US has announced transition to 1-E-1, Loss of Reactor or Secondary Coolant.

Critical Safety Function Status Trees indicate the following:

SUBCRITICALITY	GREEN
CORE COOLING	ORANGE
HEAT SINK	YELLOW
INTEGRITY	ORANGE
CONTAINMENT	ORANGE
INVENTORY	YELLOW

Which ONE of the following actions shall be taken?

- A. Transition to 1-FR-C.1, Response to Inadequate Core Cooling.
- B. Transition to 1-FR-C.2, Response to Degraded Core Cooling.
- C. Transition to 1-FR-Z.1, Response to High Containment Pressure.
- D. Attempt to start Train 'B' equipment in 1-E-1, then transition to the highest priority procedure if conditions cannot be cleared.

Orange condition on Core Cooling requires transition to FR-C.2. A is incorrect but credible because some CSF status trees require entry to top level procedures for red or orange conditions. C is credible because FR-Z.1 would be entered on orange condition, and criteria is met. D is incorrect because the action would have been taken in 1-E-0, not in E-1. Once monitoring is in progress, go directly to the highest level FR procedure with condition met.

QUESTIONS REPORT
for Final Draft

Knowledge of general guidelines for EOP flowchart use.

Question Number: 74

Tier 3 Group 4

Importance Rating: RO 3.0

Technical Reference: EOP User's Guide, F-0.2

Proposed references to be provided to applicants during examination: None

Learning Objective:

Question Source: Bank

Question History: BVPS-2 NRC 2005

Question Cognitive Level: Higher

10 CFR Part 55 Content: 41

Comments: