PROPOSED

LaSalle 2008

WRITTEN

EXAMINATION

Question 01 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.7 Instrumentation

System: 215003 IRM

K/A: K1.02 Knowledge of the physical connections and/or cause-effect relationship between INTERMEDIATE RANGE MONITOR (IRM) SYSTEM AND THE FOLLOWING: Reactor Manual Control

I.R.: 3.6 / 3.6 10CFR 55 Content Part 41.2 to 41.9 / 43.(b) N/A / 45.7, 45.8

License Level: RO Cognitive Level: Memory

Objective: 042.00.18 PRA: No

Question Exposure: 07-01 NRC Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Which of the following properly describes which IRMs are assigned to the RMCS rod block logic?

A. IRMs A, B, E, and F are assigned to Activity Control Unit 1

B. IRMs A, B, E, and F are assigned to Activity Control Unit 2

C. IRMs A, C, E, and G are assigned to Activity Control Unit 1

D. IRMs A, C, E, and G are assigned to Activity Control Unit 2

Correct Answer A:
IRMs A, B, E, and F are assigned to Activity Control Unit 1

Explanation: IRMs A, B, E, and F are assigned to Activity Control Unit 1 per Lesson Plan 042, Intermediate Power Range Monitors, page 8.

Distracter B:
IRMs A, B, E, and F are assigned to Activity Control Unit 2

Distracter C:
IRMs A, C, E, and G are assigned to Activity Control Unit 1

Distracter D:
IRMs A, C, E, and G are assigned to Activity Control Unit 2

Distracters are plausible if the student confuses which of the IRMs are assigned to each RMCS Activity Control Unit or if the IRM assignments to RMCS are confused with the IRM assignments to the RPS system.

References:
Lesson Plan 042, Intermediate Power Range Monitors, page 8.

Question 02 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.6 Electrical

System: 264000 EDGs
K1.06 - Knowledge of the physical connections and/or cause- effect relationships between EMERGENCY GENERATORS (DIESEL/JET) and the following: Starting system

I.R.: 3.2 / 3.2 10CFR 55 Content Part 41.2 to 41.9 / 45.7 to 45.8

License Level: RO Cognitive Level: High

Objective: 011.00.05 PRA: Yes

Question Exposure: 07-01 NRC Exam

Source: New question developed for the 07-01 NRC Exam

Stem:
The 1A Diesel Generator has just experienced the complete loss of pressure in Train ‘B’ of the Starting Air system.

Which of the following describes the starting capability of the 1A Diesel Generator in the described condition?

The 1A Diesel Generator is ….....

A. NOT capable of starting due to a loss of Control Air pressure.

B. NOT capable of starting due to a loss of ALL Starting Air pressure.

C. capable of starting on a manual start signal ONLY, using Train ‘A’ Starting Air pressure.

D. capable of starting on a manual OR automatic start signal, using Train ‘A’ Starting Air pressure.

Correct Answer D:
capable of starting on a manual OR automatic start signal, using Train ‘A’ Starting Air pressure.

Explanation: Train 'A' remains pressurized due to the normal line-up which maintains the cross-tie between the 'A' and 'B' in the closed position, allowing air pressure to be maintained in the Train 'A' Starting Air System.

Distracter A.:NOT capable of starting due to a loss of Control Air pressure.
This answer is incorrect as Train 'A' will function as required to start the 1A DG.

Distracter B:
NOT capable of starting due to a loss of ALL Starting Air pressure.
Maintaining the cross tie valve in the closed position prevents losing pressure in both the 'A' and 'B' trains in the described condition.

Distracter C: capable of starting on a manual start signal ONLY, using Train ‘A’ Starting Air pressure.
Reason Distracter #3 is incorrect: the described condition does not impact the automatic start of the 1A DG.

References:
P&ID M-83 sheet 1
Lesson Plan 11, Emergency Diesel Generators

Question 03 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.1 Reactivity Control

System: 211000 SLC

K/A: K2.02 - Knowledge of electrical power supplies to the following: Explosive valves

I.R.: 3.1 / 3.2 10CFR 55 Content Part 41.7

License Level: RO Cognitive Level: High

Objective: 028.00.14 PRA: Yes

Question Exposure: 07-01 NRC Exam

Source: Modified Question

This question is modeled after a question used on the 01-01 NRC Written Exam. The stem was changed to align with conditions for the loss of 135X-1 rather than 136X-2. Two distracters were changed to include Div. 1 and Div. 2 DC power supplies to challenge the examinee's understanding of power supplies for SBLC components, MAE 3/5/08.

Stem:
BEFORE starting SBLC from Control Room Panel 1H13-P603, the reactor operator observed the following conditions:
- ON light for 1C41-F004A; SBLC INJ SQUIB VLV was EXTINQUISHED
- ON light for 1C41-F004B; SBLC INJ SQUIB VLV was LIT
- Annunciator 1H13-P603 A105 SBLC SQUIB VLV CONTINUITY LOSS was LIT.

Which of the following is the cause of these indications?

A. Loss of power from Bus 111Y

B. Loss of power from Bus 112Y

C. Loss of power from Bus 135X-1

D. Loss of power from Bus 136X-2

Correct Answer C:

Loss of power from Bus 135X-1

Explanation: Loss of power from 135X-1 is the correct answer as this is the power supply to 1C41-F004A and the loss of power to the valve will cause the valve's ON light to be OFF and annunciator 1H13-P603 A105 to alarm.

Distracter A: Loss of power from Bus 111Y

Loss of power from Bus 111Y is incorrect as it is a DC power supply and is not associated with power to the SBLC valves listed or the valve's indication.

Distracter B: Loss of power from Bus 112Y

Loss of power from Bus 112Y is incorrect as it is a DC power supply and is not associated with power to the SBLC valves listed or the valve's indication.

Distracter D: Loss of power from Bus 136X-2

Reason Distracter #3 is incorrect: Loss of power from Bus 136X-2 is incorrect as this is the power supply to 1C41-F004B, which has the ON light LIT, indicating no loss of power to the valve.

References:
LOR-1H13-P603-A105
Lesson Plan 28, SBLC
1E-1-4209AA a

Question 04 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.2 Reactor Water Inventory Control

System: 209002 HPCS

K/A: K2.03 Knowledge of electrical power supplies to the following: Initiation logic: BWR-5,6.

I.R.: 2.8 / 2.9 10CFR 55 Content Part 41.7

License Level: RO Cognitive Level: High

Objective: 061.00.08 PRA: Yes

Question Exposure: 07-01 NRC Exam

Source: INPO Bank question

Stem:

A LOCA has occurred on Unit 2
- Drywell pressure is 2.1 psig
- Reactor water level is -25 inches and stable
- The HPCS injection valve has been manually closed
- The HPCS Pump has been overridden to STOP

Which of the following describes the response of the HPCS system if Off-site power is lost and the ESF buses are re-energized by their respective Diesel Generators?

The HPCS system will…..

A. INJECT to the vessel by manual operation ONLY.

B. automatically INJECT to the vessel on a Level 2 signal.

C. immediately INJECT to the vessel on a High Drywell Pressure signal.

D. immediately ALIGN valves to inject to the vessel, but require a manual pump start.

Correct Answer A: INJECT to the vessel by manual operation ONLY.

Explanation: The loss of AC power does not affect the status of the DC control logic and the injection valve manual override stays in, even if RPV level goes to Level 2.

Distracter B: automatically INJECT to the vessel on a Level 2 signal.

Distracter C: immediately INJECT to the vessel on a High Drywell Pressure signal.

Distracter D: immediately ALIGN valves to inject to the vessel, but require a manual pump start.

Distracters B, C, and D are incorrect as manually closing the injection valve and turning off the pump overrides the system automatic logic and requires manual action to reopen the valve and/or start the pump.

References:
1E-1-4222AB
1E-1-4222AD
System Lesson Plan 061, HPCS

Question 05 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.4 Heat Removal from Reactor Core

System: 205000 Shutdown Cooling System

K/A: K3.03 Knowledge of the effect that a loss or malfunction of the SHUTDOWN COOLING SYSTEM (RHR SHUTDOWN COOLING MODE) will have on following: Reactor temperatures (moderator, vessel, flange)

I.R.: 3.8 / 3.9 10CFR 55 Content Part 41.7 / 45.4

License Level: RO Cognitive Level: High

Objective: 064.00.18 PRA: No

Question Exposure: 07-01 NRC Exam

Source: This is a modified bank question taken from the LORT exam bank and developed for the 07-01 NRC ILT Exam

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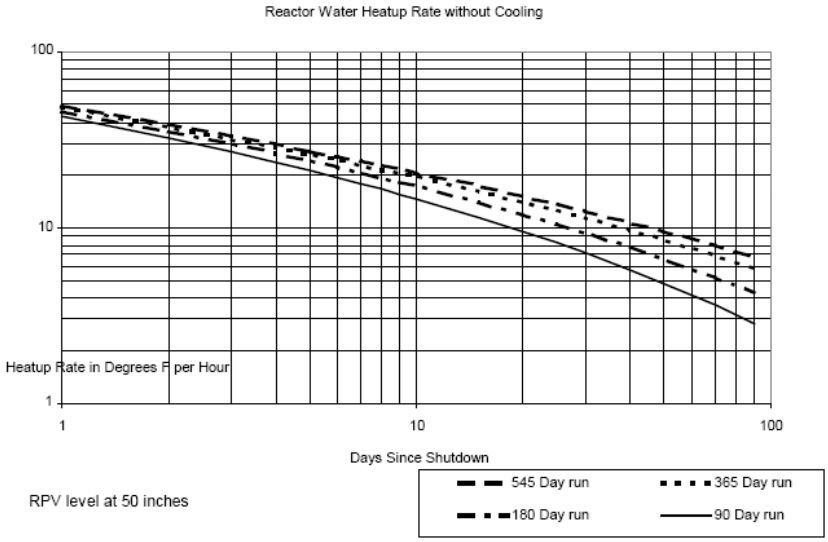
Stem: Unit 1 is in a maintenance outage that started 30 days ago.
- The unit ran at 100 % for 90 days prior to the outage.
- Reactor coolant temperature is currently 146 °F and level is +50 inches.
- A complete loss of shutdown cooling occurs.

If conditions do NOT change, and based on the information provided in the graph below, Unit 1 will enter Mode 3 within _____ hours.



A. 3 to 4

B. 5 to 6

C. 7 to 8

D. 9 to 10

Correct Answer C: 7 to 8
Explanation: Mode 3 temperature is reached when moderator temperature reaches 200 °F.
200 °F – 146°F = 54°F.
Moderator temperature is going up 7°F per hour as determined by plotting the intersecting point for 30 days since shutdown with the “90 day run” curve.
54 divided by 7 equals 7.7 hours, which is between the range of 7 to 8 hours.

Distracter A: 3 to 4
This time range will appear to be correct if the examinee incorrectly uses the 365 day run curve.
Mode 3 temperature is reached when moderator temperature reaches 200 °F.
200 °F – 146°F = 54°F.
Moderator temperature is going up 15°F per hour as determined by plotting the intersecting point for 30 days since shutdown with the “365 day run” curve.
54 divided by 15 equals 3.6 hours, which is in the range of 3-4 hours.

Distracter B: 5 to 6
This time range will appear to be correct if the examinee incorrectly uses 212°F for entry into Mode 3, and incorrectly use the 365 day run curve
Mode 3 temperature is reached when moderator temperature reaches 212 °F (incorrect).
212 °F – 146°F = 66°F.
Moderator temperature is going up 15°F per hour as determined by plotting the intersecting point for 30 days since shutdown with the “365 day run” curve.
66 divided by 15 equals 4.4 hours, which is in the range of 4 to 5 hours.

Distracter D: 9 to 10
This time range will appear to be correct if the examinee incorrectly uses 212°F for entry into Mode 3.
Mode 3 temperature is reached when moderator temperature reaches 212 °F (incorrect).
212 °F – 146°F = 66°F.
Moderator temperature is going up 7°F per hour as determined by plotting the intersecting point for 30 days since shutdown with the “90 day run” curve.
66 divided by 7 equals 9.4 hours, which is in the range of 9 to 10 hours.

References:
LOA-RH-101 Unit 1 RHR Abnormal, Att. A.

Question 06 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.8 Plant Service Systems

System: 400000 Component Cooling Water

K/A: K3.01 - Knowledge of the effect that a loss or malfunction of the CCWS will have on the following: Loads cooled by CCWS

I.R.: 2.9 / 3.3 10CFR 55 Content Part 41.7/ 45.6

License Level: RO Cognitive Level: Memory

Objective: 0114.00.18 PRA: No

Question Exposure:

01-01 NRC Exam

07-01 NRC Exam

Source: Bank Question from 01-01 NRC Written Exam

This question is modeled after a similar question used on the 01-01 NRC Written Exam. Wording in the stem was changed slightly, and one distracter was replaced.

Stem:

Unit-2 is operating at rated conditions when the control room operators observe a sharp rise in RBCCW system temperatures due to a decrease in service water flow.

Concerning damage to plant components, the most limiting temperature concern related to this event is the …..

A. Control Rod Drive pump bearings.

B. Reactor Water Clean Up Heat Exchangers.

C. Reactor Recirculation pump motor windings.

D. Drywell Instrument Nitrogen compressor casing coolers.

Correct Answer C: Reactor Recirculation pump motor windings.

Explanation: Reactor Recirculation pump motor windings is the most limiting temperature concern as stated in LOA-WR-101 and the RBCCW System Description (114).

Distracter A: Control Rod Drive pump bearings.

Distracter B: Reactor Water Clean Up Heat Exchangers.

Distracter D: Drywell Instrument Nitrogen compressor casing coolers.

Reason Distracters A, B, and D are incorrect: The three answers are credible as they are all cooled by RBCCW, however they are not the most limiting temperature concern, for the reason described above.

References:
LOA-WR-201, C.3
System Lesson Plan 114, RBCCW, page 20.

Question 07 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.3 Reactor Pressure Control

System: 239002 SRVs

K4.02 - Knowledge of RELIEF/SAFETY VALVES design feature(s) and/or interlocks which provide for the following: Minimizes containment fatigue duty cycles resulting from relief valve cycling during decay-heat-dominant period late in an isolation transient (LLS logic): Plant-Specific

I.R.: 3.4 / 3.6 10CFR 55 Content Part 41. 7

License Level: RO Cognitive Level: Memory

Objective: 070.00.14 PRA: No

Question Exposure: 07-01 NRC Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Stem:

Unit 1 reactor has scrammed from rated conditions.
6 SRVS opened on the initial transient and SRVs are cycling to control reactor pressure.

Which of the following properly describes the response of the Unit 1 LLS logic to this event?

A. ONLY Division I LLS logic will be initiated.

B. ONLY Division II LLS logic will be initiated.

C. BOTH Division I and Division II LLS logic will be initiated.

D. NEITHER Division I or Division II LLS logic will be initiated.

Correct Answer C: BOTH Division I and Division II LLS logic will be initiated.

Explanation: LLS logic will see SRVs U and S open and both divisions of logic will initiate as these are LLS valves and monitored by both divisions. (Division 1 logic monitors all SRVs and Division 2 logic only monitors LLS valves.)

Distracter A: ONLY Division I LLS logic will be initiated.

Distracter B: ONLY Division II LLS logic will be initiated.

Distracter D: NEITHER Division I or Division II LLS logic will be initiated.

Reason distracters A, B, and D, are incorrect: The three distracters are plausible but incorrect combination of LLS logic initiation. The assignment of SRVs to LLS and ADS is included below for reference.

SRVs:

13 SRVs:	C, D, E, F, H, K, L, M, P, R, S, U, V
ADS SRVs:	C, D, E, R, S, U, V
LLS SRVs:	C, D, E, K, P, S, U

References:

System Lesson Plan 70, Main Steam, page 11.

Question 08 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.5 Containment Integrity

System: 223002 PCIS/Nuclear Steam Supply Shutoff

K/A: K4.06 - Knowledge of PRIMARY CONTAINMENT ISOLATION SYSTEM/NUCLEAR STEAM SUPPLY SHUT-OFF design feature(s) and/or interlocks which provide for the following: Once initiated, system reset requires deliberate operator action.

I.R.: 3.4 / 3.5 10CFR 55 Content Part 41. 7

License Level: RO Cognitive Level: High

Objective: 070.00.05 PRA: No.

Question Exposure: 07-01 NRC Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Stem:

Unit 2 was at rated conditions when a transient occurred.
A Group 1 isolation has automatically initiated.
LOA-MS-201, Recovery from a Group 1 Isolation, directs that the Group 1 isolation be reset.

Why are the control switches VERIFIED in the CLOSED position prior to DEPRESSING the Inboard and Outboard Isolation Reset Pushbuttons?

Failure to place the MSIV control switches in the CLOSED position will result in .....

A. the MSIVs going OPEN when the Inboard and Outboard Isolation Reset Pushbuttons are DEPRESSED.
B. result in the Group 1 Isolation logic NOT resetting when the Inboard and Outboard Isolation Reset Pushbuttons are DEPRESSED.
C. the MSIVs indicating OPEN after the Inboard and Outboard Isolation Reset Pushbuttons are DEPRESSED, when they are actually CLOSED.
D. a reset of the Group 1 Isolation logic when the Inboard and Outboard Isolation Reset Pushbuttons are DEPRESSED, followed immediately by the INITIATION of a new Group 1 isolation signal.

Correct Answer B: result in the Group 1 Isolation logic NOT resetting when the Inboard and Outboard Isolation Reset Pushbuttons are DEPRESSED.

Explanation: Verified by a review of 1E-1-4232AG, see switches S32 and S33.

Distracter A: the MSIVs going OPEN when the Inboard and Outboard Isolation Reset Pushbuttons are DEPRESSED.

Distracter C: the MSIVs indicating OPEN after the Inboard and Outboard Isolation Reset Pushbuttons are DEPRESSED, when they are actually CLOSED.

Distracter D: a reset of the Group 1 Isolation logic when the Inboard and Outboard Isolation Reset Pushbuttons are DEPRESSED, followed immediately by the INITIATION of a new Group 1 isolation signal.

Distracters A, C, and D are incorrect based on a review of the referenced electrical drawings.

References:

Electrical drawing: 1E-1-4232AG, see switches S32 and S33.

Question 09 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.4 Heat Removal from the Core

System: 217000 RCIC

I.R.: 2.6 / 2.6 10CFR 55 Content Part 41. 5 / 45.3

License Level: RO Cognitive Level: High

Objective: 413.004 PRA: Yes

Question Exposure: 07-01 NRC Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Stem:

Unit 2 has scrammed due to a transient.
- RCIC is taking suction from the Suppression Pool and injecting into the RPV.
- Suppression Pool level is – 8 inches
- Suppression Chamber pressure is 5 psig
- Suppression Pool temperature is 215° F

Which of the following could cause fluctuations in RCIC discharge pressure and flow indications?

A. Suppression pool temperature rising to 230°F.

B. Suppression Pool level dropping to – 15 inches

C. Suppression Chamber pressure rising to 10 psig

D. Suppression Chamber pressure lowering to 3 psig

Correct Answer A: Suppression pool temperature rising to 230°F.

Explanation: Plotting the information provided in the correct answer on the RCIC NPSH curve results in exceeding the limit for operation with suppression pool level greater than – 1 foot.

The distracters provide information that when plotted requires the examinee to identify points at different areas of the graph, but do not violate any limits.

Distracter B: Suppression Pool level dropping to – 15 inches

Distracter C: Suppression Chamber pressure rising to 10 psig

Distracter D: Suppression Chamber pressure lowering to 3 psig

References:

LGA-001, RPV Control, Rev. 9

Question 10 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.2 Reactor Water Inventory Control

System: 259002 RWLC

K/A: K5.03 - Knowledge of the operational implications of the following concepts as they apply to REACTOR WATER LEVEL CONTROL SYSTEM : Water level measurement

I.R.: 3.1 / 3.2 10CFR 55 Content Part 41.5 / 45.3

License Level: RO Cognitive Level: Memory

Objective: 031.00.04 PRA: No

Question Exposure: 07-01 NRC Exam

Source: LORT Bank question

Stem:

Unit 1 is operating at 100% power when the RWLCS Trouble Alarm is received. A review of the 1DS001 Panel Event List indicates "Reactor Lev B NR Err."

How will the RWLC system respond to this condition?

A. The RWLC system will automatically transfer to the alternate B Narrow Range level transmitter.

B. The B Narrow Range Level signal is disregarded. When the B Narrow Range Level transmitter is repaired, the signal will be automatically reconnected.

C. The B Narrow Range Level signal is rejected. The RWLC system will calculate average level to be lower than actual causing level to increase to the level 8 Setpoint.

D. The B Narrow Range level signal is disregarded. When the B Narrow Range Level transmitter is repaired, the signal must be manually reconnected at the RWLC Operator Station.

Correct Answer B: The B Narrow Range Level signal is disregarded. When the B Narrow Range Level transmitter is repaired, the signal will be automatically reconnected.

Explanation: A hardware failure or a deviation of more than 4” for 3 seconds of any reactor water level signal from the majority value results in an automatic bumpless disconnection of the signal from the soft majority selector. The detected error is displayed as an event message on the 1DS001 Operator Station. Bumpless reconnection of the repaired signal is performed automatically.

Distracter A: The RWLC system will automatically transfer to the alternate B Narrow Range level transmitter is incorrect as Alternate B Narrow Range does not exist.

Distracter C: The B Narrow Range Level signal is rejected. The RWLC system will calculate average level to be lower than actual causing level to increase to the level 8 Setpoint is incorrect as the RWLC system disconnects the faulty signal and correctly calculates level using the remaining 3 signals.

Distracter D: The B Narrow Range level signal is disregarded. When the B Narrow Range Level transmitter is repaired, the signal must be manually reconnected at the RWLC Operator Station is incorrect as the signal will automatically reconnect.
References:

System Lesson Plan 031 Reactor Water Level Control, page 53
LOP-FW-16, Rev 19, Page 34

Question 11 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.2 Reactor Water Level Control

System: 203000 RHR/LPCI: Injection Mode

K/A: K6.10 - Knowledge of the effect that a loss or malfunction of the Component Cooling Water Systems will have on the RHR/LPCI INJECTION MODE

I.R.: 3.0 / 3.1 10CFR 55 Content Part 41.7 / 45.7

License Level: RO Cognitive Level: High

Objective: 065.00.18 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Stem:

With the 1A RHR system operating in the LPCI injection mode, a TRIP of the Common Diesel Generator Cooling Water Pump will directly result in which of the following?

A. The A RHR pump room ambient temperature will be higher than expected due to the loss of cooling water to the area coolers.

B. The A RHR Pump seal temperatures will be higher than expected due to the loss of cooling water to the seal coolers.

C. The A RHR Pump Motor bearing temperatures will be higher than expected due to the loss of cooling water to the motor cooler.

D. The A RHR Pump bearing temperatures will be higher than expected due to the loss of cooling water to the pump bearing coolers.

Correct Answer A: The A RHR pump room ambient temperature will be higher than expected due to the loss of cooling water to the area coolers.

Explanation: This is the correct answer as the 0 D/G CWP supplies cooling water to the area coolers.

Distracter B: The A RHR Pump seal temperatures will be higher than expected due to the loss of cooling water to the seal coolers.

Distracter C: The A RHR Pump Motor bearing temperatures will be higher than expected due to the loss of cooling water to the motor cooler is incorrect as the A RHR Pump Motor does NOT have a motor cooler. LPCS is in the same division and DOES have a motor cooler.

Distracter D: The A RHR Pump bearing temperatures will be higher than expected due to the loss of cooling water to the pump bearing coolers is incorrect as the A RHR Pump does NOT have a bearing cooler.

References:

Lesson Plan 65, CSCS.

Question 12 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.7 Instrumentation

System: 215004 Source Range Monitor

K/A: K6.04 - Knowledge of the effect that a loss or malfunction of DETECTORS will have on the SOURCE RANGE MONITOR (SRM) SYSTEM.

I.R.: 2.9 / 2.9 10CFR 55 Content Part 41.7

License Level: RO Cognitive Level: Memory

Objective: 042.00.14 PRA: No

Question Exposure: 07-01 NRC Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Stem:

Unit 2 is starting up from a refueling outage, with the mode switch in START-UP and the IRMs on Range 7, when annunciator 2H13-P603-A106 “SRM INOPERATIVE OR HI” alarms.

Which of the following accurately describes the expected automatic action(s) associated with this alarm?

A. INITIATES a ½ scram ONLY.

B. BLOCKS control rod withdrawal ONLY.

C. BLOCKS Control rod withdrawal **and** INITIATES a ½ scram.

D. NO expected automatic actions, alarm ONLY.

Correct Answer B: BLOCKS control rod withdrawal ONLY.

Explanation: Per Lesson Plan 041 SRMs, and LOR-2H13-P603-A106 SRM Inoperative or Hi.

Distracter A: INITIATES a ½ scram ONLY is incorrect as the initiation of a 1/2 scram is NOT an auto-action as described in Lesson Plan 041 SRMs, and LOR-2H13-P603-A106 SRM Inoperative or Hi.

Distracter C: BLOCKS Control rod withdrawal **and** INITIATES a ½ scram is incorrect as the initiation of a 1/2 scram is NOT an auto-action as described in Lesson Plan 041 SRMs, and LOR-2H13-P603-A106 SRM Inoperative or Hi.

Distracter D: NO expected automatic actions, alarm ONLY is incorrect as a control rod withdrawal BLOCK is an expected automatic action associated with annunciator LOR-2H13-P603-A106 SRM Inoperative or Hi.

References:

LOR-1(2)H13-P603-A106 SRM Inoperative or Hi.

System Lesson Plan 041 SRMs

Question 13 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.4 Heat Removal from the Reactor Core

System: 217000 Reactor Core Isolation Cooling System (RCIC)

K/A: A1.02 - Ability to predict and/or monitor changes in parameters associated with operating the REACTOR CORE ISOLATION COOLING SYSTEM (RCIC) controls including: RCIC pressure

I.R.: 3.3 / 3.3 10CFR 55 Content Part 41. 5 / 45.5

License Level: RO Cognitive Level: High

Objective: 032.00.05 PRA: Yes

Question Exposure: 07-01 NRC Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Stem:

While operating the Unit 1 RCIC system in the pressure control mode with the RCIC Pmp Dsch Flow Controller in AUTO, the 1E51-F022; RCIC Full Flow Test Upstream Valve was throttled CLOSED in several large increments to adjust system parameters.

Which of the following describes the impact this action will have on the RCIC system?

A. RCIC pump discharge pressure will go down and RCIC system is susceptible to flow perturbation.

B. RCIC pump discharge pressure will go up and the RCIC system is susceptible to pressure spikes.

C. RCIC pump discharge flow will stabilize at a lower value and the RCIC system is susceptible to flow perturbations.

D. RCIC pump discharge flow will stabilize at a higher value and the RCIC system is susceptible to pressure spikes.

Correct Answer B: RCIC pump discharge pressure will go up and the RCIC system is susceptible to pressure spikes.

Explanation: A Caution in LOP-RI-09 for operating RCIC in Pressure Control Mode warns that adjustments to the 1E51-F022 valve should be made in small increments to avoid pressure spikes in the system. In addition, the RCIC system is more susceptible to pressure spikes when throttling the 1E51-F022 in the closed direction to increase system pressure.

Distracter A: RCIC pump discharge pressure will go down and RCIC system is susceptible to flow perturbation is incorrect as system pressure will go up and flow perturbations are not identified as a likely concern when adjusting the 1E22-F022.

Distracter C: RCIC pump discharge flow will stabilize at a lower value and the RCIC system is susceptible to flow perturbations is incorrect as the controller will maintain RCIC flow constant by adjusting RCIC Turbine speed. System pressure will go up and flow perturbations are not identified as a likely concern when adjusting the 1E22-F022.

Distracter D: RCIC pump discharge flow will stabilize at a higher value and the RCIC system is susceptible to pressure spikes is incorrect as the controller will maintain RCIC flow constant by adjusting RCIC Turbine speed.

References:
LOP-RI-09
System Lesson Plan 032, RCIC

Question 14 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.2 Reactor Water Inventory Control

System: 209001 LPCS

K/A: A1.04 - Ability to predict and/or monitor changes in parameters associated with operating the LOW PRESSURE CORE SPRAY SYSTEM controls including: Reactor pressure.

I.R.: 3.7 / 3.7 10CFR 55 Content Part 41.5 / 45.5

License Level: RO Cognitive Level: High

Objective: 063.00.05 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Stem:

Unit-1 was operating at 100% reactor power when a LOCA occurred resulting in the following:
- The reactor scrammed
- RPV pressure has dropped to 480 psig
- RPV level is -140 inches and steady
- HPCS and RCIC are injecting to the RPV

Based on these conditions, the LPCS Injection Valve is (1)_____ and the LPCS Min Flow Valve is (2)_____.

A. (1) OPEN and
(2) OPEN

B. (1) OPEN and
(2) CLOSED

C. (1) CLOSED and
(2) OPEN

D. (1) CLOSED and
(2) CLOSED

Correct Answer A: (1) OPEN and (2) OPEN

Explanation: LPCS will initiate and the pump will start when RPV level is <-129 inches. The LPCs Injection Valve will open when reactor pressure drops below the 500 pound interlock with an initiation signal present. The LPCS Min Flow Valve will be OPEN until RPV pressure falls below pump shutoff head (440 psig), and injection into the vessel can be established.

Distracter B: (1) OPEN and (2) CLOSED

Distracter C: (1) CLOSED and (2) OPEN

Distracter D: (1) CLOSED and (2) CLOSED

Reason Distracters B, C, and D are incorrect: The answers are combinations of the open and closed positions that are incorrect.

References:
Lesson Plan 63, LPCS

Question 15 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.6 Electrical

System: 262002 UPS (AC/DC)

K/A: A2.01 Ability to (a) predict the impacts of the following on the UNINTERRUPTABLE POWER SUPPLY (A.C./D.C.) ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Under voltage.

I.R.: 2.6 / 2.8 10CFR 55 Content Part 41.5 / 45.6

License Level: RO Cognitive Level: High

Objective: 012.00.05 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Stem:

Unit 1 is operating in a normal full power line-up, the following two alarms were just received:
- 1H13-P603-A511, RWLCS TROUBLE
- 1DS001 “SCS A/B PS 1 Fault”

Based on these alarms, the Turbine Driven Reactor Feedwater Pumps will _____(1)_____, and an equipment operator must be directed to inspect the _____(2)_____ Uninterruptible Power Supply.

A. (1) continue to operate in 3-element automatic
(2) Process Computer

B. (1) continue to operate in 3-element automatic
(2) Technical Support Center

C. (1) be required to be transferred to the manual back-up stations
(2) Process Computer

D. (1) be required to be transferred to the manual back-up stations
(2) Technical Support Center

Correct Answer B: (1) continue to operate in 3-element automatic
(2) Technical Support Center

Explanation: 3-element auto remains in control on a different power supply, 136Y-3. The operator should not disrupt the mode of operation. The TSC UPS must be inspected in response to the alarm.

Distracter A: (1) continue to operate in 3-element automatic
(2) Process Computer

Distracter C: (1) be required to be transferred to the manual back-up stations
(2) Process Computer

Distracter D: (1) be required to be transferred to the manual back-up stations
(2) Technical Support Center

Distracters A, C, and D are incorrect, but plausible combinations of actions to take with TDRFP control and the proper identification of the UPS requiring inspection.

References:
LOP-FW-16, page 28.

Question 16 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.8 Plant Service Systems

System: 300000 Instrument Air

K/A: A2.01 - Ability to (a) predict the impacts of the following on the INSTRUMENT AIR SYSTEM and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation: Air dryer and filter malfunctions.

I.R.: 2.9 / 2.8 10CFR 55 Content Part 41.5 / 45.6

License Level: RO Cognitive Level: High

Objective: 120.00.21 PRA: Yes

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Stem:

The following conditions exist on Unit-2:
- The desiccant in the Unit-2 Station Air Dryer 2SA02D was replaced and the dryer placed on line.
- Annunciator 2PM10J-B105 U2 STA AIR DRYER TROUBLE is in alarm due to R-point R1419, U2 STA AIR DRYER HUMIDITY HI.

Which of the following correctly identifies:
(1) The impact this condition will have on the IA system, and
(2) the actions to be taken based on the above conditions?

A. (1) Moisture in the IA system will result in the corrosion of IA piping.
(2) DE-ENERGIZE Unit-2 Station Air Dryer Control Power at MCC 231A-1, Comp. E-1 to automatically place both drying towers in service. CONTACT System Engineering to PERFORM Dew Point Checks to DETERMINE additional actions.

B. (1) Moisture in the IA system will adversely affect the operation of supported components.
(2) Track the length of time the Dryer humidity alarm is up solid. If the alarm is up solid longer than 24 hours, STARTUP a Standby Dryer if available, and SHUTDOWN the Unit-2 Station Air Dryer.

C. (1) Moisture in the IA system will plug the downstream filters, reducing system pressure.
(2) As soon as plant conditions allow, STARTUP a Standby Dryer if available, and SHUTDOWN the Unit-2 Station Air Dryer.

D. (1) Moisture in the IA system will cause carryover of desiccant fines into the IA piping.
(2) INCREASE Unit-2 Station Air Dryer purge flow from normal setting of 58 psig to 68 psig. CONTACT System Engineering to PERFORM Dew Point Checks to DETERMINE additional actions.

Correct Answer:
B. (1) Moisture in the IA system will adversely affect the operation of supported components.
(2) Track the length of time the Dryer humidity alarm is up solid. If the alarm is up solid longer than 24 hours, STARTUP a Standby Dryer if available, and SHUTDOWN the Unit-2 Station Air Dryer.

Explanation: LOR 2PM10J-B105, U2 STA AIR DRYER TROUBLE provides the specific direction included in the answer. Industry OPEX discussed in the plant air lesson plan describes the negative impact of moisture on components.

A. (1) Moisture in the IA system will result in the corrosion of IA piping.
(2) DE-ENERGIZE Unit-2 Station Air Dryer Control Power at MCC 231A-1, Comp. E-1 to automatically place both drying towers in service. CONTACT System Engineering to PERFORM Dew Point Checks to DETERMINE additional actions. This distracter is incorrect as the LOR directs checking the Control Power power supply to ensure it is energized, there is no direction to de-energize it.

C. (1) Moisture in the IA system will plug the downstream filters, reducing system pressure.
(2) As soon as plant conditions allow, STARTUP a Standby Dryer if available, and SHUTDOWN the Unit-2 Station Air Dryer. This distracter is incorrect as there is no mention in the LOR relating to a concern with plugging downstream filters, and the LOR provides specific direction to monitor for 24 hours.

D. (1) Moisture in the IA system will cause carryover of desiccant fines into the IA piping.
(2) INCREASE Unit-2 Station Air Dryer purge flow from normal setting of 58 psig to 68 psig. CONTACT System Engineering to PERFORM Dew Point Checks to DETERMINE additional actions. This distracter is incorrect as there is no direction to increase purge flow, rather it directs verifying that purge flow is 58 psig.

References:
LOR 2PM10J-B105, U2 STA AIR DRYER TROUBLE
Lesson Plan 120, Plant Air, page 31

Question 17 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.3 Reactor Pressure Control

System: 218000 ADS

K/A: A3.08 - Ability to monitor automatic operations of the AUTOMATIC DEPRESSURIZATION SYSTEM including: Reactor pressure.

I.R.: 4.2 / 4.3 10CFR 55 Content Part 41.7 / 45.7

License Level: RO Cognitive Level: High

Objective: 062.00.08 PRA: No

Question Exposure: 07-01 NRC Exam

Source: New question developed for the 07-01 NRC ILT Exam

Stem:

Unit 1 has scrammed from rated conditions due to a loss of offsite power.
The following conditions exist:
- All emergency diesel generators started and energized their respective emergency bus.
- The reactor is shutdown.
- Drywell pressure is 2.0 psig, going up at 0.25 psig per minute
- Reactor pressure is 460 psig, going down 8 psig per minute.
- Reactor water level just fell to the Level 1 setpoint, going down at 2 inches per minute.
- All low pressure ECCS pumps are running.
- RCIC has tripped.
- HPCS has tripped.

Which one of the following describes the response of the Automatic Depressurization System (ADS) if plant conditions remain as stated and no operator action is taken?

A. ADS will NOT automatically initiate.

B. ADS will automatically initiate in 1 minute and 45 seconds.

C. ADS will automatically initiate in 9 minutes and 58 seconds.

D. ADS will automatically initiate in 11 minutes and 43 seconds.

Correct Answer B: ADS will automatically initiate in 1 minute and 45 seconds.

Explanation: ADS will initiate after the ADS Initiation Timer (105 seconds) times out, as other required conditions are met. (Level 1, Level 3 confirmatory, and a low pressure pump running)

Distracter A: ADS will NOT automatically initiate is incorrect as **reactor pressure** will not drop below 440 psig (allowing injection with LPCS to raise level above the Level 1 setpoint) before the ADS logic initiates.

Distracter C: ADS will automatically initiate in 9 minutes and 58 seconds is incorrect as the D/W Pressure Bypass Timer (9 minutes and 59 seconds) does not come into play if High D/W pressure is greater than 1.77 psig. The answer is plausible if the ADS circuitry is not understood and it is believed that the D/W Pressure Bypass timer must time out to initiate ADS.

Distracter D: ADS will automatically initiate in 11 minutes and 43 seconds is incorrect for the same reason as Answer C. The answer is plausible if the examinee believes both the D/W

Pressure Bypass Timer and ADS Initiation Timer must both time out before ADS intiation occurs.

References:
System Lesson Plan 062, ADS and Figures 62-2 and 62-3 ADS Logic

Question 18 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.2 Reactor Water Inventory Control

System: 209002 HPCS

K/A: A3.05 - Ability to monitor automatic operations of the HIGH PRESSURE CORE SPRAY SYSTEM (HPCS) including: Reactor water level BWR-5,6

I.R.: 3.7 / 3.7 10CFR 55 Content Part 41.7 / 45.7

License Level: RO Cognitive Level: High

Objective: 061.00.08 PRA: Yes

Question Exposure: New question developed for the 07-01 NRC ILT Exam

Source: New question developed for the 07-01 NRC Exam.

Stem:

Unit 1 has scrammed from rated conditions and a normal plant line-up.
Following the scram, RPV level dropped below Level 2, and then recovered.
RPV level has exceeded the Level 8 setpoint and is going up slowly.

Which of the following describes the current status of the HPCS system if no operator actions have been taken regarding HPCS operation?

	HPCS Pump	Injection Valve	Minimum Flow Valve
A.	RUNNING	OPEN	CLOSED
B.	RUNNING	CLOSED	OPEN
C.	OFF	CLOSED	CLOSED
D.	OFF	CLOSED	OPEN

Correct Answer B: RUNNING CLOSED OPEN

Explanation: HPCS will initiate on the Level 2 signal, resulting in the pump running and the injection valve open. When Level 8 is reached, the pump will continue running, the injection valve will go closed, and the min flow valve will open allowing pump flow to the suppression pool.

Distracter A: RUNNING OPEN CLOSED

Distracter A is plausible if the Level 8 closure of the injection valve is not understood.

Distracter C: OFF CLOSED CLOSED

Distracter C. is plausible if the examinee believes the pump will trip on high level, Level 8, and that both the injection and min flow valves will close

Distracter D: OFF CLOSED OPEN

Distracter D is plausible if the examinee believes the pump will trip on high level, Level 8, and then confuses the normal stand-by position for the HPCS min flow valve (closed) with the normal stand-by position for the LPCS min flow valve (open).

References:
Lesson Plans 061 HPCS and 063 LPCS

Question 19 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.9 Radioactivity Release

System: 261000 SGT

K/A: A4.05 - Ability to manually operate and/or monitor in the control room: Drywell to suppression chamber/torus differential pressure: Mark-I,II

I.R.: 2.9 / 3.2 10CFR 55 Content Part 41.7 / 45.5 to 45.8

License Level: RO Cognitive Level: High

Objective: 095.00.08 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Stem:

Unit 2 has scrammed from rated conditions.
- There is a small leak in the DRYWELL.
- DRYWELL pressure indication is unavailable
- There is no indication of a bypass path in the containment.
- SUPPRESSION CHAMBER pressure is 1.2 psig

Based on the above information, DRYWELL pressure is approximately _____(1)_____ AND Stand-by Gas Treatment _____(2)_____ have auto-started.

A. (1) 1.2 psig
(2) should

B. (1) 6.2 psig
(2) should

C. (1) 1.2 psig
(2) should NOT

D. (1) 6.2 psig
(2) should NOT

Correct Answer: B. (1) 6.2 psig
(2) should

Explanation: There is differential of approximately 5 psig between drywell and suppression chamber pressure due to the submergence of the downcomers. Suppression chamber pressure of 1.2 psig is 6.2 psig, which is above the isolation setpoint for Reactor Building Ventilation (VR). When VR isolates, SBGT starts.

A. (1) 1.2 psig
(2) should

C. (1) 1.2 psig
(2) should NOT

D. (1) 6.2 psig
(2) should NOT

Reason Distracters A, C, and D are incorrect: All three distracters are incorrect but plausible combinations of drywell pressure and SBGT status that the examinee could select if they did not understand the differential pressure between the drywell and suppression chamber, and/or the conditions that will result in the isolation of VR and subsequent auto-start of VG.

References:
System Lesson Plan 095 Standby Gas Treatment

Question 20 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.7 Instrumentation

System: 212000 RPS

K/A:

A4.16 - Ability to manually operate and/or monitor in the control room:

Manually activate anticipated transient without SCRAM circuitry/RRCS: Plant-Specific

I.R.: 4.4 / 4.4 10CFR 55 Content Part 41. 7 / 45.5 to 45.8

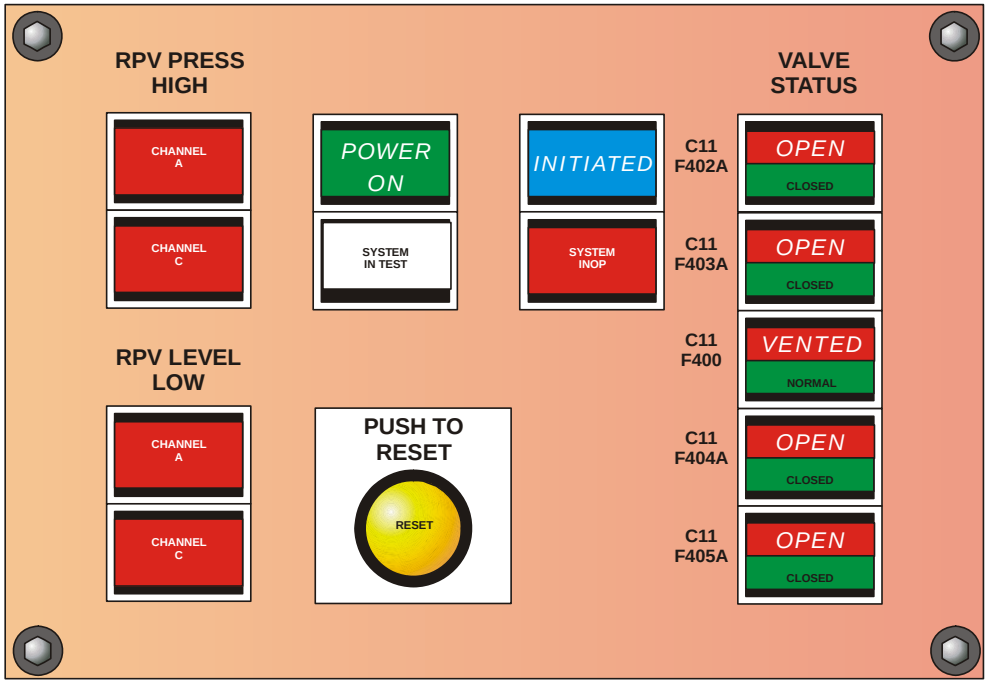
License Level: RO Cognitive Level: High

Objective: 026.00.08 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Stem:



Which of the following statements accurately describes the status of the Division 1 ARI system as depicted in the ARI display above?
(Large, italicized letters indicate the tile or device is LIT.)

A. Manually initiated less than two minutes ago.

B. Manually initiated more than two minutes ago.

C. Automatically initiated less than two minutes ago.

D. Automatically initiated more than two minutes ago.

Correct Answer A: Manually initiated less than two minutes ago.

Explanation: 1) The high reactor pressure and low water channels are not LIT, indicating that low level or high pressure signals were not received. 2) The reset pushbutton is not lit indicating that the initiation took place less than two minutes ago. The pushbutton illuminates two minutes after the system is initiated to indicate that the system can be reset if needed.

Distracter B: Manually initiated more than two minutes ago.
Reason Distracter #1 is incorrect: The reset pushbutton is not lit indicating that the initiation took place less than two minutes ago. The pushbutton illuminates two minutes after the system is initiated to indicate that the system can be reset if needed.

Distracter C: Automatically initiated less than two minutes ago.
Reason Distracter #2 is incorrect: : 1) The high reactor pressure and low water channels are not LIT, indicating that low level or high pressure signals were not received. If received, the indication is sealed until Rosemount Master Trip Units are reset. 1E1-1 4207BA - BD.

Distracter D: Automatically initiated more than two minutes ago.
Reason Distracter #3 is incorrect: 1) The high reactor pressure and low water channels are not LIT, indicating that low level or high pressure signals were not received. 2) The reset pushbutton is not lit indicating that the initiation took place less than two minutes ago. The pushbutton illuminates two minutes after the system is initiated to indicate that the system can be reset if needed.

References:
System Lesson Plan 026, Alternate Rod Insertion

Question 21 LaSalle 07-01 NRC ILT Exam

Safety Function:
System: 263000 DC Electrical Distribution
K/A: 2.4.4 - Emergency Procedures / Plan: Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures
I.R.: 4.5 / 4.7 10CFR 55 Content Part 41. 10 / 43.2 / 45.6
License Level: RO Cognitive Level: High
Objective: 006.00.15 PRA: Yes
Question Exposure: 07-01 NRC Exam
Source: New Question developed for the 07-01 NRC ILT Exam

ELECTRICAL CONTROL
1PM01J

A

10	11	12	13	14	
250V DC MCC121X/Y MN FEED BKR TRIP	UPS TROUBLE	U1 GEN EXCITATION TROUBLE	U1 GEN PORT RELAY SYS TROUBLE	4KV BUS 141X/Y TRIP	1
250V DC BUS121X/Y BATT GND DET ALARM	480V XFMR 131 133 137 OVERLOAD	480V XFMR 135X/Y OVERLOAD	141X FEED BKR TO 131X/Y 137X/Y AUTO TRIP	4KV BUS 141X/Y OVERCURRENT	2
DIV 1 125V DC 111X/Y BUS FEED BKR AUTO TRIP	480V SWGR 131 133 137 DC POWER FAILURE	480V SWGR 135X/Y DC POWER FAILURE	141Y FEED BKR TO 135X/Y 133 AUTO TRIP	4KV BUS 141X/Y UNDERVOLTAGE	3
125V DC PANEL 111X/Y UNIT TIE BKR CLOSED	480V SWGR 131 133 137 MAN OPER BKR AUTO TRIP	480V SWGR 135X/Y MAN OPER BKR AUTO TRIP	4KV SWGR BUS 141X DC CONT PWR FAILURE	4KV SWGR BUS 141Y DC CONT PWR FAILURE	4
24V DC 1A PANEL TROUBLE	480V BUS 131X/Y 133 137X/Y UNDERVOLTAGE		480V BUS 135X/Y MAIN FEED BKR AUTO TRIP	480V BUS 135X/Y UNDERVOLTAGE	5

Annunciators 1PM01J - A310 and A414 just alarmed.
The following R-point is listed on the Sequence of Events Recorder:
- R0108, 125V DC Pnl 111Y Mn Fd Bkr Trip

Based on the above indications, the operating crew will be required to enter .....

A. LOA-AP-101, Unit 1 AC Power System Abnormal and LGP 3-1, Power Changes

B. LOA-AP-101, Unit 1 AC Power System Abnormal and LGP 3-2, Reactor Scram

C. LOA-DC-101, Unit 1 DC Power System Failure and LGP 3-1, Power Changes

D. LOA-DC-101, Unit 1 DC Power System Failure and LGP 3-2, Reactor Scram

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Correct Answer D: LOA-DC-101, Unit 1 DC Power System Failure and LGP 3-2, Reactor Scram

Explanation: LOA-DC-101 Section B.3 is entered upon receipt of alarms 1PM01J-A310 and 414 and associated R-point R0108. The first step of the section is to manually scram the reactor before being required to trip the RR pumps due to the loss of WR to the RR pumps. LGP 3-2 directs crew actions following a scram.

Distracter A: LOA-AP-101, Unit 1 AC Power System Abnormal and LGP 3-1, Power Changes is incorrect as LOA-AP-101 is not entered because bus 141Y will remain energized even though control power has been lost to the bus. Also, the unit must be scrammed, not reduced in power per LGP 3-1.

Distracter B: LOA-AP-101, Unit 1 AC Power System Abnormal and LGP 3-2, Reactor Scram is incorrect as LOA-AP-101 is not entered because bus 141Y will remain energized even though control power has been lost to the bus.

Distracter C: LOA-DC-101, Unit 1 DC Power System Failure and LGP 3-1, Power Changes is incorrect as the unit must scrammed based on the indications, not reduced in power per LGP 3-1.

References:
LOA-DC-101, Unit 1 DC Power System Failure

Question 22 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.6 Electrical

System: 262001 AC Electrical Distribution

K/A: 2.2.3 - Equipment Control: (multi-unit license) Knowledge of the design, procedural, and operational differences between units.

I.R.: 3.8 / 3.9 10CFR 55 Content Part 41.5,6,7 and 10 / 45.12

License Level: RO Cognitive Level: Memory

Objective: 005.00.02 PRA: Yes

Question Exposure: 07-01 NRC ILT Exam

Source: New question developed for the 07-01 NRC ILT Exam

Stem:
Line L0101 has to be isolated for maintenance.

This will require isolating Bus ____ (A) _____ in the Unit ____ (B) _____ Ring Bus.

A. (A) Nine (9)
(B) One (1)

B. (A) Four (4)
(B) One (1)

C. (A) Two (2)
(B) Two (2)

D. (A) Eleven (11)
(B) Two (2)

Correct Answer A:
(A) Nine (9)
(B) One (1)
Explanation: Line 0101 connects into Bus 9 in the Unit 1 Ring Bus

Distracter B:
(A) Four (4)
(B) One (1)

Reason Distracter B is incorrect: Line 0103 connects into Bus 4 on Unit 2, not Unit 1.

Distracter C:
(A) Two (2)
(B) Two (2)

Reason Distracter C is incorrect: Line 0102 connects into Bus 2 in the Unit 2 Ring Bus

Distracter D:
(A) Eleven (11)
(B) Two (2)

Reason Distracter D is incorrect: Line 0104 connects into Bus 11 on Unit 2, not Unit 1.

References:
System Lesson Plan 003, Switchyard

Question 23 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.7 Instrumentation

System: 215005 APRM / LPRM

K/A: A4.06 - Ability to manually operate and/or monitor in the control room: Verification of proper functioning/ operability

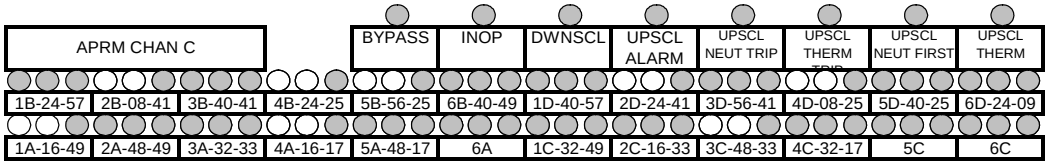
I.R.: 3.6 / 3.8 10CFR 55 Content Part 41. 5 / 45.5 to 45.8

License Level: RO Cognitive Level: High

Objective: 044.00.14 PRA: No

Question Exposure: 07-01 NRC Exam

Source: New question developed for the 07-01 NRC ILT Exam



(WHITE lights indicate illuminated, GRAY lights indicate extinguished)

With the APRM Meter Function Switch in the COUNT position, APRM channel C meter will indicate (1) _____, and the associated INOP light (2) _____ be illuminated.

A. (1) 65%
   (2) SHOULD

B. (1) 65%
   (2) SHOULD NOT

C. (1) 70%
   (2) SHOULD

D. (1) 70%
   (2) SHOULD NOT

Correct Answer:

A. (1) 65%
   (2) SHOULD

Explanation: APRM ‘A’ has 21 LPRM inputs. With 8 LPRMs bypassed, the meter will indicate 65% (5% for each of the 13 LPRMs, 13X5 = 65). An INOPERATIVE TRIP signal is generated for too few inputs when LPRM input is less than 14, so the INOP light should be lit. The distracters are combinations of incorrect information that an examinee might make if they do not understand how to monitor for inoperable LPRM inputs to an APRM.

Distracter B. (1) 65%
(2) SHOULD NOT

Distracter C. (1) 70%
(2) SHOULD

Distracter D. (1) 70%
(2) SHOULD NOT

References:
System Lesson Plan 044 APRMs
LOA-NB-101 Neutron Monitoring Trouble

Question 24 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.3 Reactor Pressure Control

System: 239002 SRVs

K/A: A2.04 - Ability to (a) predict the impacts of the following on the RELIEF/SAFETY VALVES ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: ADS actuation

I.R.: 4.1 / 4.2 10CFR 55 Content Part 41. 5 / 45.6

License Level: RO Cognitive Level: High

Objective 062.00.16 PRA: No

Question Exposure: 07-01 NRC Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Unit 1 has scrammed from rated conditions due to a feedwater break in the drywell.
- All control rods have fully inserted.
- RPV pressure is 650 psig and going down slowly
- RPV level is -120 inches and going down slowly
- DW pressure is 20 psig and steady
- HPCS is OOS
- RCIC tripped on overspeed and won't reset.

The bus feed breaker for 125V DC Bus 111Y tripped open during the transient and will not reclose.

The Unit 1 Assist NSO has just opened all Main Turbine Bypass Valves in anticipation of an RPV Blowdown.

If conditions for automatic initiation of ADS are met, which of the following describes:
(1) The response of the ADS SRVs, AND
(2) What action, if any, required to be taken with the Main Turbine Bypass Valves?

A. (1) ADS valves will open automatically
(2) Main Turbine Bypass Valves must be CLOSED.

B. (1) ADS valves will NOT open automatically.
(2) Main Turbine Bypass Valves must be CLOSED.

C. (1) ADS valves will open automatically.
(2) No action is required to be taken with the Main Turbine Bypass Valves

D. (1) ADS valves will NOT open automatically.
(2) No action is required to be taken with the Main Turbine Bypass Valves

---

Correct Answer C:

(1) ADS valves will open automatically.
(2) No action is required to be taken with the Main Turbine Bypass Valves.
Explanation: ADS will actuate with Division 2 logic which is powered from DC Bus 112Y. The "Strategies for Successful Transient Mitigation" directs that if bypass valves were previously opened they are to remain open.

Distracter A. (1) ADS valves will open automatically.
(2) Main Turbine Bypass Valves must be CLOSED.

Distracter B. (1) ADS valves will NOT open automatically.
(2) Main Turbine Bypass Valves must be CLOSED.

Distracter D. (1) ADS valves will NOT open automatically.
(2) No action is required to be taken with the Main Turbine Bypass Valves.

Distracters A, B, and C are combinations of incorrect information that an examinee might choose if they do not understand the power supplies for ADS logic or proper operator response to the given conditions.

References:
“Strategies for Successful Transient Mitigation”
System Lesson Plan 062 ADS

Question 25 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.9 Radioactivity Release

System: 261000 SGTS

K/A: K4.03 - Knowledge of STANDBY GAS TREATMENT SYSTEM design feature(s) and/or interlocks which provide for the following: Moisture removal

I.R.: 2.5 / 2.7 10CFR 55 Content Part 41.7

License Level: RO Cognitive Level: Memory

Objective: 095.00.05 PRA: No

Question Exposure: 07-01 NRC ILT Exam

New Question developed for the 07-01 NRC ILT Exam

Which of the following describes the component in the SBGT system designed to remove entrained water droplets in the air being passed through the system?

A. Electric Heater

B. Rough Prefilter

C. Demister

D. HEPA Pre-Filter

Correct Answer C: Demister

The correct answer is supported by information provided in the SBGT System Lesson Plan that states that the Demister removes any entrained water droplets and moisture to minimize water loading on the Prefilter and charcoal adsorber.

Distracter A: Electric Heater

Distracter B: Rough Prefilter

Distracter D: HEPA Pre-Filter

Distracters A, B, and D are incorrect as they list components in the SBGT flowpath that serve a function other than the removal of entrained water droplets and moisture.

References:

Lesson Plan 095 SBGT

Question 26 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.2 Reactor Water Level Inventory Control

System: 259002 Reactor Water Level Control

K/A: 2.4.11 – Knowledge of abnormal condition procedures.

I.R.: 4.0 / 4.2 10CFR 55 Content Part 41.10 / 43.5 / 45.13

License Level: RO Cognitive Level: High

Objective: 031.00.21 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Unit 1 is operating at rated conditions when a feedwater transient occurs.

- The M/A Transfer Stations for BOTH Turbine Driven Reactor Feedwater Pumps (TDRFP) are placed in manual.
- RPV level is just above 50 inches on the Narrow Range Level indicators (NR) and going up slowly.
- The Reactor Operator is adjusting the M/A stations to control feedwater flow and reports that level will peak at approximately 51 inches on NR.

In accordance with the guidance of LOA-FW-101, Reactor Feedwater Pump Control, the reactor operator is directed to……

A. REDUCE reactor power.

B. INSERT a manual scram.

C. MATCH steam flow and feed flow.

D. PLACE the TDRFP back-up controllers in service.

Correct Answer C: MATCH steam flow and feed flow.

Explanation: LOA-FW-101 directs that RPV level be stabilized and matching steam flow and feed flow causes level to stabilize.

Distracter A: REDUCE reactor power is incorrect as reducing power will cause level to rise, when level needs to be lowered.

Distracter B: INSERT a manual scram is incorrect as a manual scram is not required because the information provided makes it clear that level is in control even though level is above 50 inches.

Distracter D: PLACE the TDRFP back-up controllers in service is incorrect as the back-up controllers are used if the M/A stations have failed and there is no indication provided that they have failed.

References:
LOA-FW-101, Reactor Feedwater Pump Control

Question 27 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.4 Heat Removal from Reactor Core

System: 239001 Main and Reheat Steam

K/A: K1.26 - Knowledge of the physical connections and/or cause- effect relationships between MAIN AND REHEAT STEAM SYSTEM and the following: Safety valves

I.R.: 3.7/ 3.8 10CFR 55 Content Part 41.7 / 45.4

License Level: RO Cognitive Level: High

Objective: 070.00.14 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New question developed for the 07-01 NRC Exam

Unit 2 has scrammed from rated conditions due to a spurious Group 1 isolation signal.
The plant has responded as designed.

Reactor pressure peaked at 1091 psig, dropped to a low of 850 psig and is currently at 1050 psig.

Which of the following properly describes the response of the Unit 2 SRVs to this transient?

A. SRVs initially opened in Safety mode, closed at their LLS closure setpoints, and are currently controlling pressure in LLS mode.

B. SRVs initially opened in Safety mode, closed at 3% below their Safety mode lift setpoints, and are currently controlling pressure in LLS mode.

C. SRVs initially opened in Relief mode, closed at their LLS closure setpoints, and are currently controlling pressure in LLS mode.

D. SRVs initially opened in Relief mode, closed at 100# below their Relief mode lift setpoints, and are currently controlling pressure in LLS mode.

Correct Answer C: SRVs initially opened in Relief mode, closed at their LLS closure setpoints, and are currently controlling pressure in LLS mode.

Explanation: No safety setpoints were reached, so valves opened in Relief mode. More than two SRVs opened, so LLS logic was initiated, and valves closed at the LLS setpoints. Current pressure is above the opening setpoint for two of the LLS SRVs,

Distracter A: SRVs initially opened in Safety mode, closed at their LLS closure setpoints, and are currently controlling pressure in LLS mode is incorrect as no safety setpoints were reached.

Distracter B: SRVs initially opened in Safety mode, closed at 3% below their Safety mode lift setpoints, and are currently controlling pressure in LLS mode is incorrect as no safety setpoints were reached.

Distracter D: SRVs initially opened in Relief mode, closed at 100# below their Relief mode lift setpoints, and are currently controlling pressure in LLS mode is incorrect as the open SRVs closed at the LLS close setpoints, not 100# below the Relief lift setpoint.

References:
Lesson Plan 70, Main Steam

Question 28 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.2 Reactor Water Inventory Control

System: 256000 Reactor Condensate

K/A: K2.01 - Knowledge of electrical power supplies to the following: System pumps

I.R.: 2.7 / 2.8 10CFR 55 Content Part 41.7

License Level: RO Cognitive Level: High

Objective: 075.00.16 PRA: No

Question Exposure: 07-01 NRC Exam

Source: New Question developed for the 07-01 NRC Exam

Unit 2 is operating at rated conditions with the following line-up of the Condensate/Condensate Booster (CD/CB) pumps:
- ‘A’, ‘B’, and ‘D’ Condensate/Condensate Booster (CD/CB) pumps are on line
- ‘C’ Condensate/Condensate Booster (CD/CB) pump is OOS and unavailable

Which of the following describes the expected response of the Unit 2 CD/CB Pumps and Reactor Feedwater Pumps if an electrical fault results in the lockout and de-energization of Bus 252?

A. ONLY ‘A’ CD/CB Pump trips and NO Reactor Feedwater Pump trips.

B. ONLY ‘B’ CD/CB Pump trips and NO Reactor Feedwater Pump trips.

C. ‘B’ and ‘D’ CD/CB Pumps trip and ALL Reactor Feedwater Pumps trip.

D. ‘A’ and ‘B’ CD/CB Pumps trip and ALL Reactor Feedwater Pumps trip.

Correct Answer C: ‘B’ and ‘D’ CD/CB Pumps trip and ALL Reactor Feedwater Pumps trip.

Explanation: The 'B" and 'D' CD/CB Pumps are powered from Bus 252 and both will trip on the loss of bus 252. Operating experience has demostrated that operation at rated conditions with only one running CD/CB pump will result in the loss of ALL reactor feedwater pumps due to a trip on low suction pressure.

Distracter A: ONLY ‘A’ CD/CB Pump trips and NO Reactor Feedwater Pump trips.

Distracter B: ONLY ‘B’ CD/CB Pump trips and NO Reactor Feedwater Pump trips.

Distracter D: ‘A’ and ‘B’ CD/CB Pumps trip and ALL Reactor Feedwater Pumps trip.

Distracters A, B, and D are incorrect combinations of pumps affected by the loss of Bus 252. Distracters A and B also are incorrect as the feedwater pumps will trip.

References:
Lesson Plan: 075, Condesate / Condensate Booster System, page 19

Question 29 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.4 Heat Removal from Reactor Core

System: 230000 RHR/LPCI: Torus/Pool Spray Mode

K/A: K3.04 - Knowledge of the effect that a loss or malfunction of the RHR/LPCI: TORUS/SUPPRESSION POOL SPRAY MODE will have on following: Suppression chamber air temperature

I.R.: 3.7/ 3.8 10CFR 55 Content Part 41.7 / 45.4

License Level: RO Cognitive Level: High

Objective: 064.00.05 PRA: No

Question Exposure:

Source: New question developed for the 07-01 NRC ILT Exam

Unit 1 has been manually scrammed from rated conditions due to a steam leak in the drywell.
- RPV level is 25 inches and steady.
- Drywell pressure is 21.5 psig
- Drywell temperature is 232 degrees F.
- Suppression Chamber pressure is 16 psig
- Suppression Chamber temperature is 216 degrees F.
- Suppression Pool Water Temperature is 115 degrees F.
- 1A RHR/RHR WS is running in the Suppression Chamber Spray and Suppression Pool Cooling modes of operation.
- 1B RHR is running in the Drywell Spray mode of operation.
- Reactor pressure is at 600 psig and going down at 50 psig per minute

Which of the following properly describes how containment parameters will be effected within the next three minutes? Assume no manual actions are taken related to the operation of the 1A and 1B RHR system components.

A. Drywell air temperature will rise due to the closure of 1E12-F016B, 1B RHR DW Spray Upstream Isol.

B. Drywell pressure will rise due to the closure 1E12-F017B, 1B RHR DW Spray Downstream Isol.

C. Suppression Chamber air temperature will rise due to the closure of valve 1E12-F027A, 1A RHR SP Spray Isol.

D. Suppression Pool water temperature will rise due to the opening of valve 1E12-F048A, 1A RHR Hx Bypass Vlv.

Correct Answer C: Suppression Chamber air temperature will rise due to the closure of valve 1E12-F027A, 1A RHR SP Spray Isol.

Explanation: The 1E12-F027 valve will close due to an interlock with the 1E12-F042A injection valve, which opens when the 500# reactor permissive is met.

Distracter A: Drywell air temperature will rise due to the closure of 1E12-F016B, 1B RHR DW Spray Upstream Isol. is incorrect as the 1E12-F016B valve will be open for DW spray and does not go closed when the 1E12-F042B injection valve opens.

Distracter B: Drywell pressure will rise due to the closure 1E12-F017B, 1B RHR DW Spray Downstream Isol. is incorrect as the 1E12-F017B valve will be open for DW spray and does not go closed when the 1E12-F042B injection valve opens.

Distracter D: Suppression Pool water temperature will rise due to the opening of valve 1E12-F048A, 1A RHR Hx Bypass Vlv. is incorrect as the 1E12-F048A valve will be closed for SPC and does not go open when the 1E12-F042A injection valve opens

References:
System Lesson Plan 064, RHR, pages 18, 21, and 22

Question 30 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.5 Containment Integrity

System: 223001 Primary CTMT and Aux

K/A: K4.02 - Knowledge of PRIMARY CONTAINMENT SYSTEM AND AUXILIARIES design feature(s) and/or interlocks which provide for the following: Contains fission products after a LOCA.

I.R.: 3.6 / 3.7 10CFR 55 Content Part 41.7

License Level: RO Cognitive Level: Memory

Objective: 090.00.05 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: Bank question taken from the INPO Exam Bank for the 07-01 NRC ILT Exam.

A LOCA is in progress, with the following:
- All drywell vacuum breakers have failed to open, when required.

Which one of the following identifies the containment failure mechanism that can result from the vacuum breaker failures?

A. Excessive inward pressure on the Drywell wall.

B. Excessive upward pressure on the Drywell floor.

C. Excessive downward pressure on the Drywell floor.

D. Excessive inward pressure on the Suppression Pool wall.

Correct Answer B: Excessive upward pressure on the Drywell floor.

Explanation: Vacuum Breakers relieve from the Suppression Chamber to the Drywell to maintain upward loading on the drywell floor within required limits.

Distracter A: Excessive inward pressure on the Drywell wall is incorrect as this would result from excessive negative (to the outside) pressure in the drywell and suppression chamber.

Distracter C: Excessive downward pressure on the Drywell floor is incorrect as downcomers provide a flowpath for steam, liquid, and gases to travel from the drywell to the suppression pool, limiting downward loading on the drywell floor.

Distracter D: Excessive inward pressure on the Suppression Pool wall is incorrect as this would result from excessive negative (to the outside) pressure in the drywell and suppression chamber.

References:
System Lesson Plan 090, Primary and Secondary Containment

Question 31 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.7 Instrumentation

System: 216000 Nuclear Boiler Inst

K/A: K5.06 - Knowledge of the operational implications of the following concepts as they apply to NUCLEAR BOILER INSTRUMENTATION : Rapid vessel depressurization effects on vessel level indications

I.R.: 3.4 / 3.6 10CFR 55 Content Part 41.5 / 45.3

License Level: RO Cognitive Level: Memory

Objective: 040.00.07 PRA: No

Question Exposure: 07-01 NRC Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Which of the following recorders and/or indicators are supplied input from instruments designed to provide accurate RPV level in the event that rapid depressurization of the RPV occurs?

A. Upset Level recorder on the 1(2)H13-P603 panel

B. Narrow Range Level indicators and recorder on the 1(2)H13-P603 panel

C. Wide Range Level indicators and recorders on the 1(2)H13-P601 and 1(2)H13-P603 panels

D. Shutdown Range Level indicator on the 1(2)H13-P602 panel and Upset Range Level recorder on the 1(2)H13-P603 panel.

Correct Answer C: Wide Range Level indicators and recorders on the 1(2)H13-P601 and 1(2)H13-P603 panels

Explanation: The RPV Instrumentation lesson plan identifies the Wide Range indicators and recorders as “the most reliable for a rapid depressurization event, especially if heat is added to the drywell”.

Distracter A: Upset Level recorder on the 1(2)H13-P603 panel

Distracter B: Narrow Range Level indicators and recorder on the 1(2)H13-P603 panel

Distracter D: Shutdown Range Level indicator on the 1(2)H13-P602 panel and Upset Range Level recorder on the 1(2)H13-P603 panel.

Reason Distracters A, B, and D are incorrect: These distracters are plausible to an examinee that does not understand that the wide range indicators and recorders are associated with level transmitters and piping that have been designed to provide accurate indication during rapid RPV depressurization. The three distracters list other level indications available in the main control room.

References:
System Lesson Plan 040, Reactor Vessel Instrumentation, page 14 and 15.

Question 32 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.4 Heat Removal from Reactor Core

System: 245000 Main Turbine Gen. / Aux

K/A: K6.06 - Knowledge of the effect that a loss or malfunction of the following will have on the MAIN TURBINE GENERATOR AND AUXILIARY SYSTEMS : Electrical distribution

I.R.: 3.0 / 3.2 10CFR 55 Content Part 41.7 / 45.7

License Level: RO Cognitive Level: Memory

Objective: 071.00.20 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

A precaution in LOP-TG-02 warns that Operation of the main turbine generator while above a frequency of 60.5 Hz or below a frequency of 59.5 Hz will cause damage to which of the following?

A. Turbine Blades

B. Generator Stator

C. Generator Rotor Windings

D. Low Pressure Turbine Bearings

Correct Answer A: Turbine Blades

Explanation: LOP-TG-02, Precaution C.13 states:

Operation above a frequency of 60.5 HZ or below a frequency of 59.5 Hz will cause turbine blade damage (Ref. Fig. 5)

Distracter B: Generator Stator

Distracter C: Generator Rotor Windings

Distracter D: Low Pressure Turbine Bearings

Distracters B, C, and D are incorrect, but plausible, if the examinee is not knowledgeable of the procedure precaution.

References:

LOP-TG-02, Precaution C.13

Question 33 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.7 Instrumentation

System: 201006 RWM

K/A: A1.02 - Ability to predict and/or monitor changes in parameters associated with operating the ROD WORTH MINIMIZER SYSTEM (RWM) (PLANT SPECIFIC) controls including: Status of control rod movement blocks; P-Spec(Not-BWR6)

I.R.: 3.4 / 3.5 10CFR 55 Content Part 41.5 / 45.5

License Level: RO Cognitive Level: Memory

Objective: 048.00.05 PRA: No

Question Exposure:

2002-01 Certification Exam
2003-01 Casualty Ops Cert Level 01 (01/13/2005)
2005-01 Casualty Ops Certification Level Exam 02 (09/28/2006)
07-1 NRC ILT Exam

Source: Bank Question taken from ILT Casualty Ops Bank

Given the following plant conditions:
- Unit-1 is starting up, with reactor power at 4%.
- Control rods are being withdrawn per LOP-RM-01
- The NSO selects rod 18-31
- Rod 18-31 shows a red double question mark (??) on the RWM Display Screen

Based on the above information, ...

A. Rod 18-31 is identified as a “Selection Error”. Rod 18-31 is outside of the latched step of the normal sequence and rod blocks are enforced to prevent ALL movement.
B. Rod 18-31 is identified as a “Selection Error”. Rod 18-31 is outside of the latched step of the normal sequence and rod blocks are enforced to prevent withdrawal ONLY.
C. Rod 18-31 position is “Unknown, (Bad)”. The rod will be treated as a withdrawal error and must be corrected before proceeding further into the normal sequence.
D. Rod 18-31 position is “Unknown, (Bad)”. The rod will be restricted to a maximum of one notch in the withdraw direction while proceeding further into the normal sequence.

Correct Answer C: Rod 18-31 position is “Unknown, (Bad)”. The rod will be treated as a withdrawal error and must be corrected before proceeding further into the normal sequence.

Explanation: This information is taken directly from LOP-RW-01, Step E.4 NOTE.

Distracter A: Rod 18-31 is identified as a “Selection Error”. Rod 18-31 is outside of the latched step of the normal sequence and rod blocks are enforced to prevent ALL movement.

Distracter B: Rod 18-31 is identified as a “Selection Error”. Rod 18-31 is outside of the latched step of the normal sequence and rod blocks are enforced to prevent withdrawal ONLY.

Distracter D: Rod 18-31 position is “Unknown, (Bad)”. The rod will be restricted to a maximum of one notch in the withdraw direction while proceeding further into the normal sequence.

Distracters A and B are plausible if the examinee does not understand the concept of a latched step.

Distracter D is tied to alternate limits on rod movement, which is one notch past the nominal target.

References:
LOP-RW-01, Rev. 18, Step E.4 and associated NOTE.
RWM Lesson Plan, page7.

Question 34 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.7 Instrumentation

System: 215002 RBM

K/A: A2.05 - Ability to (a) predict the impacts of the following on the ROD BLOCK MONITOR SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: RBM high or inoperable: BWR-3,4,5

I.R.: 3.2 / 3.3 10CFR 55 Content Part 41. 5 / 45.6

License Level: RO Cognitive Level: High

Objective: 045.00.05 PRA: No

Question Exposure: 07-01 NRC Exam

New Question developed for the 07-01 NRC ILT Exam

Unit 1 is currently at 90% reactor power with surveillance LOS-RD-SR7 “Channel Interference Monitoring” in progress.
Alarm 1H13-P603, A406, RBM HI/INOP has just illuminated due to the 1A RBM generating a valid “Failure to Null” signal.

This condition will result in a _____(1) _____ requiring _____(2) _____ before continuing with the surveillance.

A. (1) rod insert and withdrawal block
(2) bypassing the 1A RBM at panel 1H13-P603

B. (1) rod withdrawal block ONLY
(2) bypassing the 1A RBM at panel 1H13-P603

C. (1) rod insert and withdrawal block
(2) placing the 1A RBM Mode Switch in “STANDBY” at panel 1H13-P608

D. (1) rod withdrawal bock ONLY
(2) placing the 1A RBM Mode Switch in “STANDBY” at panel 1H13-P608

Correct Answer B:

(1) rod withdrawal block ONLY
(2) bypassing the 1A RBM at panel 1H13-P603

Explanation: Per LOR 1H13-P603-A406, A.1. “BLOCKS control rod withdrawal”. B.5 “If a RBM channel is INOP, BYPASS affected channel per LOP-NR-05, “Rod Block Monitor Operation”.
NOTE: A review of LOP-NR-05 shows that the procedure never provides specific direction to place the RBM in bypass, rather it discusses that only one of the two RBMs may be bypassed, however the operators would be required to bypass the 1A RBM to continue with the surveillance.

Distracter A: (1) rod insert and withdrawal block
(2) bypassing the 1A RBM at panel 1H13-P603

Distracter A is incorrect as a rod insert block is NOT generated.

Distracter C: (1) rod insert and withdrawal block
(2) placing the 1A RBM Mode Switch in “STANDBY” at panel 1H13-P608

Distracter C is incorrect as the RBM is placed in BYPASS, the RBM mode switch is not moved to STANDBY.

Distracter D: (1) rod withdrawal bock ONLY
(2) placing the 1A RBM Mode Switch in “STANDBY” at panel 1H13-P608

Distracter D is incorrect as the RBM is placed in BYPASS, the RBM mode switch is not moved to STANDBY.

References:
LOR 1H13-P603, A406, “RBM HI/INOP”.
LOP-NR-05, RBM Operation

Question 35 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.1 Reactivity Control

System: 201002 RMCS

K/A: A3.01 - Ability to monitor automatic operations of the Reactor Manual Control System including:

Control Rod Block Actuation

I.R.: 3.2 / 3.1 10CFR 55 Content Part 41.7 / 45.7

License Level: RO Cognitive Level: High

Objective: 047.00.14 PRA: No

Question Exposure: 07-01 NRC Exam

Source: Bank question taken directly from the INPO exam bank.

A reactor startup is in progress, with the following:
- Reactor power is currently on Range 3 of the Intermediate Range Monitoring system
- Control rod 30-31 is the next control rod to be moved **AND** it is currently at notch position 12.

Following the selection of control rod 30-31, the "ACTIVITY CONTROLS DISAGREE" light on the Rod Select Module illuminates, and remains LIT.

Based on the above condition, which one of the following describes the ability to move the control rod?

Using Reactor Manual Control System, control rod 30-31 can be.....

A. inserted only.

B. withdrawn only.

C. inserted or withdrawn.

D. neither inserted nor withdrawn.

Correct Answer D.: neither inserted nor withdrawn.

Explanation: No rod block signal generated, the system simply locks out and will not process any rod movement requests.

Distracter A: inserted only.

Distracter B: withdrawn only.

Distracter C: inserted or withdrawn.

Distracters A/B/C are incorrect as they list rod motion possible for either insert, withdraw or both directions.

References:
System Lesson Plan 047, RMCS, page 24.

Question 36 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.8 Plant Service Systems

System: 234000 Fuel Handling Equipment

K/A: A4.01 - Ability to manually operate and/or monitor in the control room: Neutron monitoring system.

I.R.: 3.7 / 3.9 10CFR 55 Content Part 41.7 / 45.5 to 45.8

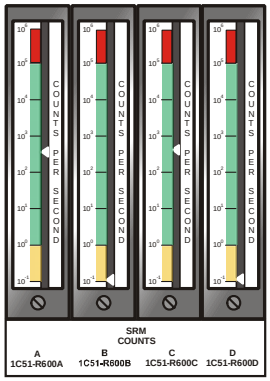
License Level: RO Cognitive Level: High

Objective: 041.00.14 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

The Unit 1 reactor core is being loaded with the following conditions in place:
- All SRMs are fully inserted
- All control rods are fully inserted
- There are at least 6 fuel assemblies adjacent to each SRM
- There are more than 10 fuel assemblies loaded in each quadrant



Determine if loading fuel at location 15-18 is allowed, and if the requirement for operable SRMs is met.

A. Allowed. The requirement to have an OPERABLE SRM in the quadrant of the reactor core where CORE ALTERATIONS are being performed is met. The requirement to have an OPERABLE SRM in an adjacent quadrant containing fuel is met.

B. Allowed. The requirement to have an OPERABLE SRM in the quadrant of the reactor core where CORE ALTERATIONS are being performed is met. An OPERABLE SRM in an adjacent quadrant containing fuel is NOT required.

C. NOT allowed. The requirement to have an OPERABLE SRM in the quadrant of the reactor core where CORE ALTERATIONS are being performed is NOT met. The requirement to have an OPERABLE SRM in an adjacent quadrant containing fuel is met.

D. NOT allowed. The requirement to have an OPERABLE SRM in the quadrant of the reactor core where CORE ALTERATIONS are being performed is NOT met. The requirement to have an OPERABLE SRM in an adjacent quadrant containing fuel is NOT met.

Correct Answer C.: NOT allowed. The requirement to have an OPERABLE SRM in the quadrant of the reactor core where CORE ALTERATIONS are being performed is NOT met. The requirement to have an OPERABLE SRM in an adjacent quadrant containing fuel is met.

Explanation: SRM D is in the quadrant where fuel is being loaded and is downscale, inoperable. SRM B is NOT an adjacent SRM and even though it is indicating downscale, (inoperable) it does not affect fuel load.

Distracter A: Allowed. The requirement to have an OPERABLE SRM in the quadrant of the reactor core where CORE ALTERATIONS are being performed is met. The requirement to have an OPERABLE SRM in an adjacent quadrant containing fuel is met.

This distracter is incorrect as SRM D is in the quadrant where fuel is being loaded and is downscale, inoperable.

Distracter B: Allowed. The requirement to have an OPERABLE SRM in the quadrant of the reactor core where CORE ALTERATIONS are being performed is met. An OPERABLE SRM in an adjacent quadrant containing fuel is NOT required.

This distracter is incorrect as SRM D is in the quadrant where fuel is being loaded and is downscale, inoperable.

Distracter D: NOT allowed. The requirement to have an OPERABLE SRM in the quadrant of the reactor core where CORE ALTERATIONS are being performed is NOT met. The requirement to have an OPERABLE SRM in an adjacent quadrant containing fuel is NOT met.

This distracter is incorrect as SRM B is NOT an adjacent SRM and even though it is indicating downscale, (inoperable) it does not affect fuel load.

References:
LaSalle Tech Spec and Bases 3.3.1.2 Source Range Monitor Instrumentation
System Lesson Plan 041, SRMs, Figure 41-08.

Question 37 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.1 Reactivity Control

System: 202002 Recirculation Flow Control

K/A: 2.1.28 - Conduct of Operations: Knowledge of the purpose and function of major system components and controls.

I.R.: 4.1 / 4.1 10CFR 55 Content Part 41.7

License Level: RO Cognitive Level: Memory

Objective: PRA: No

Question Exposure: 07-01 NRC Exam

Source: New Question developed for the 07-01 NRC ILT Exam

The RR Flow Control valves provide a means of controlling reactor power from ____(1) ____ and varying Reactor Recirculation flow from ____(2)____ of rated.

A. (1) 0 – 100%
(2) 0 – 100%

B. (1) 0 – 100%
(2) 25 – 100%

C. (1) 60 – 100%
(2) 0 – 100%

D. (1) 60 – 100%
(2) 25 – 100%

Correct Answer D.: (1) 60 – 100%
(2) 25 – 100%

Explanation: The correct answer is supported by information provided in the RRFC System Lesson Plan. 60%-100% power is due to only adjusting power with the RRFCVs after RR pumps are upshifted. 25 – 100% rated RR flow is based on the movement of the RRFCVs being limited by actuator stops.

Distracter A: (1) 0 – 100%
(2) 0 – 100%

Distracter B: (1) 0 – 100%
(2) 25 – 100%

Distracter C: (1) 60 – 100%
(2) 0 – 100%

Reason Distracters A/B/C are incorrect: The distracters are variations of plausible answers the examinee might choose if unaware that RRFCV movement is limited by actuator stops (thus limiting RR flow) and the RRFCVs are only used to adjust power AFTER the RR pumps are upshifted.

References:
System Lesson Plan 023, Reactor Recirculation Flow Control

Question 38 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.4 Heat Removal from the Reactor Core

System: 202001 Recirculation

K/A: K3.14 - Knowledge of the effect that a loss or malfunction of the RECIRCULATION SYSTEM will have on following: Primary Containment Integrity: Plant-Specific

I.R.: 3.5 / 3.5 10CFR 55 Content Part 41.7 / 45.4

License Level: RO Cognitive Level: High

Objective: 022.00.21 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Unit 1 is operating at rated conditions when an earthquake occurs

- A circumferential rupture of the 1A RR pump discharge pipe immediately upstream of the 1B33-F067A; 1A RR PMP DSCH VLV develops.
- The breaker to the 1A 1B33-F067A; 1A RR PMP DSCH VLV trips OPEN, de-energizing the valve.

With all other systems and components responding as designed to the accident, ……..

A. the drywell internal pressure design limit will be exceeded.

B. no primary containment design limit will be exceeded.

C. the primary containment temperature design limit will be exceeded.

D. the downward loading of the drywell floor design limit will be exceeded.

Correct Answer B.: no primary containment design limit will be exceeded.

Explanation: Per the LaSalle UFSAR, no primary containment design limits will be exceeded as the design basis for the containment is to maintain its integrity and experience acceptable stresses after the instantaneous rupture of the largest single primary system piping within the structure while also accommodating the dynamic effects of the pipe break at the same time an SSE is also occurring.

The failure of the power supply to the 1B33-F067A valve has no affect on the situation as the valve is interlocked open until the high drywell pressure interlock clears.

Distracter A: the drywell internal pressure design limit will be exceeded.

Distracter C: the primary containment temperature design limit will be exceeded.

Distracter D: the downward loading of the drywell floor design limit will be exceeded.

Reason Distracters A, C, and D are incorrect:

The three distractors are plausible if the examinee does not understand that the containment design limits will not be exceeded during a DBA LOCA, and that the 1B33-F067A would not close following a DBA LOCA even if power was available.

References:
LaSalle UFSAR Section 15.6
System Lesson Plan 22, Reactor Recirculation
System Lesson Plan 090, Primary and Secondary Containment

Question 39 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.1 Reactivity Control

System: APE 295006 SCRAM

K/A: AK1.02 - Knowledge of the operational implications of the following concepts as they apply to SCRAM : Shutdown margin

I.R.: 3.4 / 3.7 10CFR 55 Content Part 41.8 to 41.10

License Level: RO Cognitive Level: Memory

Objective: 400.00.14 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New question developed for the 07-01 NRC ILT Exam.

The calculation of Maximum Subcritical Banked Withdrawal Position extends the shutdown rod pattern, which meets the Tech Spec calculation for shutdown margin, to the _____(1)_____ most reactive rod(s) fully withdrawn and all other control rods inserted to at least position _____(2)_____.

A. (1) one
   (2) 00
B. (1) one
   (2) 02
C. (1) two
   (2) 00
D. (1) two
   (2) 02

Correct Answer B: (1) one
(2) 02

Explanation, as stated in the LGA-001 lesson plan, “Tech Spec calculation for shutdown margin require that the reactor remain shutdown by a specified amount even with the most reactive rod fully withdrawn. The calculation of Maximum Subcritical Banked Withdrawal Position extends the shutdown rod pattern to the most reactive rod fully withdrawn and all other control rods inserted to at least position 02.

Distracter A: (1) one
(2) 00

Distracter C: (1) two
(2) 00

Distracter D: (1) two
(2) 02

Reason Distracters A/C/D are incorrect: The three distracters have a combination of incorrect answers that the examinee might select if they did not understand the concept of Maximum Subcritical Banked Withdrawal Position.

References:
LGA-001, RPV Control Lesson Plan

Question 40 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.3 Reactor Pressure Control

EPE: 295025 High Reactor Pressure

K/A: EK1.01 - Knowledge of the operational implications of the following concepts as they apply to HIGH REACTOR PRESSURE : Pressure effects on reactor power.

I.R.: 3.9 / 4.0 10CFR 55 Content Part 41. 8 to 41.10

License Level: RO Cognitive Level: High

Objective: 074.00.21 PRA: No

Question Exposure:

Source: New Question developed for the 07-01 NRC Exam

Unit 2 is at rated condtions when the #1 Turbine Control Valve drifts CLOSED.

In response to the event, REACTOR power will initially ____(1)____, followed by ____(2)_____

A. (1) RISE
(2) ONLY #2 Turbine Control Valve going OPEN.

B. (1) RISE
(2) the remaining Turbine Control Valves and/or Turbine Bypass Valves going OPEN.

C. (1) LOWER
(2) ONLY #2 Turbine Control Valve going OPEN.

D. (1) LOWER
(2) the remaining Turbine Control Valves and/or Turbine Bypass Valves going OPEN.

Correct Answer B.: (1) RISE
(2) the remaining Turbine Control Valves and/or Turbine Bypass Valves going OPEN.

Explanation: The void coefficient will cause power to increase as pressure increases which collapses voids causing reactor power to rise. The remaining Turbine Control Valves (TCVs) will then open to adjust for the closure of the #1 TCV. The Bypass Valves will respond based on the rate of closure of the #1 TCV and will open if necessary to control pressure.

Distracter A: (1) RISE
(2) ONLY #2 Turbine Control Valve going OPEN.

Reason Distracter A is incorrect: All of the remaining TCVs will open in response to the event and Bypass Valves will open if necessary to control pressure. Response of the TCVs is not limited to only TCV #2.

Distracter C: (1) LOWER
(2) ONLY #2 Turbine Control Valve going OPEN.

Distracter D: (1) LOWER
(2) the remaining Turbine Control Valves and/or Turbine Bypass Valves going OPEN.

Reason distracters C/D are incorrect: Power will RISE due to the increase in reactor pressure resulting from the closure of TCV #2.

References:
LOA-EH-101, Unit 1 EHC Abnormal, Step C.1

Question 41 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.2 Reactor Water Inventory Control

System: EPE 295031 Reactor Low Water Level

K/A: EK1.03 - Knowledge of the operational implications of the following concepts as they apply to REACTOR LOW WATER LEVEL : Water level effects on reactor power

I.R.: 3.7 / 4.1 10CFR 55 Content Part 41.10

License Level: RO Cognitive Level: Memory

Objective: 433.00.04 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC Exam

During the actions in the LGA-010 Level Control leg, reactor water level is lowered to –60 to –100 inches in order to ____(1)_____ and after hot shutdown boron weight is added level is raised in order to _____(2)_____.

A. (1) void the core to minimize power generation and reduce heat rate to the suppression pool
(2) promote mixing of the boron throughout the core

B. (1) trip Recirculation Pumps to minimize power generation and reduce heat rate to the suppression pool
(2) allow MSIV's to be reopened to commence a normal Cooldown

C. (1) promote concentrating boron in the high power areas of the core
(2) promote mixing of the boron throughout the core

D. (1) widen the pressure band for using SRV's and RCIC to maintain reactor pressure band
(2) allow MSIV's to be reopened to commence a normal Cooldown

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Correct Answer A.: (1) void the core to minimize power generation and reduce heat rate to the suppression pool
(2) promote mixing of the boron throughout the core

Explanation: This answer summarizes information presented in the LGA-010 Lesson Plan when explaining the actions taken in the 'Level' leg of LGA-010, Failure to Scram.

Distracter B: (1) trip Recirculation Pumps to minimize power generation and reduce heat rate to the suppression pool
(2) allow MSIV's to be reopened to commence a normal Cooldown

Distracter B is incorrect as RR pumps are tripped in the power leg in a controlled manner. Pressure is maintained steady in an ATWS condition

Distracter C: (1) promote concentrating boron in the high power areas of the core
(2) promote mixing of the boron throughout the core

Distracter C is incorrect as the LGA-010 lesson plan explains that injected boron concentrates in the lower plenum and does not contribute to reactor shutdown until mixing is accomplished by raising level.

Distracter D: (1) widen the pressure band for using SRV's and RCIC to maintain reactor pressure band
(2) allow MSIV's to be reopened to commence a normal Cooldown

Distracter D is incorrect as the level band is adjusted in LGA-001 when SRVs are being used for pressure control, and pressure is maintained steady in an ATWS condition.

References:
LGA-010 Lesson Plan, pages 1, 25, 29, and 35.

Question 42 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.8 Plant Service Systems

APE: 600000 Plant Fire On-site

K/A: AK2.01 - Knowledge of the interrelations between PLANT FIRE ON SITE and the following: Sensors, detectors and valves.

I.R: 2.6 / 2.7 10CFR 55 Content Part: None Identified

License Level: RO Cognitive Level: Memory

Objective:125.02.20 PRA: No

Question Exposure: 01-01 NRC ILT Exam

Source: New question developed for the 07-01 NRC ILT Exam

There is a fire in the 0A Control Room HVAC Emergency Make-up Train charcoal bed.

Which of the following properly describes all of the actions required to deluge the charcoal bed?

A. 1) OPEN the Manual Deluge Stop Valves, and then
   2) ACTUATE the FP system from the main control room **or** Aux. Electric Equipment Room.

B. 1) Locally CLOSE the Manual Deluge Leakoff Line Stop Valve, and then
   2) ACTUATE the FP system from the main control room **or** locally at the train.

C. 1) Locally CLOSE the Manual Deluge Leakoff Line Stop Valve,
   2) OPEN the Manual Deluge Stop Valves, and then
   3) ACTUATE the FP system from the main control room **or** Aux. Electric Equipment Room.

D. 1) Locally CLOSE the Manual Deluge Leakoff Line Stop Valve,
   2) OPEN the Manual Deluge Stop Valves, and then
   3) ACTUATE the FP system from the main control room **or** locally at the train.

Correct Answer D.:

1) Locally CLOSE the Manual Deluge Leakoff Line Stop Valve,
2) OPEN the Manual Deluge Stop Valves, and then
3) ACTUATE the FP system from the main control room **or** locally at the train.

Explanation: LOA-FP-101, Step B.2.19, 20, and 21 direct these actions.

Distracter A: 1) OPEN the Manual Deluge Stop Valves, and then
2) ACTUATE the FP system from the main control room **or** Aux. Electric Equipment Room.

Distracter A is incorrect as the FP system can not be actuated from the AEER where the fire control panels are located.

Distracter B: 1) Locally CLOSE the Manual Deluge Leakoff Line Stop Valve, and then
2) ACTUATE the FP system from the main control room **or** locally at the train.

Distracter B is incorrect as it does not include of all of the actions required to be taken, as directed in the stem. The closure of the leakoff line is required but not included in the distracter.

Distracter C: 1) Locally CLOSE the Manual Deluge Leakoff Line Stop Valve,
2) OPEN the Manual Deluge Stop Valves, and then
3) ACTUATE the FP system from the main control room **or** Aux. Electric Equipment Room.

Distracter C is incorrect as the FP system can not be actuated from the AEER where the fire control panel is located

References:
LOA-FP-101, Unit 1 Fire Protection System Abnormal

Question 43 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.5 Containment Integrity

EPE: 295030 Low Suppression Pool Water Level / 5 (Containment Integrity)

K/A: EK2.07 - Knowledge of the interrelations between LOW SUPPRESSION POOL WATER LEVEL and the following: Downcomer/ horizontal vent submergence

I.R.: 3.5 / 3.8 10CFR 55 Content Part 41.5 / 45.6

License Level: RO Cognitive Level: High

Objective: 419.00.02 PRA: No

Question Exposure:
2001-01 Certification Exam
2003-01 Casualty Ops Cert Level 02 (01/20/2005)
2005-01 Casualty Ops Certification Level Exam 03 (10/05/2006)
07-01 NRC ILT Exam

Source: Bank question taken from the ILT Casualty Ops Exam Bank

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Unit 2 was operating at rated conditions when a loss of Suppression Pool integrity resulted in a rapid lowering of Suppression Pool level.

The Unit 2 reactor was scrammed and LGA-001, RPV Control and LGA-003, Primary Containment Control were entered.

Which of the following identifies the action to be taken, and why, if Suppression Pool level drops to -12.5 feet?

A. INITIATE ADS to minimize the effects of chugging on the Primary Containment.

B. PREVENT all heat input into the Suppression Pool to ensure Heat Capacity Limit is NOT exceeded.

C. INITIATE ADS due to inability to condense steam discharged from the RPV into the drywell during a LOCA.

D. INHIBIT ADS to prevent direct pressurization of the Primary Containment from the SRV T-quenchers.

Correct Answer C.: INITIATE ADS due to inability to condense steam discharged from the RPV into the drywell during a LOCA.

Explanation: At -12 feet the downcomers become uncovered and steam will not be condensed, losing the pressure suppression feature.

Distracter A: INITIATE ADS to minimize the effects of chugging on the Primary Containment is incorrect as chugging would not occur, rather the suppression chamber would pressurize.

Distracter B: PREVENT all heat input into the Suppression Pool to ensure Heat Capacity Limit is NOT exceeded is incorrect as actions are NOT taken to prevent all heat input into the suppression pool. The distracter is plausible if the examinee does not understand the reason for actions taken in LGA-003.

Distracter D: INHIBIT ADS to prevent direct pressurization of the Primary Containment from the SRV T-quenchers is incorrect as ADS is INITIATED, not INHIBITED. The distracter is plausible if the examinee does not understand the reason for actions taken in LGA-003, and confuses the location of downcomers and T-quenchers.

Reference:
LGA Lesson Plan for LGA-003, Primary Containment Control

Question 44 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.6 Electrical

System: APE.: 700000 Generator Voltage and Electric Grid Disturbances

K/A: AK2.05 - Knowledge of the interrelations between GENERATOR VOLTAGE AND ELECTRIC GRID DISTURBANCES and Pumps.

I.R.: 3.1 / 3.2 10CFR 55 Content Part 41.4, 41.5, 41.7, 41.10 / 43.(b) N/A / 45.8

License Level: RO Cognitive Level: Memory

Objective: 005.00.21 PRA: Yes

Question Exposure: 07-01 NRC Exam

Source: New Question developed for the 07-01 NRC ILT Exam

A reduction in grid voltage will have which of the following affects on pump motor operation?

A pump motor will draw…….

A. the same current and rotate slightly faster.

B. the same current and rotate slightly slower.

C. less current and operate at a lower motor temperature.

D. more current and operate at a higher motor temperature.

Correct Answer D.: more current and operate at a higher motor temperature.

Explanation: Accurate description of the effect of low voltage on a pump's electric motor.

Distracter A: the same current and rotate slightly faster.

Distracter B: the same current and rotate slightly slower.

Distracter C: less current and operate at a lower motor temperature.

Distracters A/B/C are incorrect, but plausible to an examinee that does not understand the impact of low voltage on a motor, or confuses the effect of low voltage with abnormal frequency on the grid.

References:
EC&M Technical Article

Question 45 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.6 Electrical

APE: 295004 Partial or Total Loss of DC Pwr

K/A: AK3.03 - Knowledge of the reasons for the following responses as they apply to PARTIAL OR COMPLETE LOSS OF D.C. POWER : Reactor SCRAM: Plant-Specific

I.R.: 3.1 / 3.5 10CFR 55 Content Part 41.5 / 45.6

License Level: RO Cognitive Level: Memory

Objective: 006.00.16 PRA: Yes

Question Exposure: 03-01 NRC ILT Exam

Source: Bank question written by jer for use on 2003-01 ILT NRC Exam, 12/02/04

Which of the following identifies the reason that the Unit-1 reactor will automatically scram as a result of the simultaneous loss of 111Y and 112Y?

A. De-energizes both backup scram valves.

B. De-energizes control power to both TDRFPs.

C. De-energizes both divisions of isolation logic.

D. De-energizes both divisions of ARI initiation logic.

Correct Answer C.: De-energizes both divisions of isolation logic.

Explanation: Loss of 111Y causes the Division 1 half of the isolation logic to de-energize. The logic is fail-safe and initiates a half-isolation. Loss of 112Y de-energizes the Division 2 half of the logic resulting in a PCIS Group 1 isolation (MSIVs and Drain Valves).

Distracter A: De-energizes both backup scram valves is incorrect as Backup Scram valves are energize to actuate NOT de-energize.

Distracter B: De-energizes control power to both TDRFPs is incorrect as the TDRFPs continue to operate as-is without tripping capability when control power is lost.

Distracter D: De-energizes both divisions of ARI initiation logic is incorrect as ARI initiation logic is energize to actuate NOT de-energize.

References:
LOA-DC-101, Revision 07, pages 184 and 193

Question 46 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.8 Plant Service System

System: APE 295019 Partial or Total Loss of Inst. Air / 8 (Plant Service System)

K/A: AK3.01 - Knowledge of the reasons for the following responses as they apply to PARTIAL OR COMPLETE LOSS OF INSTRUMENT AIR : Backup air system supply: Plant-Specific

I.R.: 3.3 / 3.4 10CFR 55 Content Part 41.7 / 45.8

License Level: RO Cognitive Level: Memory

Objective: 097.00.018 PRA: Yes

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Unit 2 is at rated conditions with the 2B Drywell Instrument Nitrogen Compressor out of service for maintenance, when the 2A Drywell Instrument Nitrogen Compressor trips due to a mechanical failure.

The Assist NSO opens the Unit 2 Instrument Air to Drywell Pneumatics Cross-tie valves 2IN059 and 2IN060 in response to the event.

Which of the following describes the loads picked up by the Instrument Air system following the opening of the cross-tie valves with all other components in the Instrument Nitrogen system responding as designed?

The Instrument Air system will pick up loads supplied by ……

A. the regulated Instrument Nitrogen supply line to the drywell ONLY.

B. the unregulated Instrument Nitrogen supply line to the drywell ONLY.

C. BOTH the regulated and unregulated Instrument Nitrogen supply lines to the drywell.

D. BOTH the regulated and unregulated supply lines to the drywell, EXCEPT TIP Purge.

Correct Answer A: the regulated Instrument Nitrogen supply line to the drywell ONLY.

Explanation: The IA system backs up the regulated portion of the IN system. The ADS bottle banks provide pneumatic pressure to the ADS SRVs.

Distracter B: the unregulated Instrument Nitrogen supply line to the drywell ONLY is incorrect as with the cross-tie valves open, IA will supply pressure to the regulated portion of the IN system and does not supply pneumatic pressure to the unregulated portion of the IN system with the ADS bottle bank responding as designed as a check valve will be held closed by the higher pressure of the ADS bottle banks, preventing IA flow into the unregulated portion of IN.

Distracter C: BOTH the regulated and unregulated Instrument Nitrogen supply lines to the drywell is incorrect as IA does not supply pneumatic pressure to the unregulated portion of the IN system with the ADS bottle bank responding as designed as a check valve will be held closed by the higher pressure of the ADS bottle banks, preventing IA flow into the unregulated portion of IN.

Distracter D: BOTH the regulated and unregulated supply lines to the drywell, EXCEPT TIP Purge is incorrect as with the cross-tie valves opens IA is supplied to all loads supplied by the regulated air supply, including TIP Purge. IA does not supply pneumatic pressure to the unregulated portion of the IN system with the ADS bottle bank responding as designed as a check valve will be held closed by the higher pressure of the ADS bottle banks, preventing IA flow into the unregulated portion of IN. This answer is plausible in that examinees should know that TIP Purge is the largest load on the IN system and it reasonable that TIP Purge would not be supplied with IA to reduce the impact on the IA system.

References:
System Lesson Plan 097, Drywell Pneumatics

Question 47 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.1 Reactivity Control

System: 295037 SCRAM Conditions Present and Reactor Power Above APRM Downscale or Unknown

K/A: EK3.04 - Knowledge of the reasons for the following responses as they apply to SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN : Hot shutdown boron weight: Plant-Specific

I.R.: 3.2 / 3.7 10CFR 55 Content Part 41.5 to 45.6

License Level: RO Cognitive Level: High

Objective: 433.00.03 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: Bank Question taken from the INPO Exam Bank

A failure to scram has occurred and the crew is taking actions per LGA-010, “Failure to Scram”. The following conditions exist:

- RPV pressure being maintained 800-1000 psig with SRVs
- Rods are being inserted manually, 6 rods still at position 48
- Hot Shutdown Boron has been injected into the RPV

Based on the above, the reactor .....

A. is shutdown and cooldown may now commence.

B. is not shutdown since more than one rod is not fully inserted.

C. will not be shutdown until the Cold Shutdown Boron Weight has been injected.

D. is shutdown and will remain shutdown if pressure is maintained within current limits.

Correct Answer D: is shutdown and will remain shutdown if pressure is maintained within current limits.

Explanation: Hot SD Boron Weight definition.

Distracter A: is shutdown and cooldown may now commence..

Reason Distracter A is incorrect: Cannot cooldown until CSDBW injected.

Distracter B: is not shutdown since more than one rod is not fully inserted.

Reason Distracter B is incorrect: Hot SD Boron Weight definition

Distracter C: will not be shutdown until the Cold Shutdown Boron Weight has been injected.

Reason Distracter C is incorrect: At rated pressure the Rx is S/D with HSDBW.

References:
LGA-010 Lesson Plan
LGA-010, Failure to Scram

Question 48 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.1 & 3.4 Reactivity Control and Heat Removal from the Reactor Core

System: 295001 Partial or Complete Loss of Forced Core Flow Circulation

K/A: AA1.05 - Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF FORCED CORE FLOW CIRCULATION : Recirculation flow control system

I.R.: 3.3 / 3.3 10CFR 55 Content Part 41.7 / 45.6

License Level: RO Cognitive Level: High

Objective: 023.05.14 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Unit 2 was at rated conditions when the 2A RR Pump inadvertently downshifted to slow speed. At the time of the event, both Recirculation Loop Flow Controller M/A stations were in the Loop Auto Mode of operation.

The 2B RR Pump remained running in high speed following the downshift of the 2A RR Pump.

Assuming no operator actions, which mode of operation are the Recirculation Loop flow controller M/A stations expected to be in?

A. BOTH 2A and 2B Recirculation Loop Flow Controller M/A stations in Loop Auto mode of operation.

B. BOTH 2A and 2B Recirculation Loop Flow Controller M/A stations in Loop Manual mode of operation.

C. 2A Recirculation Loop Flow Controller M/A station in Loop Manual mode and the 2B Recirculation Loop Flow Controller M/A station in Loop Auto.

D. 2B Recirculation Loop Flow Controller M/A station in Loop Manual mode and the 2A Recirculation Loop Flow Controller M/A station in Loop Auto.

Correct Answer C: 2A Recirculation Loop Flow Controller M/A station in Loop Manual mode and the 2B Recirculation Loop Flow Controller M/A station in Loop Auto.

Explanation: LOP-RR-07, Operation of the RRFCS Limitation D.5 states that a RR pump Downshift will cause an automatic transfer from Loop Auto to Loop Manual.

Distracter A: BOTH 2A and 2B Recirculation Loop Flow Controller M/A stations in Loop Auto mode of operation.

Reason Distracter A is incorrect: The downshifted pump will transfer from Loop Auto to Loop Manual.

Distracter B: BOTH 2A and 2B Recirculation Loop Flow Controller M/A stations in Loop Manual mode of operation.

Reason Distracter B is incorrect: Only the downshifted pump will transfer from Loop Auto to Loop Manual.

Distracter D: 2B Recirculation Loop Flow Controller M/A station in Loop Manual mode and the 2A Recirculation Loop Flow Controller M/A station in Loop Auto.

Reason Distracter D is incorrect: This condition is the opposite of the condition that would exist.

References:
LOP-RR-07
System Lesson Plan 23, RRFC System

Question 49 LaSalle 07-01 NRC ILT Exam

Safety Function: 3. 5 Containment Integrity

System: 295028 High Drywell Temperature

K/A: EA1.04 - Ability to operate and/or monitor the following as they apply to HIGH DRYWELL TEMPERATURE : Drywell pressure

I.R.: 3.9 / 4.0 10CFR 55 Content Part 41.7 / 45.6

License Level: RO Cognitive Level: Memory

Objective: 090.00.07 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Unit 2 has scrammed from rated conditions.

- A small high pressure steam leak in the drywell has caused drywell temperature to rise to 320°F and continues to go up.
- Drywell pressure is 20 psig and going up slow.

Following the initiation of drywell sprays, drywell pressure is expected to have a…..

A. slow, steady drop due to convective cooling.

B. slow, steady drop due to evaporative cooling.

C. rapid, large reduction due to convective cooling.

D. rapid, large reduction due to evaporative cooling.

Correct Answer D:

rapid, large reduction due to evaporative cooling.

Explanation: Small high pressure steam leaks result in a high temperature in the drywell with superheated conditions. Spraying the drywell under these conditions results in a large drop in drywell pressure due to evaporative cooling.

Distracter A: slow, steady drop due to convective cooling.

Reason Distracter A is incorrect: This answer describes the response of drywell pressure to the initiation of sprays in saturated conditions.

Distracter B: slow, steady drop due to evaporative cooling.

Distracter C: rapid, large reduction due to convective cooling.

Reason Distracters B and C are incorrect: These distracters are incorrect due to the swapping of “Evaporative” and “Convective” cooling between the two answers and tests the examinees understanding of containment conditions and cooling mechanisms.

References:
LGA-003 Lesson Plan
System Lesson Plan 090 Primary and Secondary Containment

Question 50 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.6 Electrical

System: 295003 Partial or Complete Loss of AC / 6 (Electrical)

K/A: AA1.03 - Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF A.C. POWER : Systems necessary to assure safe plant shutdown

I.R.: 4.4 / 4.4 10CFR 55 Content Part 41. 7 / 45.6

License Level: RO Cognitive Level: High

Objective: 05.00.21 PRA: Yes

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Unit 1 has scrammed and busses 141Y and 142Y are DEENERGIZED.

LOA-AP-101, Unit 1 AC Power System Abnormal directs which of the following indications for use when monitoring RPV level in the control room?

A. A, B, and C Narrow Range Indicators

B. A and B Narrow Range Indicators ONLY

C. A and C Narrow Range Indicators ONLY

D. B and C Narrow Range Indicators ONLY

Correct Answer D.: B and C Narrow Range Indicators ONLY

Explanation: ONLY B and C Narrow Range indicators are powered from DC and remain available for use if AC busses 141Y and 142Y are DEAD.

Distracter A: A, B, and C Narrow Range Indicators

Distracter B: A and B Narrow Range Indicators ONLY

Distracter C: A and C Narrow Range Indicators ONLY

Reason distracters A/B/C are incorrect but plausible: The distracters are combinations of the Narrow Range indicators that have the ‘A’ indicator, which is not available with the loss the AC supplies listed.

References:
LOA-AP-101, Rev. 29, Unit 1 AC Power System Abnormal

Question 51 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.4 Heat Removal from the Reactor Core

System: 295021 Loss of Shutdown Cooling

K/A: AA2.02 - Ability to determine and/or interpret the following as they apply to LOSS OF SHUTDOWN COOLING : RHR/shutdown cooling system flow

I.R.: 3.4 / 3.4 10CFR 55 Content Part 41.10 / 43.5 / 45.13

License Level: RO Cognitive Level: High

Objective: 064.00.05 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Given the following initial conditions:
- Unit-1 is shutdown
- Coolant temperature is 170° F and going down 20° F per hour.
- 1B RHR is in shutdown cooling mode with 5600 gpm flow
- 1E12-F003B, B RHR Hx Outlet Vlv is FULL OPEN
- Both RR Pumps are OOS for motor bearing inspections
- RPV water level is being maintained at +40 to +50 inches on the Shutdown Range

Which of the following actions, if any, is required to be taken regarding the operation of 1B RHR in shutdown cooling?

A. No action required.

B. Throttle OPEN the 1E12-F048B; B RHR Hx Bypass Vlv.

C. Throttle CLOSED the 1E12-F003B; B RHR Hx Outlet Vlv.

D. Throttle OPEN the 1E12-F053B; B RHR Shtdn Clg Return Isol.

Correct Answer D: Throttle OPEN the 1E12-F053B; B RHR Shtdn Clg Return Isol.

Explanation: RHR system flow must be increased to greater than 6000 gpm to maintain SDC operable, and the 1E12-F053B is the valve that is adjusted to change flow.

Distracter A: No action required.

Reason Distracter A is incorrect: RHR system flow must be increased to greater than 6000 gpm to maintain SDC operable.

Distracter B Throttle OPEN the 1E12-F048B; B RHR Hx Bypass Vlv

Reason Distracter B is incorrect: The 1E12-F048B is used to adjust cooldown, and no adjust is required.

Distracter C: Throttle CLOSED the 1E12- F003B; B RHR Hx Outlet Vlv.

Reason Distracter C is incorrect: Closing the 1E12-F003B would decrease RHR SDC flow rate.

References:
LOP-RH-07, SDC System Startup, Operation, and Transfer
LOA-RH-101, Unit 1 RHR Abnormal

Question 52 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.7 Instrumentation

System: 295016 Control Room Abandonment

K/A: AA2.02 - Ability to determine and/or interpret the following as they apply to CONTROL ROOM ABANDONMENT : Reactor water level

I.R.: 4.2 / 4.3 10CFR 55 Content Part 41.10 / 45.13

License Level: RO Cognitive Level: Memory

Objective: 054.00.07 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Which of the following describes the minimum and maximum level indications that can be monitored from the Remote Shutdown Panel?

Minimum: _____(1)_____
Maximum: _____(2)_____

A. (1) 0” (zero inches)
(2) +60 inches (plus 60 inches)

B. (1) 0” (zero inches)
(2) +180inches (plus 180 inches)

C. (1) -150 inches (minus 150 inches)
(2) +60 inches (plus 60 inches)

D. (1) -311 inches (minus 311 inches)
(2) -111 inches (minus 111 inches)

Correct Answer C:

-150 inches to +60 inches (minus 150 inches to plus 60 inches)

Explanation: A Wide Range Level indicator is located at the RSD Panel and indicated from -150 inches to +60 inches.

Distracter A:

0 inches to +60 inches (zero inches to plus 60 inches)

Distracter B:

0 inches to +180 inches (zero inches to plus 180 inches)

Distracter D:

-311 inches to -111 inches (minus 311 inches to minus 111 inches)

Reason Distracters A/B/D are incorrect but plausible: The three answers refer to level bands for Narrow Range, Fuel Zone, and Upset level indicators.

Reference:
System Lesson Plan 040, RPV Instrumentation

Question 53 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.8 Plant Service Systems

System: 295023 Refueling Acc Cooling Mode

K/A: AA2.03 - Ability to determine and/or interpret the following as they apply to REFUELING ACCIDENTS : Airborne contamination levels

I.R.: 3.3 / 3.8 10CFR 55 Content Part 41.10 / 43.5 / 45.13

License Level: RO Cognitive Level: Memory

Objective: 095.00.01 PRA: No

Question Exposure:
01-01 NRC ILT Exam
07-01 NRC ILT Exam

Source: Bank Question taken from the LaSalle Casualty Ops Exam Bank for use on the 07-01 NRC ILT Exam

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The Unit-1 Standby Gas Treatment (SBGT) system is out of service. The Unit-2 SBGT system is available.

Which one of the following would be an issue if the Unit-2 SBGT system would become inoperable?

The inability to ...

A. monitor Refuel Floor radiation levels.

B. maintain negative pressure in the Primary Containment.

C. provide a controlled release path during a fuel handling accident.

D. provide pressure control between clean and contaminated areas within the reactor building.

Correct Answer C: provide a controlled release path during a refuel accident.

Explanation: SBGT is the only controlled release path and with both trains OOS, a controlled release path would not be available.

Distracter A: monitor Refuel Floor radiation levels.

Reason Distracter A is incorrect: Rad monitors on the refuel floor would continue to monitor conditions if both SBGT trains were lost.

Distracter B: maintain negative pressure in the Primary Containment.

Reason Distracter B is incorrect: VQ could be used to control negative pressure in the Primary Containment.

Distracter D: provide pressure control between clean and contaminated areas within the reactor building.

Reason Distracter D is incorrect: There is no separation between clean and contaminated areas in the reactor building that would be impacted by the loss of both SBGT trains.

References:
System Lesson Plan 95, Standby Gas Treatment

Question 54 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.9 Radioactivity Release

System: 295038 High Off-site Release Rate

Generic K/A 2.4.3 - Emergency Procedures / Plan: Ability to identify post-accident instrumentation.

I.R.: 3.7 / 3.9 10CFR 55 Content Part 41.6 / 45.8

License Level: RO Cognitive Level: Memory

Objective: 052.00.07 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Which of the following identifies an instrument used to monitor for a high off-site release rate and how it is identified per Regulatory Guide 1.97 Post Accident Instrumentation?

A. SBGT WRGM **EFF ACT** identified by a BLACK dot.

B. SBGT WRGM **CHAN ACT** identified by a “LGA” sticker.

C. STACK WRGM **EFF ACT** identified by an ORANGE label with BLACK lettering.

D. STACK WRGM **CHAN ACT** identified by a PURPLE label with WHITE lettering.

Correct Answer A:
SBGT WRGM **EFF ACT** identified by a BLACK dot.
Effluent activity used to monitor releases from the SBGT system and the indicator is identified to be Post Accident Instrumentation by the use of a Black dot.

Distracter B.:

SBGT WRGM **CHAN ACT** identified by a “LGA” sticker.

Distracter C:

STACK WRGM **EFF ACT** identified by an ORANGE label with BLACK lettering.

Distracter D:

STACK WRGM **CHAN ACT** identified by a PURPLE label with WHITE lettering.

Distracters B/C/D are incorrect and plausible as they include instruments related to the monitoring of off-site releases and contain markings that are used in other processes as a means to identify affected components.

References:
LAP-1600-15, Regulatory Guide 1.97 Instruments
LGA-TSG-001, Technical Support Guidelines Reference Manual, Attachment C, TSG Control Parameter Assessment

Question 55 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.8 Plant Service Systems

System: 295018 Partial or Total Loss of CCW

K/A: 2.4.8 - Emergency Procedures / Plan: Knowledge of how abnormal operating procedures are used in conjunction with EOP's

I.R.: 3.8 / 4.5 10CFR 55 Content Part 41.10 / 43.5 /45.13

License Level: RO Cognitive Level: Memory

Objective: 400.00.02 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Unit 2 has scrammed.
- Drywell pressure is 5.6 psig and going up slowly.
- Suppression Pool Temperature is 107° F and going up slowly.

The Unit Supervisor has directed the U-2 Assist NSO to START all available pool cooling per LGA-RH-203, “Unit 2 A/B RHR Operations In the LGAs/SAMGs".

Per direction provided in the Strategies for Successful Transient Mitigation,
the NSO is ……

A. required to request Unit Supervisor permission to use the LGA-RH-203 Hard Card to start all available pool cooling.

B. authorized to start all available pool cooling using the LGA-RH-203 Hard Card without requesting Unit Supervisor permission.

C. authorized to start all available pool cooling in a transient condition WITHOUT referencing procedure LGA-RH-203 or the LGA-RH-203 Hard Card.

D. required to have procedure LGA-RH-203 OPEN and AVAILABLE for reference prior to using the LGA-RH-203 Hard Card to start all available pool cooling.

Correct Answer B: authorized to start all available pool cooling using the LGA-RH-203 Hard Card without requiring Unit Supervisor permission.

Explanation: the Strategies for Successful Transient Mitigation document provides the following direction: “Hard Cards are considered authorized for use whenever the Unit Supervisor has entered the LGAs.”

Distracter A: required to request Unit Supervisor permission to use the LGA-RH-203 Hard Card to start all available pool cooling.

Distracter C: authorized to start all available pool cooling in a transient condition WITHOUT referencing procedure LGA-RH-203 or the LGA-RH-203 Hard Card.

Distracter D: required to have procedure LGA-RH-203 OPEN and AVAILABLE for reference prior to using the LGA-RH-203 Hard Card to start all available pool cooling.

Reason Distracters A/C/D are incorrect: The three distracters are plausible answers based on procedure use requirements under varying conditions.

References: Strategies for Successful Transient Mitigation Document.

Question 56 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.5 Containment Integrity

System: 295024 High Drywell Pressure

K/A: 2.4.1 - Emergency Procedures / Plan: Knowledge of EOP entry conditions and immediate action steps.

I.R.: 4.6 / 4.8 10CFR 55 Content Part 41.10 / 43.5 / 45.13

License Level: RO Cognitive Level: High

Objective: 400.00.01 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question

Unit-1 has scrammed from rated power with the following conditions:
- Drywell pressure is 2.1 psig and rising due to a small coolant leak
- Drywell temperature is 175°F and rising slowly
- RPV level dropped to -25 inches and is now rising
- All control rods are at position 00 EXCEPT control rod 26-35 which is at position 48

Which of the following lists the MINIMUM set of actions to be completed?

A. Enter LGA-001, Reactor Pressure Vessel Control and VERIFY RCIC initiated.

B. Enter LGA-002, Secondary Containment Control, and VERIFY Reactor Building Ventilation has isolated.

C. Enter LGA-003, Primary Containment Control and VERIFY ECCS systems have initiated.

D. Enter LGA-010, Failure to Scram and INITIATE ARI.

Correct Answer C: Enter LGA-003, Primary Containment Control and VERIFY ECCS systems have initiated.
Explanation: An LGA-003 entry condition and ECCS initiation setpoints are met by high drywell pressure of 1.93 psig.

Distracter A: Enter LGA-001, Reactor Pressure Vessel Control and VERIFY RCIC initiated.
Reason Distracter A is incorrect: RCIC would not have initiated as level dropped to a low -25 inches which is above the level 2 setpoint for RCIC initiation.

Distracter B: Enter LGA-002, Secondary Containment Control, and VERIFY Reactor Building Ventilation has isolated.
Reason Distracter B is incorrect: No entry conditions for LGA-002 were met.

Distracter D: Enter LGA-010, Failure to Scram and INITIATE ARI.
Reason Distracter D is incorrect: No entry conditions for LGA-010 were met.

References:
LGA-001 RPV Control
LGA-002 Secondary Containment Control
LGA-003, Primary Containment Control
LGA-010 Failure to Scram

Question 57 LaSalle 07-01 NRC ILT Exam

Safety Function:

System: 295026

K/A: 2.4.9 Knowledge of low power / shutdown implications in accident (e.g., loss of coolant accident or loss of residual heat removal) mitigation strategies.

I.R 3.8 / 4.2 10CFR 55 Content Part 41.10 / 43.5 / 45.13

License Level: RO Cognitive Level: Memory

Objective: 400.00.14 PRA: No

Question Exposure

Source: New Question for 07-01 NRC ILT Exam

Given a DBA LOCA and high suppression pool temperature, which of the following identifies the MAXIMUM amount of time available to start all available Suppression Pool Cooling and still meet the FSAR assumptions?

A. 10 minutes

B. 15 minutes

C. 20 minutes

D. 30 minutes

Correct Answer D:
30 minutes
Explanation: UFSAR page 6.2-51 lists the time as 30 minutes.

Distracter A:
10 minutes

Distracter B:
15 minutes

Distracter C:
20 minutes

Reason distracters A/B/C are incorrect but plausible: The values are tied to reasonable values an examinee might select if they lacked knowledge in this area. Station Blackout has a value of 15 minutes for an action and the UFSAR discusses starting SPC in 10 minutes as part of the final decision in which 30 minutes was determined to be the acceptable value.

References: USFAR 6.2.2.3.6, page 6.2-5

Question 58 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.4 Heat Removal from the core

System: APE 295005 Main Turbine Generator Trip

K/A: AK2.02 - Knowledge of the interrelations between MAIN TURBINE GENERATOR TRIP and the following: Feedwater temperature

I.R.: 2.9 / 3.0 10CFR 55 Content Part 41.7 / 45.8

License Level: RO Cognitive Level: High

Objective: 071.00.14 PRA: No

Question Exposure: 07-01 NRC Exam

Source: Bank Question taken from the INPO Exam Bank

The plant is operating at 22% power, with the heaters on-line, when a failure causes a main turbine trip.

Which of the following is correct for this condition?

A. Feedwater temperature remains constant.

B. The reactor scrams from the main turbine trip.

C. Reactor power goes up due to a decrease in feedwater temperature.

D. Reactor power goes down due to an increase in feedwater temperature.

Correct Answer C: Reactor power goes up due to a decrease in feedwater temperature.

Explanation: At 22% power, the reactor does not scram from a turbine trip. The trip causes a loss of extraction steam to the feedwater heaters and a corresponding decrease in feedwater temperature to the reactor. Reactor power increases from the decrease in feedwater temperature.

Distracter A: Feedwater temperature remains constant.

Reason Distracter A is incorrect: At 22% power, the reactor does not scram from a turbine trip. The trip causes a loss of extraction steam to the feedwater heaters and a corresponding decrease in feedwater temperature to the reactor. Reactor power increases from the decrease in feedwater temperature.

Distracter B: The reactor scrams from the main turbine trip.

Reason Distracter B is incorrect: At 22% power, the reactor does not scram from a turbine trip. The trip causes a loss of extraction steam to the feedwater heaters and a corresponding decrease in feedwater temperature to the reactor. Reactor power increases from the decrease in feedwater temperature.

Distracter D: Reactor power goes down due to an increase in feedwater temperature.

Reason Distracter D is incorrect: At 22% power, the reactor does not scram from a turbine trip. The trip causes a loss of extraction steam to the feedwater heaters and a corresponding decrease in feedwater temperature to the reactor. Reactor power increases from the decrease in feedwater temperature. .

References:
System Lesson Plan 049, RPS and LOA-HD-101, Heater Drain System Abnormal

Question 59 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.2 Reactor Water Level Inventory Control

System: APE 295009 Low Reactor Water Level

K/A: AK1.03 - Knowledge of the operational implications of the following concepts as they apply to LOW REACTOR WATER LEVEL : Jet pump net positive suction head:

I.R.: 2.7 / 2.7 10CFR 55 Content Part 41.8 to 41.10

License Level: RO Cognitive Level: Memory

Objective: 022.00.05 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC Exam

Which of the following statements describes the theory for lowering RPV level in an ATWS condition?

A. Lowering level reduces water inventory in the RPV, resulting in a higher boron concentration inside the shroud.

B. Lowering level reduces natural circulation driving head and core flow, resulting in an increased void fraction inside the shroud.

C. Lowering level increases natural circulation driving head and core flow, resulting in improved mixing of boron inside the shroud.

D. Lowering level reduces water inventory in the RPV, resulting in a reduction in the time required to complete Hot Shutdown Boron Weight injection into the RPV.

Correct Answer B.: Lowering level reduces natural circulation driving head and core flow, resulting in an increased void fraction inside the shroud.
Explanation: As RPV level is lowered, the height of the fluid columns inside and outside of the core is reduced, which results in reduced flow, which results in increased void fraction and lower power.

Distracter A: Lowering level reduces water inventory in the RPV, resulting in a higher boron concentration inside the shroud.
Reason Distracter A is incorrect: Level is lowered to reduce void fraction, not increase boron concentration. Hot Shutdown and Cold Shutdown Boron Weight requirements are based on reactor level at the high level trip point.

Distracter C: Lowering level increases natural circulation driving head and core flow, resulting in improved mixing of boron inside the shroud.
Reason Distracter C is incorrect: Lowering level results in a decrease in natural circulation driving head, not an increase.

Distracter D: Lowering level reduces water inventory in the RPV, resulting in a reduction in the time required to complete Hot Shutdown Boron Weight injection into the RPV.
Reason Distracter D is incorrect: Hot Shutdown Boron Weight injection requirements is based SBLC Tank level being below 3750 gallons and is independent of RPV water inventory as the calculation for HSBW is based on reactor level at the high level trip point.

References:
LGA-010 Failure to Scram lesson plan.
Figure 20-03, Reactor Pressure Vessel Flowpath
Figure 20-12, Jet Pump Principle

Question 60 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.1 Reactivity Control

System: APE 295015 Incomplete SCRAM

K/A: AK2.05 - Knowledge of the interrelations between INCOMPLETE SCRAM and the following: Rod worth minimizer: Plant-Specific

I.R.: 2.6 / 2.8 10CFR 55 Content Part 41.7 / 45.8

License Level: RO Cognitive Level: High

Objective: 400.00.14 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New question developed for the 07-01 NRC ILT Exam

Unit 1 is in an ATWS condition.
- RPV pressure is 935 psig
- 8 Control Rods did NOT fully insert
- All scram solenoid group lights are EXTINGUISED
- 1H13-P613-A102, SCRAM PILOT VLV AIR HDR PRESS LO is LIT
- All Scram Valve lights are LIT
- CRD drive water pressure is 320 psid

Which method and action(s) are directed by LGA-NB-01 to insert control rods?

A. Method 1, Fuse Removal

B. Method 2, Depressurizing Scram Air Header

C. Method 3, Single Rod Insert (bypass the RWM if required)

D. Method 5, Venting CRD Withdraw line

Correct Answer C:
Method 3, Single Rod Insert (bypass the RWM if required)
Explanation: With less than 25 rods out and drive water pressure greater than 280 psid, Method 3 is directed for use by LGA-NB-01.

Distracter A:
Method 1, Fuse Removal
Reason Distracter A is incorrect: Fuse removal is not required as indicated by the scram group lights being extinguished.

Distracter B:
Method 2, Depressurizing Scram Air Header
Reason Distracter B is incorrect: Venting the scram air header is not required as the low air header pressure is in alarm, indicating the header is vented.

Distracter D:
Method 5, Venting CRD Withdraw line
Reason Distracter D is incorrect: Venting is only used if all other methods have failed, and they have not.

References: LGA-NB-01

Question 61 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.5 Containment Integrity

System: 295035 Secondary Containment High Differential Pressure

K/A: EK3.01 - Knowledge of the reasons for the following responses as they apply to SECONDARY CONTAINMENT HIGH DIFFERENTIAL PRESSURE : Blow-out panel operation: Plant-Specific

I.R.: 2.8 / 3.1 10CFR 55 Content Part 41.5 / 45.6

License Level: RO Cognitive Level: Memory

Objective: 090.00.05 PRA: No

Question Exposure:

01-01 NRC ILT Exam

07-01 NRC ILT Exam

Source: Bank question taken from the LaSalle ILT Casualty Ops Exam Bank

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Main Steam Tunnel temperatures and pressures are rising due to steam leak in the tunnel.

As Main Steam Line Tunnel pressure rises, the low pressure blowout panels will actuate relieving pressure to the (1)_____ resulting in (2)_____ release to the environment.

A. (1) Turbine Building;
(2) a monitored

B. (1) Turbine Building;
(2) an UNMONITORED

C. (1) Auxiliary Building Roof;
(2) a monitored

D. (1) Auxiliary Building Roof;
(2) an UNMONITORED

Correct Answer A:
(1) Turbine Building;
(2) a monitored
System Lesson Plan 090, Primary and Secondary Containment, page 24 provides the following information; “Should pressure continue to increase in the steam tunnel and reach 0.5 psig, blowout panels BP-1 and BP-2 will open and vent pressure into the turbine building. It should be noted that the VT system will provide a vent path to the stack. This is beneficial because the stack release is monitored and any release that occurs will be a monitored one.”

Distracter B:

(1) Turbine Building;
(2) an UNMONITORED

Distracter C:

(1) Auxiliary Building Roof;
(2) a monitored

Distracter D:

(1) Auxiliary Building Roof;
(2) an UNMONITORED

Distracters B/C/D are incorrect, but plausible, combination of vent paths that conflict with the correct answer. High pressure in the Reactor Building ventilation system will vent to the Aux Building Roof.

References:

System Lesson Plan 090, Primary and Secondary Containment, page 24

Question 62 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.3 Reactor Pressure Control

APE: 295007 High Reactor Pressure

K/A: AA1.03 - Ability to operate and/or monitor the following as they apply to HIGH REACTOR PRESSURE : RCIC: Plant-Specific

I.R.: 3.4 / 3.5 10CFR 55 Content Part 41.7 / 45.6

License Level: RO Cognitive Level: High

Objective: 032.00.05 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

The unit has scrammed and RCIC is being used to maintain RPV level.
The RCIC controller is in MANUAL and the operator has just adjusted the controller to establish 450 gpm to the RPV.

Assuming no operator action, how will RCIC operation be affected if RPV pressure rises from 750 to 950 psig?

A. RCIC pump flow and RCIC Turbine speed will both rise.

B. RCIC pump flow and RCIC Turbine speed will both remain the same.

C. RCIC pump flow will go up and RCIC Turbine speed will remain the same.

D. RCIC pump flow will go down and RCIC Turbine speed will remain the same.

Correct Answer D.:
RCIC pump flow will go down and RCIC Turbine speed will remain the same.
Explanation: As stated in the RCIC lesson plan, If the flow controller is in manual, then the output dialed in by the operator becomes a turbine speed demand that is independent of flow. The turbine speed is then constant and flow varies with the changes seen by the discharge head at the pump.

Distracter A:
RCIC pump flow and RCIC Turbine speed will both rise.

Distracter B:
RCIC pump flow and RCIC Turbine speed will both remain the same.

Distracter C:
RCIC pump flow will go up and RCIC Turbine speed will remain the same.

Reason Distracters A/B/C are incorrect: The three distracters list plausible conditions for RCIC pump flow and turbine speed which the examinee would select if they did not understand the operation of RCIC in manual.

References:
System Lesson Plan 032, RCIC.

Question 63 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.2 Reactor Water Inventory Control

System: 295008 High Reactor Water Level

K/A: AA2.02 - Ability to determine and/or interpret the following as they apply to HIGH REACTOR WATER LEVEL : Steam flow/feedflow mismatch

I.R.: 3.4 / 3.4 10CFR 55 Content Part 41. 10 / 45.13

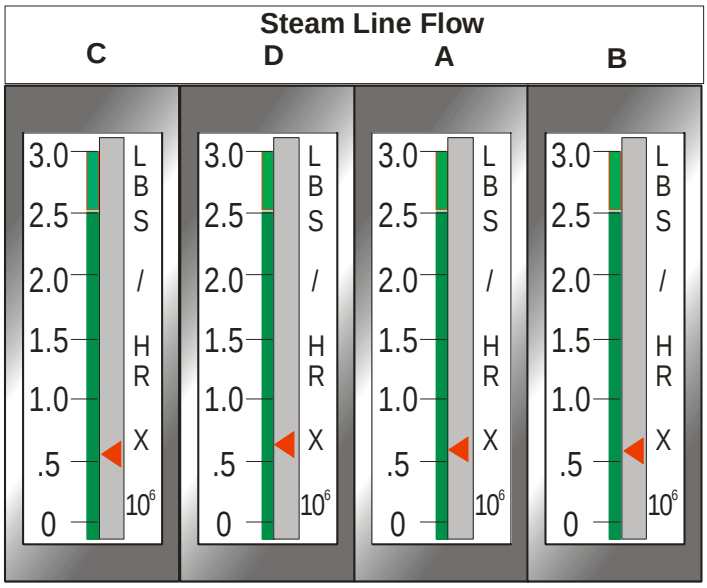
License Level: RO Cognitive Level: High

Objective: 031.00.14 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Unit 1 is starting up from a refueling outage.
- RPV Level is 36” on narrow range
- MDRFP is on-line, in manual, with feedwater header flow at 3.8 MLB/HR.
- Reactor power is 15% and steady
- Pressure is being controlled with Turbine Bypass Valves.
- Steam flow is as indicated. (Note: Lower portion of meters are displayed for clarity)



Based on the information provided, which of the following annunciators will alarm first if no operator action is taken regarding the operation of the MDRFP?

A. 1H13-P603 A512, RWLCS FAILURE

B. 1H13-P603 A110, RX VESSEL PRESS HI

C. 1H13-P603 A309, FW CONTROL RX VESSEL LVL 7 HI

D. 1H13-P603 A409, FW CONTROL RX VESSEL LO LVL 4

Correct Answer C: 1H13-P603 A309, FW CONTROL RX VESSEL LVL 7 HI
Explanation: Feedwater flow is greater than steam flow. Level will increase, causing a level 7 alarm.

Distracter A 1H13-P603 A512, RWLCS FAILURE
Reason Distracter A is incorrect: RWLC will not be affected by a slow increase in RPV level before the LVL 7 alarm is received.

Distracter B 1H13-P603 A110, RX VESSEL PRESS HI
Reason Distracter B is incorrect: RPV pressure will not change due the steam flow/feewater flow mismatch.

Distracter D: 1H13-P603 A409, FW CONTROL RX VESSEL LO LVL 4
Reason Distracter D is incorrect: RPV level will rise, not go down.

References:
LOA-FW-101 Reactor Level / Feedwater Pump Control Trouble

Question 64 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.1 Reactivity Control

System: 295022 Loss of CRD Pumps

K/A: 2.4.35 - Emergency Procedures / Plan: Knowledge of local auxiliary operator tasks during emergency and the resultant operational effects.

I.R.: 3.8 / 4.0 10CFR 55 Content Part 41.10 / 43.5 / 45.13

License Level: RO Cognitive Level: High

Objective: 400.00.12 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: Modified Bank question from LaSalle Casualty Ops Bank.

Given the following plant conditions:
After a scram, 12 control rods are at notch position 48
- ARI was initiated 15 minutes ago
- BOTH CRD pumps are tripped and will NOT restart
- RPS sub-channels are de-energized and CANNOT be reset
- A fire has destroyed both RPS power supply cabinets
- RPV pressure is 920 psig

1) What action is directed to be taken for the given conditions to insert the 12 control rods currently at notch position 48?
2) What is the operational effect resulting from the action taken?

A. 1) PLACE the individual CRD SRI-TEST-NORM switches to TEST.
2) OPENS the individual CRD's scram valves.

B. 1) VENT and REMOVE the CRD HCU Air Supply Filter
2) DEPRESSURIZES the Scram Air Header to OPEN all scram valves.

C. 1) RESET ARI, and then INSERT individual control rods using RMCS.
2) CLOSES all scram valves, allowing RMCS to INSERT individual control rods.

D. 1) Manually VENT the individual CRD withdrawal lines.
2) VENTS the individual CRD's overpiston area.

Correct Answer: D
1) Manually VENT the individual CRD withdrawal lines.
2) VENTS the individual CRD's overpiston area.
Explanation: Venting the overpiston area allows reactor pressure on the CRD's underpiston area to drive the CRD into the core is the only remaining option. Under the given conditions, the scram valves are open due to the initiation of ARI and the de-energizing of RPS, thus the scram air header is vented. The scram cannot be reset due to the loss of the RPS busses. RMCS will not insert control rods without a CRD pump running.

Distracter A:
1) PLACE the individual CRD SRI-TEST-NORM switches to TEST.
2) OPENS the individual CRD's scram valves.
Reason Distracter A is incorrect: The intent of this method is to open the scram valves and they are already open due to the given conditions.

Distracter B:
1) VENT and REMOVE the CRD HCU Air Supply Filter
2) DEPRESSURIZE the Scram Air Header to OPEN all scram valves.
Reason Distracter B is incorrect: The intent of this step is to depressurize the scram air header, causing the scram valves to open. Under the given conditions, the scram air header is already depressurized.

Distracter C:
1) RESET ARI, and then insert individual control rods using RMCS.
2) CLOSES all scram valves, allowing use of RMCS to insert individual control rods.
Reason Distracter C is incorrect: Resetting ARI will have no affect as the loss of RPS will keep the scram valves OPEN. This answer is plausible if the examinee does not fully understand how the scram air header is affected by the status of ARI and RPS.

References:
LGA-NB-01, Alternate Rod Insertion

Question 65 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.5 Containment Integrity

EPE: 295029 High Suppression Pool Water Level

K/A: EA1.04 - Ability to operate and/or monitor the following as they apply to HIGH SUPPRESSION POOL WATER LEVEL : RCIC: Plant-Specific

I.R.: 3.4 / 3.5 10CFR 55 Content Part 41.7 / 45.6

License Level: RO Cognitive Level: High

Objective: 032.00.16 PRA: Yes

Question Exposure:

02-01 NRC ILT Exam

2003-01 Casualty Ops Cert Level 03

07-01 NRC ILT Exam

Source: Bank question taken from LaSalle Casualty Ops Bank

Unit-2 RCIC is in a normal standby lineup.
Leaking valves cause Suppression Pool Level to increase such that High Suppression Pool Water Level alarms are received on the 2H13-P601 panel.

Which one of the following describes the response of the RCIC system to these conditions?

A. Upon receipt of the High Suppression Pool Water Level alarm, 2E51-F010, RCIC PMP SUCT From CY Tank Valve will close, and then 2E51-F031, RCIC PMP SUCT From SP Valve will open.

B. Upon receipt of the High Suppression Pool Water Level alarm, 2E51-F031, RCIC PMP SUCT From SP Valve will open, and then 2E51-F010, RCIC PMP SUCT From CY Tank Valve will close.

C. RCIC suctions will remain in standby configuration until a low CY Tank Level condition occurs. The RCIC suctions will then transfer with 2E51-F031, RCIC PMP SUCT From SP Valve opening, followed by the 2E51-F010, RCIC PMP SUCT From CY Tank Valve closing.

D. RCIC suctions will remain in standby configuration until a low CY Tank Level condition occurs. The RCIC suctions will then transfer with 2E51-F010, RCIC PMP SUCT From CY Tank Valve closing followed by the 2E51-F031, RCIC PMP SUCT From SP Valve opening.

Correct Answer C:
RCIC suctions will remain in standby configuration until a low CY Tank Level condition occurs. The RCIC suctions will then transfer with 2E51-F031, RCIC PMP SUCT From SP Valve opening, followed by the 2E51-F010, RCIC PMP SUCT From CY Tank Valve closing.
Explanation: The correct answer properly describes that RCIC will not realign for the given conditions until the CY tank low level condition is detected, then the 2E51-F031 opening followed by the 2E51-F010 closing.

Distracter A:
Upon receipt of the High Suppression Pool Water Level alarm, 2E51-F010, RCIC PMP SUCT From CY Tank Valve will close, and then 2E51-F031, RCIC PMP SUCT From SP Valve will open.

Reason Distracter A is incorrect: The CY tank must experience a low level condition before the swap occurs.

Distracter B:
Upon receipt of the High Suppression Pool Water Level alarm, 2E51-F031, RCIC PMP SUCT From SP Valve will open, and then 2E51-F010, RCIC PMP SUCT From CY Tank Valve will close.
Reason Distracter B is incorrect: The CY tank must experience a low level condition before the swap occurs.

Distracter D:
RCIC suctions will remain in standby configuration until a low CY Tank Level condition occurs. The RCIC suctions will then transfer with 2E51-F010, RCIC PMP SUCT From CY Tank Valve closing followed by the 2E51-F031, RCIC PMP SUCT From SP Valve opening.
Reason Distracter D is incorrect: The 2E51-F031 will open first, then the 2E51-F010 will close.

References:
System Lesson Plan 032 RCIC

Question 66 LaSalle 07-01 NRC ILT Exam

Safety Function: Generic Knowledge and Ability

System: Conduct of Operations

K/A: 2.1.19

Ability to use plant computers to evaluate system or component status.

I.R.: 3.9 / 3.8 10CFR 55 Content Part 41.10 / 45.12

License Level: RO Cognitive Level: Memory

Objective: 50.00.05 PRA: No

Question Exposure:

07-01 NRC ILT Exam

Source: Bank question taken from the LORT Exam Bank.

Unit 1 was just scrammed in accordance with LGP 2-1, Normal Unit Shutdown, as part of a controlled shutdown for a refueling outage.

The RPV Pressure bar on the SPDS display just turned blue. This indicates which one of the following?

A. Reactor Pressure Vessel pressure is below the low alarm point.

B. Reactor Pressure Vessel pressure is above the high alarm point.

C. Reactor Pressure Vessel pressure is NOT being monitored by a sufficient number of required operable instrument channels.

D. Reactor Pressure Vessel pressure was above the high or below the low alarm setpoint, and has now returned to normal.

Correct Answer C:
Reactor Pressure Vessel pressure is NOT being monitored by a sufficient number of operable instrument channels.
Explanation: Per LOP-CX-02, SPDS System, BLUE – There are not a sufficient number of required instrument channels operable for monitoring a given SPDS parameter.

Distracter A:
Reactor Pressure Vessel pressure is below the low alarm point.

Distracter B:
Reactor Pressure Vessel pressure is above the high alarm point.

Distracter D:
Reactor Pressure Vessel pressure was above the high or below the low alarm setpoint, and has now returned to normal.

Distracters A/B/D are all incorrect but include plausible explanations for the indicated display.

References:
LOP-CX-02, SPDS System

Question 67 LaSalle 07-01 NRC ILT Exam

Safety Function: Generic Knowledge and Abilities

System: Conduct of Operations

K/A: 2.1.44

Knowledge of RO duties in the control room during fuel handling such as responding to alarms from the fuel handling area, communication with fuel storage facility, systems operated from the control room in support of fueling operations, and supporting instrumentation.

I.R.: 3.9 / 3.8 10CFR 55 Content Part 41.10 / 43.7 / 45.12

License Level: RO Cognitive Level: Memory

Objective: 030.00.24 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Unit 2 is in a refueling outage.
- Fuel removal from the reactor core is in-progress.
- You are the NSO in the Unit 2 control room, in communication with the required personnel.
- For an unknown reason the communication link FAILS.

Which of the following describes the actions required to be taken?

A. Within 1 hour restore direct communications with the refueling **floor** personnel. If not restored within 1 hour, suspend core alterations.

B. Within 1 hour restore direct communications with the refueling **platform** personnel. If not restored within 1 hour, suspend core alterations.

C. Core alterations must be suspended immediately. Direct communication with refueling **floor** personnel must be established before core alterations can continue.

D. Core alterations must be suspended immediately. Direct communication with the refueling **platform** personnel must be established before core alterations can continue.

Correct Answer D:
Core alterations must be suspended immediately. Direct communication with the refueling **platform** personnel must be established before core alterations can continue.
Explanation: Per T&RM 3.9.b, Communications, direct communication is required between the control room and refueling platform. If not, core alterations must be suspended immediately

Distracter A:
Within 1 hour restore direct communications with the refueling **floor** personnel. If not restored within 1 hour, suspend core alterations.

Distracter B:
Within 1 hour restore direct communications with the refueling **platform** personnel. If not restored within 1 hour, suspend core alterations.

Distracter C:
Core alterations must be suspended immediately. Direct communication with refueling **floor** personnel must be established before core alterations can continue.

Reason Distracters A/B/C are incorrect: The distracters are plausible as the examinee is required to decide between the refueling platform and refueling floor, and select a timeframe for stopping core alterations that is within one hour of losing direct communication, This supports testing ROs of 1 hour or less LCO actions. Also, with the current short duration of refueling outages, the distracters allowing core alterations to continue for up to one hour while re-establishing direct communications are plausible.

References:
T&RM 3.9.b Communications

Question 68 LaSalle 07-01 NRC ILT Exam

Safety Function: Generic Knowledge and Abilities

System: Equipment Control

K/A: 2.2.17 Knowledge of the processs for managing maintenance activities during power operations, such as risk assessments, work prioritization, and coordination with the transmission system operator.

I.R.: 2.6 / 3.8 10CFR 55 Content Part 41.10 / 43.5 / 45.13

License Level: RO Cognitive Level: Memory

Objective: 767.010 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Unit 2 is at rated conditions.
- A Division 3 work week is in-progress.
- Electricians are scheduled to replace the HPCS Pump control switch at panel 2H13-P601.

In accordance with OP-AA-103-101, Control Room Access Control, to gain access to the 2H13-P601 panel the electricians must gain permission from ……?

A. the WEC supervisor to enter the Control Room, and
the Unit Supervisor to conduct business upon entering the Control Room, and
the Reactor Operator to enter the zone of control.

B. ONLY the WEC supervisor to enter the Control Room, and
the Unit Supervisor to conduct business upon entering the Control Room.

C. ONLY the WEC supervisor to enter the Control Room, and
the Reactor Operator to enter the zone of control.

D. ONLY the Unit Supervisor to conduct business upon entering the Control Room, and
the Reactor Operator to enter the zone of control.

Correct Answer A.:
the WEC supervisor to enter the Control Room, and
the Unit Supervisor to conduct business upon entering the control room, and
the Reactor Operator to enter the zone of control.
Explanation: The requirements for permission are listed in OP-AA-103-101 steps, 4.1.2 (RO), 4.1.4 (WEC supervisor), and 4.1.7 (Unit Supervisor).

Distracter B:
ONLY the WEC supervisor to enter the Control Room, and
the Unit Supervisor to conduct business upon entering the control room.

Distracter C:
ONLY the WEC supervisor to enter the Control Room, and
the Reactor Operator to enter the zone of control.

Distracter D:
ONLY the Unit Supervisor to conduct business upon entering the control room, and
the Reactor Operator to enter the zone of control.

Reason Distracters B/C/D are incorrect: The distracters are incomplete, but plausible combinations of the three parts of the correct answer.

Reference: OP-AA-103-101, Control Room Access Control

Question 69 LaSalle 07-01 NRC ILT Exam

Safety Function: Generic Knowledge and Abilities

System: 2.2 Equipment Control

K/A: 2.2.43

Knowledge of the process used to track inoperable alarms.

I.R.: 3.0 / 3.3 10CFR 55 Content Part 41.10 / 43.5 / 45.13

License Level: RO Cognitive Level: Memory

Objective: 15.003 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

You are the Unit 2 NSO
An Instrument Maintenance Technician is in the Control Room to perform a credited functional surveillance that will initiate a pressure switch that actuates an associated alarm.
The associated alarm is a “Nuisance” alarm and has an Issue Report tag and ORANGE Dot affixed to the annunciator tile.

The surveillance ____(1)_____ be performed _____(2)_____.

A. (1) CAN
(2) with the alarm defeated

B. (1) CANNOT
(2) with the alarm defeated

C. (1) CAN
(2) with the annunciator bulbs removed

D. (1) CANNOT
(2) with the annunciator bulbs removed

Correct Answer B:
(1) CANNOT
(2) with the alarm defeated.
Explanation: LOA-AN-201, Defeated alarms are designated with an Orange dot affixed. The alarms are defeated with the alarm knifed in or lifted leads. Bulbs are not removed to defeat alarms. With the alarm in solid the Surveillance cannot be performed to verify the switch actuation

Distracter A.:
(1) CAN
(2) with the alarm defeated
Reason Distracter A. is incorrect: With the alarm in solid the Surveillance cannot be performed to verify the switch actuation

Distracter C.:
(1) CAN
(2) with the annunciator bulbs removed
Reason Distracter C is incorrect: The surveillance cannot be performed and the bulbs are not removed.

Distracter D.:
(1) CANNOT
(2) with the annunciator bulbs removed
Reason Distracter C is incorrect: The bulbs are not removed when defeating an alarm.

References:
LOA-AN-101, “Loss of Annunciators”

Question 70 LaSalle 07-01 NRC ILT Exam

Safety Function: Generic Knowledge and Abilities

System: 2.3 Radiation Control

K/A: 2.3.7 Ability to comply with radiation work permit requirements during normal or abnormal conditions.

I.R.: 3.5 / 3.6 10CFR 55 Content Part 41.12 / 45.10

License Level: RO Cognitive Level: High

Objectives: N-GET PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

You have been assigned to complete a task in the reactor building.

The RWP controlling your task includes the following information:
- RWP Dose Approval: 300 mrem/day
- ED Dose Alarm: 240 mrem
- Dose Rate Alarm 800 mrem/hr

The actual dose rate in your work area is 60 mrem/hr.

You have accumulated 225 mrem and require 20 more minutes in the area to complete the task.

Which of the following describes your response to the given situation while meeting the requirements and expectations of RP-AA-1008, “Unescorted Access to and Conduct in Radiologically Controlled Areas” and why?

A. Immediately exit the area because your accumulated dose has exceeded 80% of the ED Dose Alarm setpoint.

B. Continue to work in the area for 14 minutes or less, because the expectation is to exit the area prior to receiving a cumulative dose alarm.

C. Continue to work in the area for up to 15 minutes because the expectation is to exit the area when you receive a cumulative dose alarm.

D. Complete the task because you will not exceed the RWP Dose Approval.

Correct Answer B.:
Continue to work in the area for 14 minutes or less, because the expectation is to exit the area prior to receiving a cumulative dose alarm.
Explanation: RP-AA-1008, “Unescorted Access to and Conduct in Radiologically Controlled Areas” step 4.2.9 states “The expectation is to exit the area prior to receiving cumulative dose alarms.”

Distracter A.:
Immediately exit the area because you have exceeded 80% of the ED Dose Alarm setpoint.

Distracter C.:
Continue to work in the area for up to 15 minutes because the expectation is to exit the area when you receive a cumulative dose alarm.

Distracter D.:
Complete the task because you will not exceed the RWP Dose Approval.

Distracters A/C/D are incorrect as they do not meet the requirements of the procedure, as stated above.

References:
RP-AA-1008, “Unescorted Access to and Conduct in Radiologically Controlled Areas” Step 4.2.9

Question 71 LaSalle 07-01 NRC ILT Exam

Safety Function: Generic Knowledge and Abilities

System: 2.3 Radiation Control

K/A: 2.3.11 Ability to control radiation releases

I.R.: 3.8 / 4.3 10CFR 55 Content Part 41.11 / 43.4 / 45.10

License Level: RO Cognitive Level: Memory

Objective: 400.00.01 PRA: No

Question Exposure: 07-01 NRC Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Which of the following identifies the lowest off-site release rate that requires entry into LGA-009, "Radioactivity Release Control"?

Offsite release rate above .....

A. 9.66 E+5 µCi /sec.

B. 1.9 E+07 µCi /sec.

C. 3.7 E+07 µCi /sec.

D. 3.7 E+08 µCi /sec.

Correct Answer B.: 1.9 E+07 µCi /sec.
Explanation: 1.9 E+07 µCi /sec. is the value for entry into LGA-009.

Distracter A: 9.66 E+5 µCi /sec.
Reason Distracter A is incorrect: 9.66 E+5 µCi /sec. is the value for an Unusual Event classification but is below the value for entry into LGA-009.

Distracter C.: 3.7 E+07 µCi /sec.
Reason Distracter C. is incorrect: 3.7 E+07 µCi /sec is the value for a Site Area Emergency classification and is above the value for entry into LGA-009.

Distracter D.: 3.7 E+08 µCi /sec.
Reason Distracter D. is incorrect: 3.7 E+08 µCi /sec is the value for a General Emergency classification and is above the value for entry into LGA-009.

References:
LGA-009, Radioactivity Release Control

Question 72 LaSalle 07-01 NRC ILT Exam

Safety Function: Generic Knowledge and Abilities

System: Emergency Procedures/Plan

K/A: 2.4.21 Knowledge of the parameters and logic used to assess the status of safety functions, such as reactivity control, core cooling and heat removal, reactor coolant system integrity, containment conditions, radioactivity release control, etc.

I.R.: 4.0 / 4.6 10CFR 55 Content Part 41.7 / 43.5 / 45.12

License Level: RO Cognitive Level: High

Objective: 400.00.08 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Unit 2 has scrammed from rated conditions due to a DBA LOCA.
RPV level is -220" (minus 220 inches) on the Fuel Zone Level Indicator and steady.
RPV pressure is 50 psig and steady.
LPCS is injecting at 6300 gpm.

In accordance with LGA-001, "RPV Control", which of the following is true regarding the status of core cooling?

Adequate core cooling …….

A. is established and will be maintained under the current conditions.

B. is NOT established, but will be, if RPV level is raised and then maintained at greater than or equal to -195" (minus 195 inches) on the Fuel Zone Level Indicator.

C. is NOT established, but will be, if RPV pressure is reduced to less than or equal to 20 psig and RPV level is maintained greater than or equal to -210" (minus 210 inches) on the fuel zone indicator.

D. is NOT established, but will be, if RPV pressure does not change, HPCS injection is established at greater than or equal to 6350 gpm and RPV level is maintained greater than or equal to -210" (minus 210 inches) on the fuel zone indicator.

Correct Answer C:
is NOT established, but will be, if RPV pressure is reduced to less than or equal to 20 psig and RPV level is maintained greater than or equal to -210" (minus 210 inches) on the fuel zone indicator.
Explanation: Operating LPCS at 6300 gpm ($\geq$6250 gpm) meets flow requirements for adequate core cooling. Reducing pressure to less than or equal to 20 psig and raising level to -210" (minus 210 inches) on fuel zone completes meeting the requirements for providing adequate core cooling.

Distracter A.:
is established and will be maintained under the current conditions.
Reason Distracter A. is incorrect: The conditions for adequate core cooling does not meet the criteria for adequate core cooling, as described below.

Distracter B.:
is NOT established, but will be, if RPV level is raised and then maintained at greater than or equal to -195" (minus 195 inches) on the Fuel Zone Level Indicator.
Reason distracter B is incorrect: Level must maintained above -185" (minus 185 inches) on the Fuel Zone Level Indicator to meet the criteria for adequate core cooling.

Distracter D:
Is NOT established, but will be, if RPV pressure does not change, HPCS injection is established at greater than or equal to 6350 gpm and RPV level is maintained greater than or equal to -210" (minus 210 inches) on the fuel zone indicator.
Reason distracter D. is incorrect: Pressure must be reduced to less than or equal to 20 psig to meet the criteria for adequate core cooling.

References:
LGA-001, RPV Control, Box AC
Adequate core cooling exists if one of the following is met:

3) Water level in RPV $\geq$ -150 in. on WR

OR

4) Water level in the RPV $\geq$ -185" on FZ.

OR

5) Adequate Core Cooling conditions exist for DBA LOCA:
   Water level in the RPV $\geq$ -210" on FZ.
   AND
   At least one core spray system injecting onto the core at $\geq$ 6250 gpm (HPCS or LPCS)
   AND
   RPV Pressure $\leq$ 20 psig.

Question 73 LaSalle 07-01 NRC ILT Exam

Safety Function: Generic Knowledge and Abilities

System: Emergency Procedures/Plan

K/A: 2.4.39, Knowledge of the RO's responsibilities in emergency plan implementation.

I.R.: 3.9 / 3.8 10CFR 55 Content Part 41.10 / 45.11

License Level: RO Cognitive Level: Memory

Objective: NGET PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: This question is a bank question taken from the INPO exam bank.

You are a licensed Reactor Operator on dayshift, working on outage clearance orders in the South Service Building.

- You do NOT have assigned responsibilities in the Emergency Response Organization (ERO).
- A transient occurs that results in the declaration of a SITE AREA EMERGENCY and activation of the Evacuation/Assembly Siren.

To which of the following locations do you report?

A. Main Control Room

B. Technical Support Center

C. Operations Control Center

D. South Service Building Trackway

Correct Answer D: South Service Building Trackway
Explanation: EP-AA-1005, Radiological Emergency Plan Annex for LaSalle Station identifies the South Service Building Trackway as the on-site assembly area for LaSalle Station. This is the location that an RO would report to if working in an off-shift position.

Distracter A:
Main Control Room

Distracter B:
Technical Support Center

Distracter C.:
Operations Control Center

Reason Distracters A/B/C are incorrect: All three distracters list locations that are plausible but conflict with the direction provided in EP-AA-1005. The three locations listed are locations that are manned by operators for various functions.

References:
EP-AA-1005, Radiological Emergency Plan Annex for LaSalle Station

Question 74 LaSalle 07-01 NRC ILT Exam

Safety Function: Generic Knowledge and Abilities

System: 2.3 Radiation Control

K/A: 2.3.14

Knowledge of radiation or contamination hazards that may arise during normal, abnormal, or emergency conditions or activities.

I.R.: 3.4 / 3.8 10CFR 55 Content Part 41.12 / 43.4 / 45.10

License Level: RO Cognitive Level: Memory

Objective: 428.00.02 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

LGA RT-101, “RPV Depressurization Using RWCU Blowdown” is in progress and the Main Condenser is NOT available to accept RWCU flow.

For the given conditions, LGA-RT-101 provides an ALARA warning for abnormally high airborne radiation levels in the ……

A. RWCU Heat Exchanger rooms.

B. Radwaste Control Room.

C. vicinity of the Radwaste Tanks.

D. vicinity of the Reactor Building Equipment Drain Tank Room.

Correct Answer C.:
vicinity of the Radwaste Tanks.
Explanation: With the condenser unavailable, the blowdown flow is directed to the Waste Surge Tank. The ALARA warning in LGA-RT-101 warns of abnormally high airborne radiation levels in the vicinity of the Radwaste Tanks.

Distracter A.:
RWCU Heat Exchanger rooms.

Distracter B:
Radwaste Control Room.

Distracter D.:
vicinity of the Reactor Building Equipment Drain Tank Room.

Reason Distracters A/B/D are incorrect but plausible: The three distracters identify plausible, but incorrect, rad hazards the examinee might select if they do not understand where the blowdown flow is going (Waste Surge Tank in Rad Waste) when the main condenser is unavailable.

References:
LGA RT-101, “RPV Depressurization Using RWCU Blowdown”, ALARA warning. page 13.

Question 75 LaSalle 07-01 NRC ILT Exam

Safety Function: Generic Knowledge and Abilities

System: Conduct of Operations

K/A: 2.1.41 Knowledge of the refueling process.

I.R.: 2.8 / 3.7 10CFR 55 Content Part 41.2 / 41.10 / 45.13

License Level: RO Cognitive Level: Memory

Objective: 030.02.20 PRA: No

Question Exposure: 07-01 NRC Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Unit 1 is in Mode 5 with the mode switch in REFUEL.
Fuel moves were in progress when unexpected fuel handling issues were encountered. Fuel moves have been stopped and the control room immediately informed of the issue.

Per LFP 100-1, Master Refuel Procedure, whose permission, if any, is required to be granted prior to resuming fuel moves?

A. Operations Shift Manager.

B. Unit 1 Control Room Supervisor.

C. L-SRO/ SRO in charge of fuel moves.

D. No permission required to be obtained.

Correct Answer A.:
Operations Shift Manager
Explanation: LFP-100-1, Master Fuel Procedure, D.4.1 states “Operations Shift Manager permission shall be granted prior to resuming fuel movement.”

Distracter B:
Unit 1 Control Room Supervisor

Distracter C:
L-SRO/ SRO in charge of fuel moves

Distracters B and C are incorrect but plausible examples of people involved in the fuel handling process who could conceivably provide the necessary permission to resume fuel moves but are not allowed by procedure to grant permission.

Distracter D:
No permission required to be obtained

Distracter D is incorrect but plausible, as fuel moves were previously permitted, and it could be assumed that this would apply for the entire shift regardless if issues were encountered later in the shift.

References:
LFP 100-1, Master Refuel Procedure, step D.4.1 page 12

Question 76 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.1 Reactivity Control

System: 295006 SCRAM

K/A: AA2.01 - Ability to determine and/or interpret the following as they apply to SCRAM : Reactor power

I.R.: 4.5 / 4.6 10CFR 55 43 Ref. (5)

License Level: SRO Cognitive Level: High

Objective: 433.00.02 PRA: No

Question Exposure: 07-01 NRC Exam

New Question developed for the 07-01 NRC ILT Exam

You are the Unit 1 Unit Supervisor.
With Unit 1 operating at rated conditions, a manual scram was inserted due to a sudden drop in condenser vacuum.

The Unit 1 NSO transferred the Mode Switch to SHUTDOWN and then reported the following:
- Four rods remain FULL OUT.
- RPV Level is - 15 inches and rising slowly
- Suppression Pool temperature is 106° F and going up slowly

Based on the indication below, reactor power is determined to be _____(1)_____ and you must provide direction to hold RPV level in the band of _____(2)_____, in accordance with the governing LGA.

Note: WHITE indicators are LIT, GRAY indicators are NOT lit.

NEUTRON MONITORING						
FLOW		APRM			RBM	
A	C	A	C	E	A	A
UPSC OR INOP	UPSC OR INOP	UPSC TR OR INOP	UPSC TR OR INOP	UPSC TR OR INOP	UPSC	ALARM SET HI
INOP	INOP	UPSCALE ALARM	UPSCALE ALARM	UPSCALE ALARM	INOP	ALARM SET INT
BYPASS	BYPASS	DNSC	DNSC	DNSC	DNSC	ALARM SET LO
		BYPASS	BYPASS	BYPASS	BYPASS	PUSH TO SET UP

NEUTRON MONITORING						
RBM		APRM			FLOW	
B	B	F	D	B	D	B
ALARM SET HI	UPSC	UPSC TR OR INOP	UPSC TR OR INOP	UPSC TR OR INOP	UPSC OR INOP	UPSC OR INOP
ALARM SET INT	INOP	UPSCALE ALARM	UPSCALE ALARM	UPSCALE ALARM	INOP	INOP
ALARM SET LO	DNSC	DNSC	DNSC	DNSC	BYPASS	BYPASS
PUSH TO SET UP	BYPASS	BYPASS	BYPASS	BYPASS		

A. (1) unknown
(2) 11 inches and 59.5 inches

B. (1) less than or equal to 3%.
(2) -150 inches on Wide Range and 59.5 inches

C. (1) greater than 3% and less than 14%
(2) -150 inches on Wide Range and - 60 inches

D. (1) greater than 14%
(2) -150 inches and -120 inches on Wide Range

Correct Answer B:

Correct Answer B:
(1) less than or equal to 3%.
(2) -150 inches on Wide Range and 59.5 inches
Explanation: The BLUE indication for APRMs downscale indicates to the Unit Supervisor that reactor power is less than or equal to 3%. LGA-010 directs level to be controlled in the band of -150 inches on Wide Range and 59.5 inches if power is less than or equal to 3%.

Distracter A:
(1) unknown
(2) 11 inches and 59.5 inches
Reason Distracter A is incorrect: The BLUE indication for APRMs downscale indicates to the Unit Supervisor that reactor power is less than or equal to 3%. The level control band listed is directed by LGA-001 and is incorrect for the given conditions.

Distracter C:
(1) greater than 3% and less than 14%
(2) -150 inches on Wide Range and - 60 inches
Reason Distracter C is incorrect: For this answer to be correct the DOWNSCALE lights would NOT be lit and the UPSC TR OR INOP LIGHT would also NOT be lit. The level band listed matches LGA-010 direction for level control for the listed power level.

Distracter D:
(1) greater than 14%
(2) -150 inches and -120 inches on Wide Range
Reason Distracter D is incorrect: For this answer to be correct the DOWNSCALE lights would NOT be lit and the UPSC TR OR INOP LIGHT would be lit. The level band listed matches LGA-010 direction for level control when the override conditions for adding excessive heat to the Suppression Pool are met in the middle of the Level Control Leg. The override is not met with Suppression Pool Temperature below 110° F.

References:
LGA-001 Lesson Plan
LGA-010 Lesson Plan

Question 77 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.5 Containment Integrity

EPE: 295028 High Drywell Temperature

K/A: EA2.04 - Ability to determine and/or interpret the following as they apply to HIGH DRYWELL TEMPERATURE : Drywell Pressure

I.R.: 4.1 / 4.2 10CFR 55 43 Ref. (5)

License Level: SRO Cognitive Level: High

Objective: 400.00.14 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

The Unit has scrammed and LGA-003 has been entered.
- Suppression Pool temperature is 112 degrees F.
- Drywell pressure is 15 psig and Drywell temperature is 335 degrees F and steadily rising.
- There are NO bypass paths in the containment.
- Chamber sprays are in operation.
- RR pumps are tripped.
- ECCS is not needed for core cooling.

Which of the following identifies the proper action to be directed by the US regarding drywell spray operation and why?

A. Do NOT spray the drywell. Suppression Chamber pressure is too low.

B. Do NOT spray the drywell. Drywell Spray Initiation Limit has been exceeded.

C. Spray the drywell, all conditions are met. Stop drywell sprays before drywell pressure drops below 5.0 psig to prevent exceeding the Drywell Spay Initiation Limit.

D. Spray the drywell, all conditions are met. Stop drywell sprays before drywell pressure drops below 0 psig to prevent exceeding the containment negative pressure limit.

Correct Answer D:
Spray the drywell, all conditions are met. Stop drywell sprays before drywell pressure drops below 0 psig to prevent exceeding the containment negative pressure limit.
Explanation: LGA-003 directs that the drywell be sprayed BEFORE temperature reaches 340° F. All conditions are met.

Distracter A:
Do NOT spray the drywell. Suppression Chamber pressure is too low.
Reason distracter A is incorrect: This does not apply with temperature approaching 340° F. Drywell spray is required.

Distracter B:
Do NOT spray the drywell. Drywell Spray Initiation Limit has been exceeded.
Reason distracter B is incorrect: DWSIL is not exceeded.

Distracter C:
Spray the drywell, all conditions are met. Stop drywell sprays before drywell pressure drops below 5.0 psig to prevent exceeding the Drywell Spay Initiation Limit.
Reason distracter C is incorrect: Drywell sprays are stopped before reaching 0 psig.

References:
LGA-003, Primary Containment Control

Question 78 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.5 Containment Integrity

System: 295030 Low Suppression Pool Water Level

K/A: EA2.02 - Ability to determine and/or interpret the following as they apply to LOW SUPPRESSION POOL WATER LEVEL : Suppression pool temperature

I.R.: 3.9 / 3.9 10CFR 55.43 Ref (5)

License Level: SRO Cognitive Level: High

PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

An earthquake has resulted in the following conditions on Unit 1:
- The reactor automatically scrammed from rated conditions and all control rods fully inserted.
- Suppression Pool water level has dropped to - 9 inches (minus nine inches) due to a leak in the LPCS pump suction piping, AND continuing to go down at 1 inch per minute.
- 5 minutes later, the leak was stopped by closing the 1E21-F001, LPCS Pump Suction Valve.

Which of the following sources for Suppression Pool Temperature are acceptable for use when determining Suppression Pool Water temperature for the given conditions?

1) SPDS
2) Computer points L122 and L123
3) Remote Shutdown Panel Indicator 1TI-CM037
4) AVG SP TEMP 1TR-CM037A and 1TR-CM038A (1PM13J Recorders)
5) SP TEMP SIG PROCESSORS 1UY-CM037 and 1UY-CM038 (1PM13J NuMacs)

A. 1, 2, and 3 ONLY.

B. 3, 4, and 5 ONLY

C. 2, 3, and 4 ONLY

D. 1, 2, 3, 4 and 5

Correct Answer A:
1, 2, and 3 ONLY. (SPDS, Computer points L122 and L123, and Remote Shutdown Panel Indicator 1TI-CM037)
Explanation:
SP level is minus nine inches and going down at 1 inch per minute. Stopping the leak 5 minutes later results in a suppression pool level of minus 14 inches (greater than 1 foot) below normal. LGA-003 directs using the three identified references to determine SP Temperature with SP level below minus 1 foot.

Distracter B:
3, 4, and 5 ONLY

Distracter C:
2, 3, and 4 ONLY

Distracter D:
1, 2, 3, 4 and 5

Reason Distracters B/C/D are incorrect: All three have one or more indicators that are not allowed for use with SP level below minus 1 foot.

References:
LGA-003, Primary Containment Control

Question 79 LaSalle 07-01 NRC ILT Exam

Safety Function: 3. 6 Electrical

System: 295004 Partial or Total Loss of DC Pwr

K/A: 2.4.35 - Emergency Procedures / Plan: Knowledge of local auxiliary operator tasks during emergency and the resultant operational effects.

I.R.: 3.8 / 4.0 10CFR 55.43 Ref. (5)

License Level: SRO Cognitive Level: High

Objective: 006.00.16 PRA: Yes

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Unit 1 is at 32% core thermal power following a refueling outage.
The 1A TDRFP has just been placed on-line along with the MDRFP to feed the RPV.

The following alarms (and R-point) have just been received:
- 1PM01J-B304, DIV 2 125V DC 112X/Y BUS FEED BKR AUTO TRIP
  R0988, 125V DC Pnl 112X Mn Fd Bkr Trip
- 1PM01J-B401, 4KV SWGR BUS 142X DC CONT PWR FAILURE
- 1PM01J-A407, 6.9KV SWGR BUS 152 DC CONT PWR FAILURE

As the Unit Supervisor, you will direct the crew to……

A. SCRAM the reactor.

B. CONTINUE power ascension.

C. REDUCE power as necessary, and then locally trip the MDRFP breaker at Bus 152.

D. REDUCE power as necessary, and then locally trip the 1A TDRFP at the pump's front standard.

Correct Answer C:
Reduce power as necessary, and then locally trip the MDRFP breaker at Bus 152.
Explanation: When 112X is lost, the MDRFP loses control power and LOA-DC-101 provides direction to secure the MDRFP by tripping the pump's breaker at Bus 152, after power is reduced as necessary to support operation without the pump. (The 1A TDRFP would be tripped if the DC bus 111X was affected, which it was not.)

Distracter A:
SCRAM the reactor.
Reason Distracter A is incorrect: The loss of bus 112X does not require a scram, however the loss of other DC busses do. The examinee must understand the affect the loss of each DC bus has on unit operation to select the correct answer.

Distracter B:
CONTINUE power ascension.
Reason Distracter B is incorrect: When 112X is lost, the MDRFP loses control power and LOA-DC-101 provides direction to secure the MDRFP by tripping the pump's breaker at Bus 152, **after power is reduced** as necessary to support operation without the pump.

Distracter D:
REDUCE power as necessary, and then locally trip the 1A TDRFP at the pump's front standard.
Reason Distracter D is incorrect: The 1A TDRFP is NOT affected by the loss of bus 112X so that pump is left in operation.

References:
LOA-DC-101, DC Power System Failure, Section B.7, Loss of DC Distr Pnl 112X

Question 80 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.8 Plant Service System

System: 600000 Plant Fire On-site

K/A: 2.2.25 - Equipment Control: Knowledge of bases in technical specifications for limiting conditions for operations and safety limits.

I.R.: 3.2 / 4.2 10CFR 55. 43 Ref. (2)

License Level: SRO Cognitive Level: High

Objective: 125.00.22 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

A rupture in the 'A' Diesel Fire Pump discharge piping directly upstream of 0FP-001A, 'A' DFP Discharge Check Valve has been identified.

Which, if any, of the T&RM 3.7.j “Fire Suppression Water Systems” Conditions are entered and why?

(Included find P&ID M-71 Sheet 1, and associated T&RMs for reference)

A. Condition B applies because the rupture is common to both water supplies.

B. Condition A applies because the rupture is NOT common to both water supplies.

C. Neither condition applies because the rupture is NOT common to both water supplies.

D. Neither condition applies because the rupture can be isolated while maintaining both A DFP and B DFP operable.

Correct Answer B:
Condition A applies because the rupture is NOT common to both water supplies.
Explanation: The bases for this specification states that Condition B is entered when affected piping is the 14-inch ring header, INCLUDING the branch feeds into the buildings as they are common to both water supplies. With the location of the rupture, it is NOT common to both water supplies

Distracter A:
Condition B applies because the rupture is common to both water supplies.

Distracter C:
Neither condition applies because the rupture is NOT common to both water supplies.

Distracter D:
Neither condition applies because the rupture can be isolated while maintaining both A DFP and B DFP operable.

Distracters A/C/D are incorrect as they do not reference entry into Condition A.

References:
T&RM 3.7.j “Fire Suppression Water Systems”
P&ID M-71 Sh.1

Question 81 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.8 Plant Service System

APE: 295019 Partial or Total Loss of Inst. Air

K/A: 2.2.22 - Equipment Control: Knowledge of limiting conditions for operations and safety limits.

I.R.: 4.0 / 4.7 10CFR 55.43 Ref. (2)

License Level: SRO Cognitive Level: High

Objective: 025.00.22 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

You are the Unit 2 Control Room Supervisor.
Unit 2 is at rated conditions.

The Unit 2 Reactor Operator reports that the following valves have just changed to CLOSED indication.:
- 2C11-F380, Scram Discharge Volume Downstream Vent Isolation Valve
- 2C11-F381, Scram Discharge Volume Downstream Drain Isolation Valve

There are no other abnormal indications to report.

Next, a mechanic calls to report that he inadvertently stepped on and broke a ½" instrument air line on 761'elevation in the Unit1 Reactor Building while walking down an outage work package. He crimped the line shut to stop the leak.

Per Technical Specifications, the reported condition will require ……

(References provided for this question)

A. isolating the Scram Discharge Volume Drain Line **OR** Vent Line within 8 hours.

B. isolating the Scram Discharge Volume Drain Line **AND** Vent Line within 8 hours.

C. isolating the Scram Discharge Volume Drain Line **OR** Vent Line within 7 days.

D. isolating the Scram Discharge Volume Drain Line **AND** Vent Line within 7 days.

Correct Answer D:
isolating the Scram Discharge Volume Drain Line **AND** Vent Line within 7 days.
Explanation: Condition A applies "One or more SDV vent or drain lines with one valve inoperable" and the Required Action is to "Isolate the associated line" with a completion time of "7 days".

Distracter A:
isolating the Scram Discharge Volume Drain Line **OR** Vent Line within 8 hours.

Reason Distracter A is incorrect: The required action must be completed within 7 days, not 8 hours and both lines must be isolated, not one or the other.

Distracter B:
isolating the Scram Discharge Volume Drain Line **AND** Vent Line within 8 hours.

Reason Distracters B is incorrect: The required action must be completed within 7 days, not 8 hours.

Distracter C:
isolating the Scram Discharge Volume Drain Line **OR** Vent Line within 7 days.

Reason Distracter C is incorrect: Both lines must be isolated, not one or the other.

References:
Tech Spec 3.1.8, Scram Discharge Volume Vent and Drain Valves
P&ID M-100 Sh. 2 and 4

Question 82 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.8 Plant Service System

APE: 295018 Partial or Total Loss of CCW

K/A: 2.1.23 - Conduct of Operations: Ability to perform specific system and integrated plant procedures during all modes of plant operation.

I.R.: 4.3 / 4.4 10CFR 55.43 Ref (5)

License Level: SRO Cognitive Level: High

Objective: 113.00.21 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Unit 1 is operating at rated conditions.
- The 1A TBCCW Pump and Heat Exchanger are in operation.
- The 1B TBCCW Pump is out of service for maintenance.

The following annunciators just alarmed on the 1PM10J Panel:
- LOR-1PM10J-A301, TBCCW PMP AUTO TRIP
  - R1520 1A TBCCW Pump A-Trip.

- LOR-1PM10J-A304, TBCCW PMP DSCH HDR PRESS LO
  - R1522 TBCCW Pump Dsch Hdr Press Lo

Based on the given conditions, what action is required to be taken first?

A. Scram the Unit 1 reactor per LGP-3-2

B. Commence a Unit 1 shutdown per LGP-3-1

C. Cross tie Unit 1 TBCCW to Unit 2 TBCCW

D. Supply supplemental cooling to Unit 1 loads per LOA-WT-101 “Loss of Turbine Building Closed Cooling Water (TBCCW)"

Correct Answer A:
Scram the Unit 1 reactor per LGP-3-2
Explanation: LOA-WT-101 directs a manual scram on the loss of TBCCW, which has occurred with the tripping of the only available Unit 1 TBCCW pump.

Distracter B:
Commence a Unit 1 shutdown per LGP 3-1

Distracter C:
Cross tie Unit 1 TBCCW to Unit 2 TBCCW

Distracter D:
Supply supplemental cooling to Unit 1 loads per LOA-WT-101 “Loss of Turbine Building Closed Cooling Water (TBCCW)"

Reason distracters B/C/D are incorrect: The three distracters are not in compliance with the procedural guidance from LOA-WT-101, however the answers are plausible combinations of actions and plant conditions that the examinee might choose if they are not knowledgeable of the guidance provided in the LOA.

References:
LOA-WT-101, Loss of Turbine Closed Cooling Water System

Question 83 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.5 Containment Integrity

EPE: 295036 Secondary Containment High Sump/Area Water Level

K/A: EA2.02 - Ability to determine and/or interpret the following as they apply to SECONDARY CONTAINMENT HIGH SUMP/AREA WATER LEVEL : Water level in the affected area

I.R.: 3.1 / 3.1 10CFR 55. 43 Ref (5)

License Level: SRO Cognitive Level: High

Objective: 416.00.01 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

You are the Unit 1 Unit Supervisor.
- Unit 1 is operating at rated conditions.
- An operator calls you to report that the HPCS room sump is overflowing and there is water flowing into the HPCS pump room from under the CRD Pump Room door.
- The leak is coming from an RBCCW line that was disconnected during maintenance on the 1A CRD pump and has been damaged.
- The leak can not be quickly isolated.

The operator then leaves to attempt to isolate the leak.

A short time later the HPCS Water Leg pump trips.

The information provided CONFIRMS that water level in the HPCS pump room has _____(1)_____ and entry into LGA-002 is _____(2)_____

A. (1) NOT Exceeded Max Normal Level
(2) NOT required.

B. (1) Exceeded Max Normal Level ONLY
(2) required.

C. (1) Exceeded Max Normal Level ONLY
(2) NOT required.

D. (1) Exceeded Max Normal AND Max Safe Level
(2) required.

Correct Answer B:
(1) Exceeded Max Normal Level ONLY
(2) required.
Explanation: Per the LGA-002 lesson plan:

1. If a normal plant activity causes a sump to overflow, LGA-002 is entered.
2. Most of the Max Safe values (for Reactor Building Water Levels) are based on a water leg pump or instrumentation.

6) “Operator reports locally at the corner rooms or raceway is the only method to confirm that max safe water level has been exceeded." This has not been done, so only Max Normal Level has been confirmed.

Distracter A:
(1) NOT Exceeded Max Normal Level
(2) NOT required.
Reason Distracter #1 is incorrect: Max Normal Level is exceeded when the sump overflows, regardless of the source of the water. LGA-002 entry is therefore required.

Distracter C:
(1) Exceeded Max Normal Level ONLY
(2) NOT required.
Reason Distracter C is incorrect: LGA-002 is required to be entered when HPCS Room sump is overflowing.

Distracter D:
(1) Exceeded Max Normal AND Max Safe Level
(2) required.
Reason Distracter D is incorrect: Max Safe Level can not be assumed to be met due to the tripping of the water leg pump. An operator must confirm the water level locally.

References:
LGA-002 Lesson Plan
LGA-002, Secondary Containment Control

Question 84 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.5 Containment Integrity

EPE: 295035 Secondary Containment High Differential Pressure

K/A: 2.4.34 - Emergency Procedures / Plan: Knowledge of RO tasks performed outside the main control room during an emergency and the resultant operational effects.

I.R.: 4.2 / 4.1 10CFR 55. 43 Ref. (5)

License Level: SRO Cognitive Level: High

Objective: 400.00.12 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

You are the Unit 2 Control Room Supervisor.
- Unit 2 has scrammed from rated conditions.
- Drywell pressure is 2.2 psig and going up slowly.
- VR has tripped and Unit 2 VR is required to be started in accordance with LGA-VR-01, "Reactor Building Ventilation Startup".
- No actions have been taken in the main control room related to VR following the trip of the fans.

You will direct an operator to INSTALL jumpers to defeat isolation signals for _____(1)_____ and THEN _____(2)_____.

A. (1) VR High Drywell Pressure and VR/FC Rad
(2) START the VR Exhaust and Supply Fans

B. (1) VR High Drywell Pressure and VR/FC Rad
(2) STANDBY to OPEN the VR isolation dampers

C. (1) VR High Drywell Pressure and Low-Low-Level
(2) START the VR Exhaust and Supply Fans

D. (1) VR High Drywell Pressure and Low-Low-Level
(2) STANDBY to OPEN the VR isolation dampers

Correct Answer D:
(1) VR High Drywell Pressure and Low-Low-Level.
(2) STANDBY to OPEN the VR isolation dampers
Explanation: LGA-VR-101 directs that jumpers be installed in the AEER to defeat low-low level and high drywell isolation signals. Dampers are not opened until the VR fans are place in Pull – to – Lock.

Distracter A:
(1) VR High Drywell Pressure and VR/FC Rad
(2) START the VR Exhaust and Supply Fans
Reason Distracter A is incorrect: VR/FC Hi-Hi rad is not bypassed. The VR fans must be placed in Pull - to - Lock, not started.

Distracter B:
(1) VR High Drywell Pressure and VR/FC Rad
(2) STANDBY to OPEN the VR isolation dampers
Reason Distracter B is incorrect: VR/FC Rad is not defeated for the given conditions.

Distracter C:
(1) VR High Drywell Pressure and Low-Low-Level
(2) START the VR Exhaust and Supply Fans
Reason Distracter C is incorrect: VR fans are placed in Pull - to - Lock, rather than started.

References:
LGA-VR-101, “Reactor Building Ventilation Startup”.

Question 85 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.5 Containment Integrity

System: 500000 High CTMT Hydrogen Conc.

K/A: 2.1.20 - Ability to interpret and execute procedure steps.

I.R.: 4.6 / 4.6 10CFR 55.43 Ref. (5)

License Level: SRO Cognitive Level: High

Objective: 425.00.01 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

Unit 1 was operating at rated conditions when an automatic scram occurred due to low RPV water level.
Following the scram, hydrogen was detected in the drywell and has risen to 7%.
Oxygen concentration in the drywell is 4%
As the Unit 1 Supervisor you entered LGA-011, Hydrogen Control and directed the following actions:
- Operate the Unit 1 recombiner as a mixing system per LGA-HG-101.
- Vent and purge the primary containment per LGA-VQ-02 and LGA-VQ-03.

You just observed that oxygen concentration in the drywell suddenly increased to 5.5 %.

Based on the above conditions, you will direct the crew to…….

A. (1) CONTINUE containment vent and purge,
(2) STOP the hydrogen recombiner,
(3) and DO NOT INITIATE a BLOWDOWN.

B. (1) CONTINUE containment vent and purge,
(2) CONTINUE to OPERATE the hydrogen recombiner,
(3) and INITIATE a BLOWDOWN.

C. (1) CONTINUE containment vent and purge,
(2) STOP the hydrogen recombiner,
(3) and INITIATE a BLOWDOWN.

D. (1) STOP containment vent and purge,
(2) STOP the hydrogen recombiner,
(3) and INITIATE a BLOWDOWN.

Correct answer C:
(1) CONTINUE containment vent and purge,
(2) STOP the hydrogen recombiner,
(3) and INITIATE a BLOWDOWN.
Explanation: When oxygen concentration rises above 5%, an override is met, requiring going to step 23 of LGA-011 “Hydrogen Control”.
Vent and purge is directed to remain in operation as long as NO WRGM high rad alarms are received. After going to step 23, Hydrogen concentration greater than or equal to 6% requires a blowdown.

Distracter A:
(1) CONTINUE containment vent and purge,
(2) STOP the hydrogen recombiner,
(3) and DO NOT INITIATE a BLOWDOWN.

Distracter B:
(1) CONTINUE containment vent and purge,
(2) CONTINUE to OPERATE the hydrogen recombiner,
(3) and INITIATE a BLOWDOWN.

Distracter D:
(1) STOP containment vent and purge,
(2) STOP the hydrogen recombiner,
(3) and INITIATE a BLOWDOWN.

Distracters A/B/D are combinations of incorrect decisions the examinee might make while executing the steps of LGA-011.

References:
LGA-011, Hydrogen Control.

Question 86 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.2 Reactor Water Inventory Control

System: 209002 HPCS

K/A: A2.05 - Ability to (a) predict the impacts of the following on the HIGH PRESSURE CORE SPRAY SYSTEM (HPCS) ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: D.C. electrical failure: BWR-5,6

I.R.: 2.8 / 2.9 10CFR 55.43 Ref. (5)

License Level: SRO Cognitive Level: High

Objective: 061.00.21 PRA: Yes

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

The following conditions exist on Unit 1:
- Unit 1 is operating at rated conditions
- It is a Division III Work Week
- LOS-HP-Q1, HPCS Inservice Test is in progress with the HPCS system running with the 1E22-F023, HPCS Test to SP Valve throttled to establish a flowrate of 6200 gpm.

What will be the impact of a sustained loss of Bus 113 125V DC on the HPCS system and what action is required to be directed in response to the event, assuming HPCS is not required to maintain RPV level?

A. The ability to control all HPCS components from control room panel 1H13-P601 is lost. Direct the Reactor Operator to allow the HPCS system to remain running at 6200 gpm until Bus 113 125V DC is restored.

B. The ability to trip the HPCS pump from the control room panel 1H13-P601 is lost. Direct a Reactor Operator to secure the HPCS pump by placing the control switch in Pull-to-Lock and then locally tripping the HPCS Pump Breaker at Bus 143 Cub 4.

C. All protective trips and interlocks for the HPCS system are lost. Direct the Reactor Operator to shutdown the HPCS system from control room panel 1H13-P601 by CLOSING the 1E22-F023, HPCS Test to SP Valve and placing the HPCS Pump control switch to STOP.

D. The HPCS Minimum Flow Valve will go full open. Direct the Reactor Operator to trip the HPCS pump from control room panel 1H13-P601 by placing the control switch to STOP, and then CLOSE the HPCS Minimum Flow Valve by placing the control switch in the CLOSED position.

Correct Answer B:

The ability to trip the HPCS pump from the control room panel 1H13-P601 is lost. Direct a Reactor Operator to secure the HPCS pump by placing the control switch in Pull-to-Lock and then locally tripping the HPCS Pump Breaker at Bus 143 Cub 4.
Explanation: These actions are directed in LOA-DC-101 for the given conditions.

Distracter A:
The ability to control all HPCS components from control room panel 1H13-P601 is lost. Direct the Reactor Operator to allow the HPCS system to remain running at 6200 gpm until Bus 113 125V DC is restored.
Reason Distracter A is incorrect: LOA-DC-101 directs that the HPCS Pump control switch is placed in Pull – to – Lock and then the breaker is locally tripped.

Distracter C:
All protective trips and interlocks for the HPCS system are lost. Direct the Reactor Operator to shutdown the HPCS system from control room panel 1H13-P601 by CLOSING the 1E22-F023, HPCS Test to SP Valve and placing the HPCS Pump control switch to STOP.
Reason Distracter C is incorrect: LOA-DC-101 directs that the HPCS Pump control switch is placed in Pull – to – Lock and then the breaker is locally tripped.

Distracter D:
The HPCS Minimum Flow Valve will go full open. Direct the Reactor Operator to trip the HPCS pump from control room panel 1H13-P601 by placing the control switch to STOP, and then CLOSE the HPCS Minimum Flow Valve by placing the control switch in the CLOSED position.
Reason Distracter C is incorrect: : LOA-DC-101 directs that the HPCS Pump control switch is placed in Pull – to – Lock and then the breaker is locally tripped.

References:
LOA-DC-101, Unit 1 DC Power System Failure

Question 87 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.9 Radioactivity Release

System: 261000 SGTS

K/A: A2.07 - Ability to (a) predict the impacts of the following on the STANDBY GAS TREATMENT SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: A.C. electrical failure

I.R.: 2.7 / 2.8 10CFR Content Part 41.5 / 45.6 [10CFR 55.43 Ref. (5)]

License Level: SRO Cognitive Level: High

Objective: 095.00.16 PRA: Yes

Question Exposure: 07-01 NRC ILT Exam

Source: Modified Bank Question taken from the 02-01 NRC ILT Exam and modified for the 07-01 NRC ILT Exam.

Unit 1 is in Cold Shutdown and Unit 2 is at rated conditions
- Bus 142Y is OOS for cleaning and inspection.
- Fault on the ring bus results in a loss of all off-site power
- Unit 2 trips due to the transient
- 2A D/G failed to start, the other D/Gs operated as expected
- Unit 2 SBGT received an initiation signal

Assuming no operator action has been taken yet, the status of the Unit 1 and Unit 2 SBGT systems is _____(1)_____, requiring you to direct an NSO to _____(2)_____

A. (1) Unit 1 SBGT running and Unit 2 SBGT NOT running
(2) VERIFY proper operation of Unit 1 SBGT.

B. (1) Unit 1 SBGT NOT running and Unit 2 SBGT running
(2) VERIFY proper operation of Unit 2 SBGT.

C. (1) Unit 1 SBGT running and Unit 2 SBGT running
(2) VERIFY proper operation of Unit 2 SBGT and SHUTDOWN Unit 1 SBGT.

D. (1) Unit 1 SBGT NOT running and Unit 2 SBGT NOT running
(2) START the 2A DG, energize bus 242Y, and VERIFY proper operation of Unit 2 SBGT.

Correct Answer D:
(1) Unit 1 SBGT NOT running and Unit 2 SBGT NOT running
(2) START the 2A DG, energize bus 242Y, and VERIFY proper operation of Unit 2 SBGT.
Explanation: Unit 1 SBGT is not running due to bus 142Y OOS. Unit 2 SBGT is not running due to the loss of all off-site power and the failure of 2A D/G to start. The US will have to direct an NSO to enter LOA-AP-201 which addresses the loss of aux. power and has direction to start the 2A DG per LOA-DG-201 if it failed to start. Following the start of the 2A D/G, bus 242Y will be energized and able to energize the Unit 2 SBGT system. The examinee must be able to identify the power supplies to the Unit 1 and Unit 2 SBGT systems and also have an understanding of the actions taken to restore aux. power for the given conditions.

Distracter A:
(1) Unit 1 SBGT running and Unit 2 SBGT NOT running
(2) VERIFY proper operation of Unit 1 SBGT.

Reason Distracter A is incorrect: Unit 1 SBGT system would NOT be running due to bus 142Y being OOS.

Distracter B:
(1) Unit 1 SBGT NOT running and Unit 2 SBGT running
(2) VERIFY proper operation of Unit 2 SBGT.
Reason Distracter B is incorrect: Unit 2 SBGT would not be running with the loss of off-site power and the failure of the 2A D/G to start.

Distracter C:
(1) Unit 1 SBGT running and Unit 2 SBGT running
(2) VERIFY proper operation of Unit 2 SBGT and SHUTDOWN Unit 1 SBGT.
Reason Distracter C is incorrect: Unit 1 SBGT system would NOT be running due to bus 142Y being OOS. Unit 2 SBGT would not be running with the loss of off-site power and the failure of the 2A D/G to start.

References:
LOP-AP-142Y, Preparation for De-Energizing SWGR 142Y
LOP-AP-242Y, Preparation for De-Energizing SWGR 242Y
Figure 05-01 AC Distribution System

Question 88 LaSalle 07-01 NRC ILT Exam

Safety Function:3.2 Reactor Water Inventory Control

System: 203000 RHR/LPCI: Injection Mode

K/A: 2.4.45 - Emergency Procedures / Plan: Ability to prioritize and interpret the significance of each annunciator or alarm.

I.R.: 4.1 / 4.3 10CFR 55.43 Ref. (5)

License Level: SRO Cognitive Level: High

Objective: 500.01 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New question developed for the 07-01 NRC Exam

Unit 1 has automatically scrammed due to a grid disturbance.
- All control rods are fully inserted.
- A steam leak developed in the drywell following the scram.
- Drywell pressure is 17 psig and going up moderately
- RPV pressure is 550 psig and going down slowly
- RPV level is – 25 inches, going up slowly, supplied by the 1A and 1C Condensate/Condensate Booster Pumps
- 1A RHR Pump is OOS for repairs

The following annunciators (among others) are in alarm:
- 1H13-P601 - B106, 1B RHR PMP AUTO TRIP
- 1H13-P601 - B107, 1B/1C LPCI SYSTEM ACTUATED
- 1H13-P601 - B304, CHAN B/D RHR DRYWELL PRESS HI (Red bordered alarm)
- 1H13-P601 - B308, 1C RHR PMP DSCH PRESS LO
- 1PM01J - A206, 6.9KV BUS 151/152 OVERCURRENT
- 1PM01J – A214, 4KV BUS 141X/Y OVERCURRENT
- 1PM13J - A202, SUP POOL WTR BULK TEMP HI
- 1PM13J - A102, SUP POOL WTR BULK TEMP HI-HI

Based on the listed alarms AND assuming you have only one equipment operator available for assignment, you will direct the equipment operator to inspect the ……

A. 1C RHR pump.

B. 1B RHR pump and breaker.

C. 4KV BUS 141Y.

D. 6.9 KV BUS 151.

Correct Answer B:
1B RHR pump and breaker.
Explanation:
Based on the plant conditions provided, the 1B RHR pump is needed for suppression pool cooling and containment sprays. All other alarms are associated with equipment that is either already running, OOS, or will not assist in mitigating the containment issues.

Distracter A:
1C RHR pump.
Reason Distracter A is incorrect: C RHR does not support containment sprays or pool cooling.

Distracter C:
4KV BUS 141Y.
Reason Distracter C is incorrect: The 1A RHR pump is OOS and regaining the power supply will not help mitigate the event.

Distracter D:
6.9 KV BUS 151.
Reason Distracter D is incorrect: 6.9 KV Bus 151 does not require inspection as the 1A and 1C CD/CB pumps are maintaining level, indicating that the power is supplying power.

References:
LOR 1H13-P601 - B106, 1B RHR PMP AUTO TRIP
LGA-003, Primary Containment Control

Question 89 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.8 Plant Service Systems

System: 400000 Component Cooling Water

K/A: 2.1.25 - Conduct of Operations: Ability to interpret reference materials, such as graphs, curves, tables, etc.

I.R.: 3.9 / 4.2 10CFR 55.43 Ref. (5)

License Level: SRO Cognitive Level: High

Objective:433.00.06 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New question developed for the 07-01 NRC ILT Exam

Unit 2 is in an ATWS condition.
- ADS was initiated per LGA-006 "ATWS Blowdown"
- ONLY SRVs S, C, U, and D are OPEN, ALL other SRVs remain CLOSED
- RPV pressure is 550 psig and going down quickly
- Level is -211 inches on Fuel Zone
- Reactor Building temperature is 144°F
- Drywell temperature is 280°F
- Wide Range level is -140 inches
- Narrow Range level is 0 inches

Based on the given conditions, you will direct the reactor operator to inject with Preferred ATWS systems when reactor pressure …….

A. is BELOW 325 psig, per LGA-005, “RPV Flooding”.

B. REACHES 325 psig, per LGA-005, “RPV Flooding”.

C. is BELOW 325 psig, per LGA-010, “Failure to Scram”.

D. REACHES 325 psig, per LGA-010, “Failure to Scram”.

Correct Answer C:
is below 325 psig, per LGA-010, “Failure to Scram”.
Explanation: Fuel Zone indication is still valid, so the LGA-010 provides direction, and also directs injecting when pressure is BELOW 325 psig. The examinee is required to utilize two tables to determined the correct answer and also pay close attention to the direction provided in LGA-010.

Distracter A:
is below 325 psig, per LGA-005, “RPV Flooding”.

Distracter B:
reaches 325 psig, per LGA-005, “RPV Flooding”.

Distracter D:
reaches 325 psig, per LGA-010, “Failure to Scram”.

Reason distracters A/B/D are incorrect: LGA-005 is not entered because Fuel Zone level indication remains valid and injection is started when pressure is BELOW 325 psig, not at 325 psig.

Reference:

LGA-010, Failure to Scram

Question 90 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.7 Instrumentation

System: 215003 IRM

K/A: A2.07 - Ability to (a) predict the impacts of the following on the INTERMEDIATE RANGE MONITOR (IRM) SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Failed

I.R.: 2.5 / 2.7 10CFR 55.43 Ref. (5)

License Level: SRO Cognitive Level: High

Objective: 042.00.21 PRA: No

Question Exposure:

1999-01 NRC License Exam

2005-01 CasOps 0A (07/14/2006)

07-01 NRC ILT Exam

Source: Bank question from LaSalle Casualty Ops

You are the Unit 1 Supervisor and Unit-1 is starting up with the following conditions:

- The Reactor Operator has just stopped withdrawing control rods and determined that the reactor is critical.
- Power is lost to the 1A IRM/1C IRM RECORDER.

Based on the above conditions, the 1A and 1C IRM alarms and trips are _____(1)_____ and you will direct the Reactor Operator to _____(2)_____.

A. (1) Non-Functional
(2) SCRAM the reactor

B. (1) Functional
(2) CONTINUE withdrawing control rods

C. (1) Non-Functional
(2) INSERT a half scram for the affected channel.

D. (1) Functional
(2) STOP all control rod motion and power changes.

Correct Answer D:
(1) Functional
(2) STOP all control rod motion and power changes.
Explanation: 1) The loss of power to the recorder does not affect the function of the 1A and 1C IRM alarms and trips. 2) This is the action directed by LOA-NR-101 for the conditions described.

Distracter A.:
(1) Non-Functional
(2) SCRAM the reactor

Distracter B.:
(1) Functional
(2) CONTINUE withdrawing control rods

Distracter C:
(1) Non-Functional
(2) INSERT a half scram for the affected channel.

Reason Distracters A/B/C are incorrect: The distracters are incorrect, but plausible actions that the Unit Supervisor might direct if not aware of the guidance in LOA-NR-101.

References:
LOA-NR-101, Revision 10 step B.4.1
1E-1-4210AP

Question 90 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.7 Instrumentation

System: 215003 IRM

K/A: A2.07 - Ability to (a) predict the impacts of the following on the INTERMEDIATE RANGE MONITOR (IRM) SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Failed

I.R.: 2.5 / 2.7 10CFR 55.43 Ref. (5)

License Level: SRO Cognitive Level: High

Objective: 042.00.21 PRA: No

Question Exposure:

1999-01 NRC License Exam

2005-01 CasOps 0A (07/14/2006)

07-01 NRC ILT Exam

Source: Bank question from LaSalle Casualty Ops

You are the Unit 1 Supervisor and Unit-1 is starting up with the following conditions:

- The Reactor Operator has just stopped withdrawing control rods and determined that the reactor is critical.
- Power is lost to the 1A IRM/1C IRM RECORDER.

Based on the above conditions, the 1A and 1C IRM alarms and trips are _____(1)_____ and you will direct the Reactor Operator to _____(2)_____.

A. (1) Non-Functional
(2) SCRAM the reactor

B. (1) Functional
(2) CONTINUE withdrawing control rods

C. (1) Non-Functional
(2) INSERT a half scram for the affected channel.

D. (1) Functional
(2) STOP all control rod motion and power changes.

Correct Answer D:
(1) Functional
(2) STOP all control rod motion and power changes.
Explanation: 1) The loss of power to the recorder does not affect the function of the 1A and 1C IRM alarms and trips. 2) This is the action directed by LOA-NR-101 for the conditions described.

Distracter A.:
(1) Non-Functional
(2) SCRAM the reactor

Distracter B.:
(1) Functional
(2) CONTINUE withdrawing control rods

Distracter C:
(1) Non-Functional
(2) INSERT a half scram for the affected channel.

Reason Distracters A/B/C are incorrect: The distracters are incorrect, but plausible actions that the Unit Supervisor might direct if not aware of the guidance in LOA-NR-101.

References:
LOA-NR-101, Revision 10 step B.4.1
1E-1-4210AP

Question 91 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.7 Instrumentation

System: 201006 RWM

K/A: A2.06 - Ability to (a) predict the impacts of the following on the ROD WORTH MINIMIZER SYSTEM (RWH) (PLANT SPECIFIC) ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Loss of reactor water level control input: P-Spec(Not-BWR6)

I.R.: 2.9 / 3.3 10CFR 55.43 Ref. (5)

License Level: SRO Cognitive Level: High

Objective: 048.00.21 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

- You are assigned to the position of Unit 1 Reactivity SRO.
- Unit 1 is starting up from a refueling outage and reactor power is 19% with the turbine on-line.
- "Blocks to Full" is NOT ENABLED

While withdrawing control rods, input corresponding to the Rod Worth Minimizer Low Power Alarm Point (LPAP) indicates power is above the LPAP, while Low Power Setpoint (LPSP) input indicates power is below the LPSP.

As the result of this condition, the RWM will _____(1)_____ and you must direct the crew to _____(2)_____

A. (1) automatically ENABLE control rod blocks
(2) STOP control rod movement, NOTIFY a Qualified Nuclear Engineer and RESOLVE the problem before continuing with control rod withdrawals.

B. (1) automatically DISABLE control rod blocks
(2) ACKNOWLEDGE the alarm, NOTIFY a Qualified Nuclear Engineer, MANUALLY ENABLE control rod blocks, THEN CONTINUE with control rod withdrawals.

C. (1) BLOCK all control rod movement
(2) VERIFY power below the Low Power Set Point (LPSP), NOTIFY a Qualified Nuclear Engineer, BYPASS the RWM, THEN CONTINUE with control rod withdrawals.

D. (1) LOCKUP, preventing all control rod movement
(2) VERIFY power is below the Low Power Alarm Set Point (LPAP), NOTIFY a Qualified Nuclear Engineer, BYPASS the RWM, THEN CONTINUE with control rod withdrawals.

Correct Answer A:
(1) automatically ENABLE control rod blocks
(2) STOP rod movement, NOTIFY a Qualified Nuclear Engineer and RESOLVE the problem before continuing with control rod withdrawals.
Explanation: PER LOP-RW-02, for the given alarm, the RWM will operate as if it is below the Low Power Set Point (blocks automatically enabled). The LOP directs the operator to stop rod movement, contact a QNE and resolve the problem before continuing.

Distracter B:
(1) automatically DISABLE control rod blocks
(2) ACKNOWLEDGE the alarm, NOTIFY a Qualified Nuclear Engineer, MANUALLY ENABLE control rod blocks, THEN CONTINUE with control rod withdrawals.

Distracter C:
(1) BLOCK all control rod movement
(2) VERIFY power below the Low Power Set Point (LPSP), NOTIFY a Qualified Nuclear Engineer, BYPASS the RWM, THEN CONTINUE with control rod withdrawals.

Distracter .D:
(1) LOCKUP, preventing all control rod movement
(2) VERIFY power is below the Low Power Alarm Set Point (LPAP), NOTIFY a Qualified Nuclear Engineer, BYPASS the RWM, THEN CONTINUE with control rod withdrawals.

Reason Distracters B/C/D are incorrect: The three distracters are incorrect, but plausible conditions and subsequent direction that the examinee could pick if they did not fully understand the impact of the alarming condition.

References:
System Lesson Plan 048, Rod Worth Minimizer
LOP-RW-02, RWM Error Messages and Corrective Action

Question 92 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.1 Reactivity Control

System: 201001 CRD Hydraulic

K/A: 2.2.42 - Equipment Control: Ability to recognize system parameters that are entry-level conditions for Technical Specifications.

I.R.: 3.9 / 4.6 10CFR 55.43 Ref. (2)

License Level: SRO Cognitive Level: High

Objective: 025.00.22 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New question developed for the 07-01 NRC Exam

Unit 2 is at rated power.

- Two control rod accumulator trouble alarms are received for two fully-withdrawn Control Rods within one minute, the first for HCU 22-11 and the second for HCU 10-19.

Investigation revealed that accumulator 22-11 has a pressure of 900 psig and accumulator 10-19 has high water level.

Assuming no in-field operator actions are taken, the Unit Supervisor is required to .....

(Reference material provided for this question)

A. declare ONLY the associated control rod for accumulator 22-11 inoperable within 1 hour.

B. declare ONLY the associated control rod for accumulator 22-11 inoperable within 8 hours.

C. declare the associated control rod for accumulator 22-11 inoperable immediately AND declare the associated control rod for accumulator 10-19 inoperable within 1 hour.

D. declare the associated control rod for accumulator 22-11 inoperable within 1 hour AND declare the associated control rod for accumulator 10-19 inoperable within 8 hours.

Correct Answer B:
declare ONLY the associated control rod for accumulator 22-11 inoperable within 8 hours.References:

Explanation: HCU 10-19 remains operable as the accumulator alarm was tied to high water level, not low accumulator pressure. HCU 22-11 is inoperable, due to pressure less than 940 psig. T.S. 3.1.5, Action A.2 requires that the accumulator be declared inoperable within 8 hours.

Distracter A:
declare ONLY the associated control rod for accumulator 22-11 inoperable within 1 hour.

Distracter C:
declare the associated control rod for accumulator 22-11 inoperable immediately AND declare the associated control rod for accumulator 10-19 inoperable within 1 hour.

Distracter D:
declare the associated control rod for accumulator 22-11 inoperable within 1 hour AND declare the associated control rod for accumulator 10-19 inoperable within 8 hours.

Reason distracters A/C/D incorrect: 1 hour time clocks are associated with having two accumulators inoperable at the same time per 3.1.5 Condition B. The examinee is required to differentiate operability based on high water level and low accumulator pressure.

References:
T.S. 3.1.3
T.S. 3.1.5
SR 3.1.5.1

Question 93 LaSalle 07-01 NRC ILT Exam

Safety Function: 3.2 Reactor Water Inventory Control

System: 204000 RWCU

K/A: A2.05 - Ability to (a) predict the impacts of the following on the REACTOR WATER CLEANUP SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Valve openings

I.R.: 2.7 / 2.8 10CFR 55.43 Ref. (5)

License Level: SRO Cognitive Level: High

Objective: 027.00.21 PRA: No

Question Exposure: 07-01 NRC Exam

Source: New Question developed for the 07-01 NRC ILT Exam

You are the Unit 1 Control Room Supervisor.

- Unit 1 is at rated conditions.
- The Unit 1 Reactor Water Clean-up (RWCU) system isolated 2 hours ago on an invalid signal and the operations crew responded in accordance with LOA-RT-101, Loss of RWCU System.
- The RWCU system pressure is 950 psig and rising as CRD purge is being used to raise RWCU system pressure to reactor pressure.
- A Chemistry technician wants to sample RWCU and just called requesting permission to open the following Process Stops:
  7) RWCU Header Sample Line 1A2 Panel Upstream Valve
  8) 1A RWCU Demin Discharge Sample Line 1A3-1 panel Upstream Valve
  9) 1B RWCU Demin Discharge Sample Line 1A3-2 Panel Upstream Valve
  10) 1C RWCU Demin Discharge Sample Line 1A3-2 Panel Upstream Valve

In accordance with LOA-RT-101, you are to _____(1)_____ permission to open the Process Stop valves in order to _____(2)_____.

A. (1) give
(2) restore the T&RM required conductivity recorders to operation.

B. (1) give
(2) allow sampling of the RWCU system to determine if Filter Demin damage or resin intrusion has occurred.

C. (1) deny
(2) prevent overflowing the sample sinks with the RWCU system isolated.

D. (1) deny
(2) prevent depressurizing the system and creating voids in the RWCU piping.

Correct Answer D:
(1) deny
(2) prevent depressurizing the system and creating voids in the RWCU piping.
Explanation: LOA-RT-101 directs that the Process Stops be closed in order to prevent depressurizing the RWCU system resulting in voids being formed in the system piping.

Distracter C:
(1) deny
(2) prevent overflowing the sample sinks with the RWCU system isolated.

Reason Distracter C is incorrect but plausible: There is no discussion in LOA-RT-101 which warns against overflowing sample sinks but the distracter is plausible if the examinee does not understand the how the sample system is arranged.

Distracter B:
(1) give
(2) allow sampling of the RWCU system to determine if Filter Demin damage or resin intrusion has occurred.

Distracter A:
(1) give
(2) restore the T&RM required conductivity recorders to operation.

Reason Distracters A and B are incorrect but plausible: The two distracters are incorrect as they conflict with the direction provided in LOA-RT-101 but are plausible as they touch on topics discussed in the LOA, such as resin intrusion, affects on the Filter Demins, and T&RM required sampling.

References:
LOA-RT-101, Loss of RWCU System

Question 94 LaSalle 07-01 NRC ILT Exam

Safety Function: Generic Knowledge and Abilities

System: 2.1 Conduct of Operations

K/A: 2.1.5 Ability to use procedures related to shift staffing, such as minimum crew complement, overtime limitations, etc.

I.R.: 2.9 / 3.9 10CFR 55.43 Ref. (5)

License Level: SRO Cognitive Level: High

Objective: 021.00.22 PRA: No

Question Exposure: 07-01 NRC Exam

Source: New Question developed for the 01-01 NRC Exam

Unit 1 and Unit 2 are both in Mode 5, Refuel

The following Non Licensed Operators are assigned to the on coming shift:
NLO 1
NLO 2
NLO 3
NLO 4
NLO 5
NLO 6
NLO 7
NLO 8

NLO 6 called in sick and will not be coming in for his shift.

NLO 9 and NLO 10 are available for call-out if needed.

With the remaining crew compliment, Technical Specification Fire Brigade staffing requirements ____(1)____ met and a callout of ____(2)____ is required.

(Reference material provided for this question)

A. (1) ARE
(2) NO One

B. 1) ARE NOT
(2) NLO 9 **or** 10

C. (1) ARE NOT
(2) NLO 9 ONLY

D. (1) ARE NOT
(2) NLO 10 ONLY

Correct Answer C:
(1) ARE NOT
(2) NLO 9 ONLY
Explanation: NLOs 2, 4, and 6 are not qualified. NLO 10 is available for call-out, but is also unqualified. This leaves only NLO 9 available for call out.

Distracter A.
(1) ARE
(2) NO One
Reason distracter A is incorrect: Only five NLOs are qualified and six are needed.

Distracter B.
(1) ARE NOT
(2) NLO 9 **or** 10

Distracter D.
(1) ARE NOT
(2) NLO 10 ONLY

Distracters B/D are incorrect as NLO is not qualified.

Reference:
OP-LA-101-111-1001
Qualification Matrix created for the exam

Question 95 LaSalle 07-01 NRC ILT Exam

Safety Function: Generic Knowledge and Abilities

System: Equipment Control

K/A: 2.2.36 Ability to analyze the effect of maintenance activities, such as degraded power sources, on the status of limiting conditions for operations.

I.R.: 3.1 / 4.2 10CFR 55.43 Ref. (2)

License Level: SRO Cognitive Level: High

Objective: 005.00.22 PRA: Yes

Question Exposure: 07-01 NRC ILT Exam

Source: LORT Exam Bank

Unit 1 is at 80% power. Unit 2 is in a refueling outage.
- At 0600 on May 11, the 0 (Common) DG is declared inoperable for maintenance.
- At 0650 on May 11, SR 3.8.1.1 is completed for the OPERABLE required offsite circuits.

Including any extensions permitted by Technical Specifications, which one of the following describes the LATEST time to complete the next performance of SR 3.8.1.1?

(Reference material provided)

A. 1450 on May 11

B. 1650 on May 11

C. 0650 on May 12

D. 1250 on May 12

Correct Answer B:
1650 on May 11
Explanation: ITS 3.8.1 Condition B applies. SR3.8.1.1 is required initially, and then at 8 hour frequencies. Since the completion time extension of 1.25% may be applied, 10 hours from the last performance.

Distracter A:
1450 on May 11

Distracter C:
0650 on May 12

Distracter D:
1250 on May 12

Distracters #1, #2, and #3 are incorrect but plausible times the examinee might select if the surveillance extension time is not understood.

References:
ITS 3.8.1 Condition B

Question 96 LaSalle 07-01 NRC ILT Exam

Safety Function: Generic Knowledge and Abilities

System: Radiation Control, 2.3.15

K/A: Knowledge of radiation monitoring systems, such as fixed radiation monitors and alarms, portable survey instruments, personnel monitoring equipment, etc.

I.R.: 2.9 / 3.1 10CFR 55.43 Ref. (4)

License Level: SRO Cognitive Level: High

Objective: 052.00.05 PRA: No

Question Exposure: 07-01 NRC Exam

Source: New Question developed for the 07-01 NRC ILT Exam

You are the Unit 1 Control Room Supervisor.

The refuel floor supervisor called to report that a radiated fuel bundle has been dropped in the Unit 1 Fuel Pool, and bubbles are being released from the fuel bundle and rising to the surface of the fuel pool.

The following annunciators are in alarm:
- 1H13-P601-E306 FUEL POOL VENT RAD HI
- 1H13-P601-F205 DIV 1 FUEL POOL RAD HI-HI
- 1H13-P601-E205 DIV 2 FUEL POOL RAD HI-HI

Unit 1 and Unit 2 remain at rated conditions.

Release rates have remained normal.

In response to this event you will enter ……

A. LOA-FH-001 “Irradiated Fuel Assembly Damage” ONLY.

B. LOA-FH-001 “Irradiated Fuel Assembly Damage” AND
LGA-002 Secondary Containment Control AND
LGA-009, Radioactivity Release Control ONLY.

C. LOA-FH-001 “Irradiated Fuel Assembly Damage” AND
LGA-002 Secondary Containment Control” AND
LGA-VG-101, “Secondary Containment Vent Control” ONLY.

D. LOA-FH-001 “Irradiated Fuel Assembly Damage” AND
LGA-002 Secondary Containment Control” AND
LGA-VG-101, “Secondary Containment Vent Control AND
LGA-VR-01, “Reactor Building Ventilation Startup Following System Isolation.

Correct Answer C:
LOA-FH-001 “Irradiated Fuel Assembly Damage” AND
LGA-002 Secondary Containment Control” AND
LGA-VG-101, “Secondary Containment Vent Control” ONLY.

Explanation: The examinee must be knowledgeable of the alarm setpoints of both the VR and FC rad monitors, how exceeding the alarm setpoints affects system operations, and the procedures required to be entered when the FC Rad Monitor setpoints are reached.
The report of a damaged fuel assembly requires entry into LGA-FH-001.
The examinee must also know and understand that the alarms for FC HI-HI rad indicates that a Max Normal condition has been exceeded and entry into LGA-002 is required. Exceeding the alarm setpoint will cause VR to isolate and VG to start. LGA-002 directs that LGA-VG-101 be entered if VR isolated due to a valid FC HI-HI rad condition. LGA-VR-101 is NOT entered if the FC Rad monitors have NOT reset. LGA-009 is not entered because release rates have remained normal and conditions in LGA-002 are not met to move to LGA-009.

Distracter A:
LOA-FH-001 “Irradiated Fuel Assembly Damage” ONLY.

Distracter B:
LOA-FH-001 “Irradiated Fuel Assembly Damage” AND
LGA-002 Secondary Containment Control AND
LGA-009, Radioactivity Release Control ONLY.

Distracter D.:
LOA-FH-001 “Irradiated Fuel Assembly Damage” AND
LGA-002 Secondary Containment Control” AND
LGA-VG-101, “Secondary Containment Vent Control AND
LGA-VR-01, “Reactor Building Ventilation Startup Following System Isolation.

References:
LOA-FH-001 “Irradiated Fuel Assembly Damage”
LGA-002 Secondary Containment Control”
LGA-009, Radioactivity Release Control

Question 97 LaSalle 07-01 NRC ILT Exam

Safety Function: Generic Knowledge and Abilities

System: 2.4 Emergency Procedures

K/A: 2.4.8 Knowledge of how abnormal operating procedures are used in conjunction with EOP's.

I.R.: 3.8 / 4.5 10CFR 55.43 Ref. (5)

License Level: SRO Cognitive Level: High

Objective: 400.00.12 PRA: No

Question Exposure:

1999-01 NRC ILT Exam

07-01 NRC ILT Exam

Source: LaSalle ILT Casualty Ops Exam Bank

Unit-1 has just scrammed due to a loss of the SAT
- LGP-3-2, Reactor Scram, is being performed
- LOA-AP-101, Unit-1, AC Power System Abnormal, is being performed

Two minutes later suppression pool temperature is 106°F and rising.

Which of the following describes the required actions to be directed by the Unit-1 Control Room Supervisor?

A. Concurrently enter LGA-003, Primary Containment Control and start all available pool cooling.

B. Exit LOA-AP-101 and enter LGA-003, Primary Containment Control and start all available pool cooling.

C. Continue LOA-AP-101 and LGP-3-2 and monitor suppression pool temperature, do NOT enter LGA-003, Primary Containment Control.

D. Exit LGP-3-2 and enter LGA-003, Primary Containment Control and monitor suppression pool temperature, do NOT start all available pool cooling.

Correct Answer A:
Concurrently enter LGA-003, Primary Containment Control and start all available pool cooling.
Explanation: LGA-003 is entered at 105°F while concurrently performing LGP 3-2 and LOA-AP-101. All available pool cooling is started if pool temperature can not be held below 105°F.

Distracter B:
Exit LOA-AP-101 and enter LGA-003, Primary Containment Control and start all available pool cooling.
Reason Distracter B is incorrect: LOA-AP-101 would not be exited in the given conditions.

Distracter C:
Continue LOA-AP-101 and LGP-3-2 and monitor suppression pool temperature, do NOT enter LGA-003, Primary Containment Control.
Reason Distracter C is incorrect: LGA-003 is entered at 105°F while concurrently performing LGP 3-2 and LOA-AP-101.

Distracter D:
Exit LGP-3-2 and enter LGA-003, Primary Containment Control and monitor suppression pool temperature, do NOT start all available pool cooling.
Reason Distracter D is incorrect: LGP 3-2 would not be exited in the given conditions.

References:
LGA-003, Primary Containment Control
LOA-AP-101
LGP 3-2

Question 98 LaSalle 07-01 NRC ILT Exam

Safety Function:

System: 2.2 Equipment Control

K/A: 2.2.23 Ability to track Technical Specification limiting conditions for operations.

I.R.: 3.1 / 4.6 10CFR 55.43 Ref. (2)

License Level: SRO Cognitive Level: High

Objective: 774.010 PRA: No

Question Exposure:

2003-01 ILT NRC Exam

2005-01 Casualty Ops Certification Level Exam 01

07-01 NRC Exam

Source: LaSalle ILT Casualty Ops Exam Bank

Unit-1 is in Mode 1 at 100% power:
- at 12:00 on June 1, the 1A RHR WS Pump is declared inoperable
- at 20:00 on June 1, the 1B RHR WS Pump is declared inoperable
- at 15:00 on June 2, the 1A RHR WS Pump is restored to OPERABLE

Including any extensions permitted by Technical Specifications, which one of the following is the latest time and date allowed to restore the 1B RHR WS Pump to OPERABLE status without entering a shutdown timeclock?

(Reference provided for this question)

A. 20:00 on June 1

B. 04:00 on June 2

C. 12:00 on June 8

D. 20:00 on June 8

Correct Answer C:
12:00 on June 8
Explanation: Examinee must recognize that 1A and 1B RHR WS pumps are in the same subsystem (pump numbering does NOT follow the normal numbering scheme) and therefore NO extensions apply. Per the Technical Specification Bases, both pumps in the same subsystem must be operable for the subsystem to be operable. When the first pump goes inoperable, start a 7-day clock per Required Action A.1. The second pump going inoperable does NOT affect the time clock. When the first pump is returned to operable, the subsystem remains inoperable because of the second pump and therefore the clock can NOT be reset. The clock will expire 7 days after the first pump goes inoperable (12:00 on June 8).

Distracter A:
20:00 on June 1

Distracter B:
04:00 on June 2

Distracter D:
20:00 on June 8

Reason Distracters A/B/D are incorrect: The distracters are incorrect because they assume that 1A and 1B pumps are in opposite subsystems and therefore incorrectly applies the 8-hour time clock per Required Action C.1.

NOTE: Technical Specification 3.4.9, Residual Heat Removal (RHR) Shutdown Cooling System - Hot Shutdown is NOT applicable in Mode 1, it is ONLY in Mode 3.

Reference:
Technical Specification 3.7.1, pages 3.7.1-1 and 3.7.1-2 and bases page B 3.7.1-1.

Question 99 LaSalle 07-01 NRC ILT Exam

Safety Function: Generic Knowledge and Abilities

System: 2.3 Radiation Control

K/A: 2.3.4 Knowledge of radiation exposure limits under normal or emergency conditions.

I.R.: 3.2 / 3.7 10CFR 55.43 (4)

License Level: SRO Cognitive Level: Memory

Objective: 701.001 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New Question developed for the 07-01 NRC ILT Exam

You are the Shift Manager with both Unit 1 and Unit 2 are operating at rated conditions:

- An accident has occurred on the refuel floor.
- An ALERT has been declared due to damage to irradiated fuel and the loss of water level in the fuel pool.
- The TSC is being staffed, however command and control has NOT been transferred from the Main Control Room.

A worker has been injured during the accident and has been verified to be located on the refuel bridge and has a high probability of survival if promptly treated for the injuries.

You have been requested to authorize an Emergency Exposure of 27 Rem TEDE for two emergency workers who have volunteered to rescue the injured person.

The emergency workers have been properly briefed in the field and are waiting in the reactor building for authorization to rescue the injured person.

Which of the following statements is correct regarding your authorization of the request in compliance with EP-AA-113, “Personnel Protective Actions” and based on the given conditions?

A. You can NOT authorize the request because the emergency workers will exceed the maximum allowable Emergency Exposure limit of 25 Rem TEDE.

B. You can NOT authorize the request as you are the Shift Emergency Director and approval can only be granted by the Station Emergency Director and may **not** be delegated.

C. You can verbally authorize the request after verifying that the emergency workers have acknowledged that they have volunteered and understand the associated risks, and Rad Protection Management has reviewed the situation.

D. You can authorize the request by signing EP-AA-113-F-02, “Authorization for Emergency Exposure” forms after verifying that the emergency workers have acknowledged that they have volunteered and understand the associated risks, and Rad Protection Management has reviewed the situation.

Correct Answer D:
You can authorize the request by signing EP-AA-113-F-02, “Authorization for Emergency Exposure” forms after verifying that the emergency workers have acknowledged that they have volunteered and understand the associated risks, and Rad Protection Management has reviewed the situation.

Explanation: This answer meets all of the requirements of EP-AA-113 and EP-AA-113-F-02.

Distracter A:
You can NOT authorize the request because the emergency workers will exceed the maximum allowable Emergency Exposure limit of 25 Rem TEDE.
Reason Distracter A is incorrect: Exposure above 25 Rem TEDE can be authorized.

Distracter B:
You can NOT authorize the request as you are the Shift Emergency Director and approval can only be granted by the Station Emergency Director and may **not** be delegated.
Reason Distracter #3 is incorrect: Per EP-AA-113-F-02, the Shift Emergency Director CAN authorize the request if transfer of command and control to the TSC is NOT complete.

Distracter C:
You can verbally authorize the request after verifying that the emergency workers have acknowledged that they have volunteered and understand the associated risks, and Rad Protection Management has reviewed the situation.
Reason Distracter C is incorrect: EP-AA-113 specifically requires SED approval by signature.

References:
EP-AA-113, “Personnel Protective Actions”
EP-AA-113-F-02, “Authorization for Emergency Exposure”

Question 100 LaSalle 07-01 NRC ILT Exam

Safety Function: Generic Knowledge and Abilities

System: Emergency Procedures/Plan

K/A: 2.4.29 Knowledge of the emergency plan.

I.R.: 3.1 / 4.4 10CFR 55.43 Ref (5)

License Level: SRO Cognitive Level: High

Objective: 708.001 PRA: No

Question Exposure: 07-01 NRC ILT Exam

Source: New question developed for the 07-01 NRC ILT Exam

Given the following:

- At 1200 the threshold value for an UNUSUAL EVENT was exceeded.
- At 1208 the threshold value for an ALERT was exceeded.
- At 1209 the Shift Emergency Director identified that an UNUSUAL EVENT was required to be classified.
- At 1213 while preparing to notify the required agencies of the UNUSUAL EVENT, the Shift Emergency Director identified that an ALERT EVENT was required to be classified.

Which of the following event declarations meets the reporting requirements as directed by EP-AA-111, “Emergency Classification and Protective Action Recommendations”?

Declaring an …..

1. ALERT at 12:15.
2. ALERT at 12:23.
3. UNUSUAL EVENT at 12:15, followed by an ALERT at 12:23.
4. UNUSUAL EVENT at 12:23, followed by an ALERT at 12:28.

A. 1 ONLY

B. 2 ONLY

C. 1 and 3 ONLY

D. 2 and 4 ONLY

Correct Answer C:
1 and 3 ONLY
Explanation: Per EP-AA-111, Once an indication of an abnormal condition is available, classification declaration must be completed within 15 minutes. If a higher classification is made prior to transmitting an event notification, then the higher classification can supercede the previous event notification provided that it can be performed within the 15 minute timeframe of the previous event. If the notification of a higher classification cannot be performed within the 15 minute timeframe of the previous event, then the previous event notification is required within its 15 minute timeframe, and the subsequent event notification is required within its 15 minute timeframe.

Distracter A:
1 ONLY
Reason Distracter #1 is incorrect: 3 also meets the reporting requirements.

Distracter B
2 ONLY
Reason Distracter #2 is incorrect: This reporting timeframe is based on a deadline of 15 minutes **after identification** of exceeding the threshold, not the time the threshold was met.

Distracter D:
2 and 4 ONLY
Reason Distracter #3 is incorrect: These reporting timeframes are based on a deadline of 15 minutes **after identification** of exceeding the threshold, not the time the threshold was met.

References:
EP-AA-111, “Emergency Classification and Protective Action Recommendations”