

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

1

ID: 24144

Points: 1.00

Given the following set of conditions on Unit 3:

- Single loop operation is in effect.
- 3A Recirc pump is secured.
- A leak develops causing Drywell pressure to rise to 3.3 psig, and it slowly continues to rise.
- LPCI loop select logic has just sent a trip signal to the 3B Recirc pump.
- RPV water level is currently 20 inches and slowly lowering.
- RPV pressure is currently 920 psig and slowly lowering.

Under these conditions, LPCI loop select logic will FIRST select a loop for injection when RPV ____ (1)____ drops to ____ (2)____ .

- A. (1) pressure;
(2) 350 psig
- B. (1) pressure;
(2) 870 psig
- C. (1) water level;
(2) +8 inches
- D. (1) water level;
(2) -59 inches

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 1 Details

Question Type: Multiple Choice
Topic: 01 - 295001.K2.05
System ID: 24144
User ID: 24144
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE203LN001.06
Reference: 12E-2437A, DAN 902-3 A-4
K/A: 295001.K2.05 3.2 / 3.6
K/A: Knowledge of the interrelations between Partial or Complete Loss of Forced Core Flow Circulation and the following: LPCI loop select logic: Plant-Specific CFR: 41.7
PRA: Yes
Pedigree: Bank
Level: High
History: 06-1 CERT EXAM
Explanation: With one pump running, a trip signal is sent to BOTH Recirc pumps immediately after loop select logic begins. To ensure accurate DP comparison is made between the two loops, the logic waits until RPV pressure drops below 900 psig to compare the loops. LPCI Loop select can be initiated due to either Drywell pressure or Reactor water level making all answers plausible. The question is higher order due to having to determine the impact of single loop operation on Loop Select logic.

REQUIRED REFERENCE: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

2

ID: 24145

Points: 1.00

Unit 2 was operating at near rated conditions, when the following occurred:

- Unit 2 experienced a Loss of Off-Site Power (LOOP).
- Unit 2 experiences a Reactor Scram
- Annunciator 902-8 E-4 2/3 DG OVERLOAD alarmed.
- Annunciator 902-8 D-4 2/3 DG GROUND FAULT alarmed.
- Annunciator 902-8 E-5 4KV BUS 24-1 OVERCURRENT alarmed.
- 2/3 DIESEL GENERATOR KILOWATT meter reads 2850 Kilowatts.

What action(s) is/are the NSO required to take?

- A. Dispatch an EO to open 2/3 D/G to Bus 23-1 ACB.
- B. Trip ALL loads connected to 2/3 DG, then close breakers one at a time to locate ground fault to prevent damage to the 2/3 EDG.
- C. Trip ALL loads connected to 2/3 DG, then close breakers one at a time to locate ground fault to prevent damage to the load when Off-Site power restored.
- D. Trip all UNNECESSARY loads connected to 2/3 DG, then close breakers one at a time to locate ground fault to prevent damage to the load when Off-Site power restored.

Answer: D

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 2 Details

Question Type:	Multiple Choice
Topic:	02 - 295003.K3.04
System ID:	24145
User ID:	24145
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	3
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: DRE264LN004.10 Reference: DAN 902-8 D-4, DAN 902-8 E-4 K/A: 295003.K3.04 3.0 / 3.2 K/A: Knowledge of the reasons for the following responses as they apply to Partial or Complete Loss of AC: Ground isolation. Level: High Pedigree: Bank History: 2007 NRC Explanation: The operator must determine which trips are bypassed with an automatic initiation signal vs a manual start. With the 2/3 EDG running via an AUTO start signal (LOOP), the actions required are to trip ALL unnecessary loads connected, then close breakers one at a time to locate ground fault to prevent damage to the load when Off-Site power restored.

REQUIRED REFERENCES: None.

3

Points: 1.00

Unit 3 was operating at near rated power, when Bus 33-1 tripped on overcurrent.

The 3A Pumpback compressor will have

- A. NO cooling water flow supplied to it.
- B. FULL cooling water flow supplied to it.
- C. partial cooling water flow supplied to it from 3A RBCCW Pump ONLY.
- D. partial cooling water flow supplied to it from 3B RBCCW Pump ONLY.

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 3 Details

Question Type: Multiple Choice
Topic: 03 - 295018.K1.01
System ID: 24251
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 0.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 223LN001.03
Reference: DOA 3700-01, DOP 1600-19
K/A: 295018.K1.01 3.5 / 3.6
K/A: Knowledge of the operational implications of the following concepts as they apply to Partial or Total Loss of CCW: Effects on component / system operations.
PRA: No
CFR: 41.8 to 41.10
Level: Memory
Pedigree: Bank
History:
Explanation:
This question meets the K/A because a partial loss of CCW has occurred on Unit 3 however, the Unit 3 Pumpback air compressors are cooled by Unit 2 RBCCW which is not effected. This examines the knowledge of the effect (or lack thereof) on Unit 3 pumpback air compressor operations. If Unit 2 experienced a loss of RBCCW, Unit 2 and 3 pumpback air compressors would lose cooling.
This question also tests the differences between the Units at Dresden Station, as cooling water for the Unit 3 Pumpback air compressors can ONLY be supplied from UNIT 2 (not Unit 3).
When Bus 33-1 is de-energized, the 3A RBCCW pump would lose electrical power, but there is no loss of cooling to the Pumpbacks.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

4

ID: 24148

Points: 1.00

Given the following conditions:

- Unit 2 is at full power.
- 2A and 2B Instrument Air Compressors (IAC) are running.
- 2A IAC trips due to low lube oil pressure.
- Unit 2 Instrument Air pressure is 78 psig and dropping slowly.
- An operator has been dispatched to start and align 3C IAC to Unit 2.

The reason for this action is to prevent the _____.

- A. FRVs from failing closed
- B. outboard MSIVs from drifting closed
- C. Target Rock from becoming inoperable in ERV mode
- D. Unit 2 Instrument Air to Unit 2 Service Air cross tie from opening

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 4 Details

Question Type: Multiple Choice
Topic: 04 - 295019.K3.02
System ID: 24148
User ID: 24148
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 278LN001.12
Reference: DOA 4700-01, LP DRE239LN001
K/A: 295019.AK3.02 3.5 / 3.4
K/A: Knowledge of the reasons for the following responses as they apply to PARTIAL OR COMPLETE LOSS OF INSTRUMENT AIR : Standby air compressor operation
CFR: 41.5
Safety Function: 8
PRA: No
Level: Memory
Pedigree: Bank
History:
Comments: High order due to having to determine the impact of loss of instrument air on the systems with U2 air not available and the flowpath for the use of U3 Instrument air.
a) Incorrect - The FRVs lock up on a loss of air pressure.
b) Correct - A reactor scram and manually closing the MSIVs is required on a loss of instrument air due to the potential of the MSIVs drifting closed.
c) Incorrect - The target rock would be inop in ERV mode with a loss of Drywell Pneumatics.
d) Incorrect - The Unit 2 IA to Unit 2 Service Air cross-tie would already be open (85 psig).

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

5

ID: 24153

Points: 1.00

Why is HPCI secured when the Torus level drops below 12 feet?

- A. To prevent exceeding ECCS Vortex limit.
- B. To prevent the suction from swapping to the Torus.
- C. To prevent the HPCI exhaust line from being uncovered.
- D. To conserve Torus water inventory for an ADS blowdown.

Answer: C

Question 5 Details

Question Type:	Multiple Choice
Topic:	05 - 295030.K2.01
System ID:	24153
User ID:	24153
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	1.00
Time to Complete:	2
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: 29502LK01 Reference: EPG B-7-51, TSG - 2, PSTG T/L-2.1 K/A: 295030.K2.01 3.8/3.9 K/A: Knowledge of the interrelations between LOW SUPPRESSION POOL WATER LEVEL and the following: HPCI: Plant-Specific. CFR: 41.7 PRA: Yes Level: Memory Pedigree: Bank History: 2011 Cert Comments: DEOP 200-1 requires HPCI to be secured if you cannot hold torus level above 12 feet so that the HPCI exhaust remains underwater and does not exhaust steam to the Torus air space. ECCS Vortex limit is 10'4 inches for the conditions stated in the question.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

6

Points: 1.00

Which of the following describes the **HIGHEST** RPV pressure where the Low Pressure Coolant Injection (LPCI) system INJECTION flow is expected, following an auto initiation signal?

- A. 280 psig
- B. 320 psig
- C. 360 psig
- D. 400 psig

Answer: B

Question 6 Details

Question Type:	Multiple Choice
Topic:	06 - 295007.K2.03
System ID:	24154
User ID:	
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	1.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: DRE206LN001.06 Reference: DAN 902-3 A-4, DAN 902-3 H-16 K/A: 295007.K2.03 3.1 / 3.2 K/A: High Reactor Pressure: Knowledge of the interrelations between HIGH REACTOR PRESSURE and the following: RHR/LPCI Level: Memory Pedigree: Bank History: Clinton 2001 NRC, 2008 NRC Comments: LPCI and Core Spray systems will start upon an initiation signal, but the injection valves will not open until RPV pressure drops to <312.4 psig to 332.4psig. This makes 330 psig the highest pressure that injection will occur.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

7

ID: 24246

Points: 1.00

Unit 3 was operating at near rated power, with TIP traces being performed. The TIP is in the process of being driven to the full in-core position, in MANUAL.

Then the following occurs:

- A small leak develops inside the Drywell.
- Drywell pressure is 1.45 psig and steady.

Drywell Rad Monitors read as follows:

- 3-2419A: 15 R/hr
- 3-2419B: 15 R/hr

Without Operator action, what is the expected response of the TIP system?

- A. Detector will CONTINUE to CORE TOP position, then stop.
- B. Detector will CONTINUE to CORE TOP position, then REVERSE direction and the ball valve remains open.
- C. Detector will immediately REVERSE direction and ball valve will close when the detector is "in-shield".
- D. Detector will CONTINUE to CORE TOP position, then REVERSE direction and the ball valve will close when the detector is "in-shield".

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 7 Details

Question Type: Multiple Choice
Topic: 07 - 295010.A2.03
System ID: 24246
User ID: 24246
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE223LN005.02
Reference: DAN 902-5 E-5, DOP 0700-06
K/A: 295010.A2.03 3.3 / 3.6
K/A: Ability to determine and/or interpret the following as they apply to HIGH DRYWELL PRESSURE: Drywell radiation levels.
Level: Memory
Pedigree: Bank
History: 2006 NRC
Explanation: While the Drywell pressure is an abnormal level (1.5 psig), it is not to the level to cause a Group II isolation (1.8 psig). TIPS will only withdraw to in-shield position, if a Group II was received (not received by Drywell pressure). Ball valves will close only if a Group II was received. The TIPS will not reverse direction given the conditions in the stem.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

8

ID: 24157

Points: 1.00

Unit 2 was operating at near rated power when a LOOP occurred, resulting in the following set of conditions:

- HPCI failed to inject.
- 2/3 EDG failed to start.
- Three (3) ADS valves are open.
- 2B Core Spray pump failed to start.
- RPV pressure is 275 psig and lowering.
- RPV water level is -110 inches and rising.

Core cooling is

- A. assured due to the core being submerged.
- B. assured due to the steam cooling effects of the open SRVs.
- C. NOT assured due to ONLY 3 ADS valves open.
- D. NOT assured due to only two LPCI pumps injecting.

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 8 Details

Question Type: Multiple Choice
Topic: 08 - 203000.K5.02
System ID: 24157
User ID: 24157
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 3
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 299LN049-2
Reference: TSG Attach L, DEOP 0010-00
K/A: 203000.K5.02 3.5 / 3.7
K/A: Knowledge of the operational implications of the following concepts as they apply to RHR/LPCI:
INJECTION MODE: Core cooling methods.
Level: High
Pedigree: Bank
History: 2009 Cert
Explanation: With a LOOP, the Unit scrams. With the loss of HPCI, Bus 23-1 (2/3 EDG failure), and 2B Core Spray pump, the only possible injection source is 'C' and 'D' LPCI pumps. With RPV pressure <340, the LPCI pumps are allowed to inject. This injection is sufficient to provide core submergence. Top of active fuel is not reached until -143 inches (with RPV pressure less than 500 psig). Steam cooling would not come into effect unless RPV level was less than -164 inches (with RPV pressure less than 500 psig).

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

9

Points: 1.00

Unit 2 was operating at near rated power and the Operating team is preparing to perform DOS 2300-03, HIGH PRESSURE COOLANT INJECTION SYSTEM OPERABILITY AND QUARTERLY IST VERIFICATION TEST.

Which of the following can be expected during the surveillance?

A Torus water

- A. level rise of 5 to 10 inches.
- B. level drop of 5 to 10 inches.
- C. temperature rise of 5 to 10°F.
- D. temperature rise of 15 to 20°F.

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 9 Details

Question Type: Multiple Choice
Topic: 09 - 206000.A1.05
System ID: 24158
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE206LN001.02
Reference: DOS 2300-03
K/A: 206000.A1.05 4.1 / 4.2
K/A: Ability to predict and/or monitor changes in parameters associated with operating the HIGH PRESSURE COOLANT INJECTION SYSTEM controls including: Suppression pool temperature.
Level: Memory
Pedigree: Bank
History: 2009 Cert
Explanation: The answer can be found in the limitations and actions of the above procedure. When HPCI is run for a surveillance, its suction is from the CSTs and its discharge is to the CSTs. HPCI does cause a small temperature increase (5 to 10 degrees), but since the suction and discharge is the same, there is no significant change in Torus level.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

10

Points: 1.00

Unit 2 was operating at near rated power when an RPV water level transient occurred.

HPCI auto started and is being utilized for RPV water level control.

Annunciator 902-3 A-12, HPCI COND STG TK LVL LO LO alarmed.

What is the expected response of the HPCI system and what actions must the Operating team take to mitigate the consequences of the event?

- A. The CST suction valve closes;
Swap U2 HPCI suction to U3 Torus.
- B. The U2 HPCI system loses suction but does NOT trip;
Manually trip the U2 HPCI turbine.
- C. Both U2 Torus suction valves open, THEN the CST suction valve closes;
Place Makeup Demineralizer in service to raise CST water level, if available.
- D. The CST suction valve remains open and both U2 Torus suction valves open;
Place Makeup Demineralizer in service to raise CST water level, if available.

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 10 Details

Question Type: Multiple Choice
Topic: 10 - 206000.A2.09
System ID: 24159
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE206LN001.06
Reference: DAN 902-3 A-12, A-11
K/A: 206000.A2.09 3.5 / 3.7
K/A: Ability to (a) predict the impacts of the following on the HIGH PRESSURE COOLANT INJECTION SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: †Low condensate storage tank level: BWR-2,3,4.
Level: Memory
Pedigree: Bank
History: 2009 NRC
Explanation: With HPCI injecting, when the CST level low alarm comes in, the U2 Torus suction valves fully open THEN the CST suction valve closes (to maintain a suction path). Then the Operating team is directed by the procedure to refill the CSTs with the Makeup Demins, if available. With an auto start of the HPCI system the low suction pressure trip is bypassed as well as the 2301-8 will not close.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

11

ID: 24194

Points: 1.00

Given the following:

- A scram has occurred on U3.
- Rx level is +15 inches and dropping at 2 inches per minute.
- DW Pressure is 1.7 psig and rising 0.1 psig per minute.

Which DEOP 100 Entry condition will be reached FIRST, and which system(s) will have had automatic initiations/isolations when that entry condition is met?

<u>ENTRY CONDITION</u>	<u>SYSTEM AUTO INITIATIONS AND/OR ISOLATIONS</u>
A. Rx Level	SDC, RWCU
B. Rx Level	HPCI, RWCU
C. DW Pressure	HPCI, EDG's, SDC
D. DW Pressure	HPCI, DW pneumatics, EDG's

Answer: D

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 11 Details

Question Type:	Multiple Choice
Topic:	11 - 295006.G4.02
System ID:	24194
User ID:	24194
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: DRE209LN001.06 Reference: DEOP 100, DAN 902(3)-5 D-11 K/A: 295006.G.4.02 SCRAM: Knowledge of system set points, interlocks and automatic actions associated with EOP entry conditions CFR: Safety Function: 1 PRA: N/A Level: High Pedigree: New History: N/A Comments:</p> <p>a) Is incorrect due to Rx level reaching the DEOP entry at 3.5 minutes b) Is incorrect due to Rx level reaching the DEOP entry at 3.5 minutes as well as HPCI does not initiate until -59 inches c) Is incorrect due to RWCU's isolate on a group 3 for level but not on a 2 # signal d) Correct due to drywell pressure reaching 2# in 3 minutes causing HPCI to initiate, EDG's to start, and a GR II isolation causing loss of DW pneumatics</p>

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

12

ID: 24203

Points: 1.00

Unit 2 was operating at 30% when a spurious turbine trip occurred.

Which of the following best describes the plant reactor pressure response with respect to this transient three minutes after the turbine tripped?

- A. RPV pressure goes up and stabilizes at a higher than initial value
- B. RPV pressure goes down and stabilizes at a lower than initial value
- C. RPV pressure initially goes up then stabilizes at a lower than initial value.
- D. RPV pressure initially goes down and stabilizes at a higher than initial value.

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 12 Details

Question Type:	Multiple Choice
Topic:	12 - 295005 A02.04
System ID:	24203
User ID:	24203
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: 245LN001.06.B Reference: UFSAR Figure 7.7-4a, DGP 2-3 K/A: 295005 A2.04 3.7/3.8 K/A: Ability to determine and/or interpret the following as they apply to MAIN TURBINE GENERATOR TRIP: Reactor Pressure CFR: 41.10 Safety Function: 3 PRA: No Level: High Pedigree: New History:</p> <p>Comments: Pressure and power will initially go up due to loss of FW heating loss. After the plant stabilizes the pressure will be at a higher new value due to the positive bias and high value gate in the EHC logic. A) Correct- RPV pressure will initially go up and then stabilize at a slightly higher value due to bypass valves being biased. This will cause the bypass valves to allow less steam flow from the RPV to the main condenser, therefore RPV pressure will be maintained slightly higher than the pre transient value. B) Incorrect - RPV pressure will not go down initially. Bypass valves will maintain RPV pressure slightly higher than the initial value. C) Incorrect - RPV pressure will initially go up and then stabilize at a slightly higher value due to bypass valves being biased. This will cause the bypass valves to allow less steam flow from the RPV to the main condenser, therefore RPV pressure will be maintained slightly higher than the pre transient value. D) Incorrect - RPV pressure initially go up with turbine stop and control valve closure. RPV pressure will not lower below the initial pre transient value during the time period specified.</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

13

ID: 24265

Points: 1.00

The following alarms are received on the XL3 fire computer.

- 71-24 MAIN TRANSFORMER T3 SYSTEM FIRE
- 71-27 U-3 TRANSFORMERS DELUGE TROUBLE

Upon arriving at the scene you would expect to find:

- A. the local area temperature recorder reading 175 degrees ONLY.
- B. a local high temperature alarm sounding on fire panel 2253-45 ONLY.
- C. transformer 3 deluge system activated without a local alarm sounding on fire panel 2253-45.
- D. transformer 3 deluge system activated, and local alarms sounding from system actuation and high temperature on fire panel 2253-45.

Answer: D

Question 13 Details

Question Type:	Multiple Choice
Topic:	13 -600000.G.1.19
System ID:	24266
User ID:	24265
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: 286LN003.11 References: DAN XL3 71-24 and 71-27 K/A: 600000.G.2.1.19 3.9/3.8 K/A: Plant Fire On Site: Ability to use plant computers to evaluate system or component status. Level: High Pedigree: Bank History: N/A Comments: With both alarms in, a deluge condition on TR3 has occurred and not just a trouble alarm. Therefore the actions of DAN SL-3, 71-24 are required to be verified: transformer 3 deluge system activated and local alarms sounding from system actuation and high temperature on fire panel 2253-45.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

14

ID: 24204

Points: 1.00

Unit 2 is operating at rated power when a transient occurred resulting in the following conditions:

- Drywell pressure is 6 psig
- All MSIVs are closed
- All rods are in
- RPV pressure is 600 psig and steady
- RPV level is trending down

When is the **EARLIEST** an Emergency Depressurization can be performed and why?

- A. When RPV level reaches -143" to maintain PCT < 1500F
- B. When RPV level reaches -170" to maintain PCT < 1500F
- C. When RPV level reaches -185" to maintain PCT < 1800F
- D. When RPV level reaches -204" to maintain PCT < 1800F

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 14 Details

Question Type:	Multiple Choice
Topic:	14 - 295031 K03.05
System ID:	24204
User ID:	24204
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: 29501LK028 Reference: EPG Appendix B Chapter 10, EPG Appendix B Chapter 17 K/A: 295031 K03.05 4.2/4.3 K/A: Knowledge of the reasons for the following responses as they apply to REACTOR LOW WATER LEVEL: Emergency Depressurization CFR: 41.5 Safety Function: 2 PRA: No Level: High Pedigree: New History: Comments: While the bases for the blowdown is expected to be from memory, the candidate must work through the DEOP charts to determine when the blowdown is required. A) Incorrect - With RPV pressure > 500 psig, TAF is -170". ED due to RPV level prior to reaching TAF is not permitted by procedure B) Correct. With RPV pressure > 500 psig, TAF is -170". Per EPGs, an ED may be performed when RPV level reaches TAF and MUST be performed prior to reaching MSCRWL (-164") C) Incorrect - With injection sources available, Steam Cooling without injection is not permitted, therefore PCT limit of 1800F is not correct. Also, -185" is Minimum Zero Injection RPV Water Level when RPV Pressure is < 500 Psig D) Incorrect - With injection sources available, Steam Cooling without injection is not permitted, therefore PCT limit of 1800F is not correct. If Steam Cooling without injection were employed, the correct level to perform an ED would be -204".</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

15

Points: 1.00

DOA 3300-02, Loss of Condenser Vacuum, actions are in progress due to lowering vacuum on Unit 2.

The Unit 2 NSO reports offgas system flow is HI.

Based on the offgas flow, what actions are directed by DOA 3300-02?

- A. Bypass the filter building.
- B. Secure hydrogen addition.
- C. Swap cooler condenser trains.
- D. Start all available condensate pumps.

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 15 Details

Question Type: Multiple Choice
Topic: 15 - 295002 A01.02
System ID: 24202
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 271LN001.11
Reference: DOA 3300-02
K/A: 295002 A01.02 2.9/2.9
K/A: Ability to operate and/or monitor the following as they apply to LOSS OF MAIN CONDENSER VACUUM: Offgas System
CFR: 41.7
Safety Function: 3
PRA: No
Level: Memory
Pedigree: New

Comments:
A) Correct - Per DOA 3300-02, if offgas flow is HIGH, bypass the filter building.
B) Incorrect - Per DOA 3300-02 securing H2 addition would cause flow to increase flow by 20 scfm.
C) Incorrect - Condensate is the cooling for the Off Gas condenser but starting additional pumps would not help loss of vacuum.
D) Incorrect - DOA 3300-02 does not provide guidance for swap of cooler condenser trains.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

16

ID: 23505

Points: 1.00

The SPDS screen RADIATION RELEASE box will be _____ if the Liquid effluent radiation output signal is/are above the action setpoint.

- A. RED
- B. BLUE
- C. CYAN
- D. YELLOW

Answer: A

Question 16 Details

Question Type:	Multiple Choice
Topic:	16 - 295038.A.2.03
System ID:	23505
User ID:	23505
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	1.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: 283LN002.03 Reference: DOP 9950-17 K/A: 295038.A 2.03 3.5 / 4.3 K/A: High Off-Site Release Rate: Ability to determine and/or interpret the following as they apply to High Off-site Release Rate: Radiation levels. Level: Memory Pedigree: Bank History: 2013 Cert Explanation: RED: SPDS parameter in Alarm condition. BLUE: There are NOT a sufficient number of required instrumentation channels operable for monitoring a given SPDS parameter. CYAN: SPDS parameter is invalid parameter. YELLOW: Pre alarms (low and high).

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

17

ID: 331982

Points: 1.00

Which of the following statements describes how EDG will respond to a start signal if the Upper air start motor does NOT engage?

- A. With only one of the two air start motors turning the engine, there is insufficient speed to start the engine.
- B. Air will NOT be ported to the Air Start Relay valve to open the valve and allow the main air supply to drive the starting motors.
- C. Without the Upper air start motor engaged, a vent path to atmosphere is NOT provided and the Lower air start motor will lock-up pneumatically.
- D. The diesel generator will start normally. Two air start motors are provided for redundancy, but only one motor is needed to allow starting the engine.

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 17 Details

Question Type:	Multiple Choice
Topic:	17 - 264000 K1.06
System ID:	24198
User ID:	331982
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	1.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Topic: 264000 K1.06 Objective: DRE264LN00.02 Reference: DOS 6600-01 K/A: 264000 K1.06 3.2/3.2 K/A: EDGs: Knowledge of the physical connections and/or cause-effect relationships between EDGs and the following: Starting system. CFR: 41.2 to 41.9 Safety Function: 6 PRA: Yes Level: Memory Pedigree: Bank History: Comments:</p> <p>When the D/G is started, the air start solenoid is powered, allowing air from the air receivers to pass through the solenoid valve to the pinion gear end of the lower start motor. This causes the pinion gear to move forward and engage the ring gear.</p> <p>Movement of the pinion gear uncovers a port that allows air passage to the upper motor, engaging its pinion gear. Only when both pinion gears are engaged does air reach the air start relay valve that then opens the main air supply to drive each of the starting motors.</p> <p>If the main air supply does <u>NOT</u> reach the air start motors in two seconds as sensed by the multiple start pressure switch, the air start solenoid will re-power to start the sequence again. This multiple start sequence will continue until the D/G reaches 200 RPM.</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

18

ID: 323660

Points: 1.00

While performing the weekly battery checks of the Unit 2 250 Vdc safety related battery, which of the following values is an acceptable voltage if the battery charger is operating in the FLOAT mode?

- A. 260.0 Vdc
- B. 262.0 Vdc
- C. 264.0 Vdc
- D. 266.0 Vdc

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 18 Details

Question Type: Multiple Choice
Topic: 18 - 263000 G2.12
System ID: 24197
User ID: 323660
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Topic: 263000 G.2.12
Objective: 263LN001.14
Reference: DOS 8300-07
K/A: 263000 G.2.12 3.7/4.1
K/A: DC Electrical Distribution; Knowledge of surveillance procedures.
CFR 41.10
Safety Function: 6
PRA: Yes
Level: Memory
Pedigree: Bank
History: LGS NRC-05
Comments:

Per DOS 8300-07, Float voltage should be adjusted to within the range of 262.8 to 265.2 VDC.

- a) incorrect below the lower limit of 262.8 VDC
- b) incorrect below the lower limit of 262.8 VDC
- c) correct above the lower limit of 262.8 VDC and below the upper limit of 265.2 VDC
- d) incorrect above the upper limit of 265.2 VDC

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

19

ID: 24258

Points: 1.00

Unit 2 and Unit 3 are operating at near rated power when Transmission Systems Operations (TSO) notifies the Control Room that the predicted post Unit trip with LOCA switchyard voltages are:

- Unit 2: 325 KV
- Unit 3: 350 KV

What are the required actions from the Operating team AND the reason for these actions?

- A. Adjust TR 32 Tap Changer;
to restore system operability
- B. Adjust TR 32 Tap Changer;
to reduce circulating currents
- C. Adjust TR 86 Tap Changer;
to restore system operability
- D. Adjust TR 86 Tap Changer;
to reduce circulating currents

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 19 Details

Question Type: Multiple Choice
Topic: 19 - 700000.K1.03
System ID: 24258
User ID: 24258
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 0.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE262LN003.12
Reference: DOA 6500-12
K/A: 700000.K1.03 3.3 / 3.4
K/A: Knowledge of the reasons for the following responses as they apply to GENERATOR VOLTAGE AND ELECTRIC GRID DISTURBANCES: Actions contained in abnormal operating procedure for voltage and grid disturbances.
CFR: 41.10
Safety Function: 7
PRA: Yes
Level: High
Pedigree: Bank
History: ILT 11-1 NRC
Explanation: Given the voltages, only Unit 2 is below the procedural setpoint. TR-32 would be adjusted for Unit 3; TR-86 would be adjusted for Unit 2. The actions are to adjust the TR-86 Tap Changer (to position 31) to raise VOLTS (not VARs) to restore system operability.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

20

Points: 1.00

Which of the following sets of parameters are within the capacity of the Torus to accept a Blowdown?

Torus water level of ___(1)___ ft
RPV pressure of ___(2)___ psig
Torus bulk temperature of ___(3)___ °F

- A. (1) 16.5;
(2) 500;
(3) 180
- B. (1) 16.5;
(2) 600;
(3) 175
- C. (1) 17.5;
(2) 350;
(3) 170
- D. (1) 17.5;
(2) 400;
(3) 150

Answer: D

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 20 Details

Question Type:	Multiple Choice
Topic:	20 - 295026.G1.25
System ID:	24200
User ID:	
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: DRE223LN001.12 Reference: DEOP 200-01, TSG K/A: 295026.G1.25 3.9 / 4.2 K/A: SUPPRESSION POOL HIGH WATER TEMPERATURE: Ability to interpret reference materials, such as graphs, curves, tables, etc. Level: High Pedigree: Bank History: 2010 NRC Explanation: The only above set of parameters that are NOT outside the capacity of the Torus to accept a Blowdown are a Torus Water level of 17.5 ft, with an RPV pressure of 400 psig and a Torus bulk temperature of 150°F. The Examinee will have to utilize both the Heat Capacity Limit curves to decide which set of parameters do NOT violate the curves.</p> <p>REQUIRED REFERENCES: DEOP 200-1 figure M (Heat Capacity Limit) and TSG attachment G (Optimized Limit Curve).</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

21

ID: 24196

Points: 1.00

U2 is operating at 90% Reactor Power when an inadvertant Group I occurs.

10 seconds later Rx water level will have_____ due to _____.

- A. risen Iso Condenser initiation
- B. risen MSIV closure preventing inventory loss
- C. dropped ERV open actuation
- D. dropped Inventory shrink after the SCRAM

Answer: D

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 21 Details

Question Type:	Multiple Choice
Topic:	21 - 295020 K3.05
System ID:	24196
User ID:	24196
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: 223LN005.12A Reference: UFSAR figure 15.2-2, UFSAR table 15.0-2 K/A: 295020 K3.05 K/A: Knowledge of the reasons for the following responses as they apply to Inadvertant Cont. Isolation: Reactor water level response. CFR: 41.5 Safety Function: 5 & 7 PRA: No Level: High Pedigree: New History: Comments: Higher order due to having to evaluate system interrelationships and actuation time limits and the overall impact on reactor water level over time. a) incorrect Iso condenser will not have initiated in the first 10 seconds b) incorrect MSIV will stop the loss of inventory, but level will still decrease due to shrinkage voids collapsing. c) incorrect ERVs will not open with all rods in, with a group 1 at this power. d) correct level will decrease due to shrink, and voids will collapse due to pressure spike.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

22

ID: 13188

Points: 1.00

Unit 3 was operating at 400 MWe, with the 3A CRD pump out of service for an oil change, when the following events occurred:

- Time 02:15:00 - Bus 34 experienced an overcurrent fault.
- Time 02:19:00 - CRD F-06 ACCUMULATOR TROUBLE light illuminated and is verified at position 28.
- Time 02:20:00 - CRD N-09 ACCUMULATOR TROUBLE light illuminated and is verified at position 32.
- Time 02:23:00 - EO reported CRD F-06 accumulator pressure was 900 psig.
- Time 02:24:00 - EO reported CRD N-09 accumulator pressure was 880 psig.

If the above conditions do NOT change, at time 02:44:00, what action(s) is/are required?

- A. Place the Reactor Mode switch in SHUTDOWN and enter DGP 02-03.
- B. Restore charging water header pressure to ≥ 940 psig by time 03:20:00.
- C. Insert BOTH Control Rod F-06 AND N-09 with the Scram toggle switches.
- D. Insert EITHER Control Rod F-06 OR N-09 with the Scram toggle switches.

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 22 Details

Question Type: Multiple Choice
Topic: 22 - 295022.K1.01
System ID: 24260
User ID: 13188
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 0.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE201LN001.12
Reference: DOA 0300-01
K/A: 295022.K1.01 3.3 / 3.4
K/A: Knowledge of the operational implications of the following concepts as they apply to LOSS OF CRD PUMPS: Reactor pressure vs. rod insertion capability.
Level: High
Pedigree: Bank
History: 2008 NRC
Comments: The candidate must understand with the reactor in mode 1 (indicated by full power) and a loss of all charging water pressure being lost for 20 minutes (indicated by 3A CRD pump out of service and 3B being lost when Bus 34 de-energizes) and a two or more CRD trouble alarms for low pressure, for CRDs not at position 00, the correct action is to place the mode switch in SHUTDOWN and enter DGP 02-03. Restoring charging water pressure is not the action to take since the 20 minute procedural time has already expired.
Inserting any CRD with the scram toggle switch is not the appropriate action, since the reactor is NOT in mode 3, 4, or 5.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

23

ID: 24206

Points: 1.00

Unit 2 was operating at rated power when the following occurred:

- A SCRAM signal was received
- ALL rods did NOT fully insert
- ARI was initiated and was unsuccessful
- All APRMs indicate downscale
- Torus Temperature is 112F
- Drywell Pressure is 2.7 psig
- RPV level is being controlled at -40 inches

If power was rising, when would the control room operators **FIRST** be required to TERMINATE and PREVENT INJECTION?

- A. IRM reading 110 on range 8.
- B. IRM reading 20 on range 9
- C. IRM reading 60 on range 10
- D. IRM reading 100 on range 10.

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 23 Details

Question Type:	Multiple Choice
Topic:	23 - 295037 A1.06
System ID:	24206
User ID:	24206
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: DRE215LN003.03 Reference: As described in LP, DGP 1-1 K/A: 295037 A1.06 4.1/4.1 K/A: Ability to operate and/or monitor the following as they apply to SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN: Neutron monitoring system CFR: 41.7 Safety Function: 1 PRA:Yes Level: High Pedigree: New History: Comments: The operator must first determine the conditions necessary for a terminate and prevent order. Given in the stem all conditions with the exception of reactor power are given necessary to invoke the second override in the level control leg of DEOP 400-5. When Reactor power exceeds APRM downscale (6%, 177MWth), the requirements to terminate and prevent injection are met. A) Incorrect - 110/125 on Range 8 equates to 110 MWth. APRM downscale is 177MWth B) Correct - 20/40 on Range 9 equates to 200 MWth. APRM downscale is 177MWth C) Incorrect - 60/125 on Range 10 is 600MWth. APRM downscale is 177MWth. D) Incorrect - 100/125 on Range 10 is 1000MWth. APRM downscale is 177MWth.</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

24

ID: 24205

Points: 1.00

A steam leak has developed in the Unit 3 X-Area.

Which combination of temperature and trip channels will **FIRST** result in a PCIS actuation?

- A. 180F sensed on channel A OR B
- B. 190F sensed on channel A OR B
- C. 200F sensed on channels A AND B
- D. 210F sensed on channels A AND B

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 24 Details

Question Type: Multiple Choice
Topic: 24 - 295032 K01.03
System ID: 24205
User ID: 24205
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 223LN005.02
Ref: DAN 920(3)-5 D-9
K/A: 295032 K01.03 3.5/3.9
K/A: Knowledge of the operation implication of the following concepts as they apply to High Secondary Containment Area Temperature: Secondary Containment Leakage Detection
CFR: 41.8
Safety Function: 5
PRA: No
Level: Recall
Pedigree: New
History:
Comments: All distracters are plausible due to High Energy Line Break for the RWCU area and X-Area are actuated with a single channel high.
A) Incorrect - 180F is within the setpoint band for channel actuation, BOTH channels are required for PCIS actuation
B) Incorrect - 190F is above the setpoint band for channel actuation however, BOTH channel are required for PCIS actuation
C) Correct - Temperature is above setpoint and both channels will actuate resulting in a PCIS actuation
D) Incorrect - Although conditions to actuate PCIS GRP I are met, this will occur after 210F therefore this answer is not the FIRST to occur.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

25

ID: 24201

Points: 1.00

Given the following conditions:

- Unit 2 startup in progress
- Rx Pressure is 950 psig
- Core flow is 30%
- Both recirc loops in operation

A feedwater transient occurs on Unit 2.

Which one of the following violates a reactor core Safety Limit under these conditions?

- A. MCPR at 1.08
- B. Rx power rises to 30%
- C. RPV level drops to -130 inches
- D. Steam dome pressure rises to 1300 psig

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 25 Details

Question Type: Multiple Choice
Topic: 25 - 295014 G2.38
System ID: 24201
User ID: 24201
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 299LN001.03
Reference: TS 2.0
K/A: 295014 G2.38
K/A: Inadvertent Reactivity Addition: Knowledge of conditions and limitations in the facility license.
Level: Memory
Pedigree: New
History:
Explanation: Per TS 2.1.1.2, MCPR is required to be ≥ 1.12 for 2 loop operation. The safety limit for level is TAF. Power must be $< 25\%$ if pressure is < 785 psig and core flow is $\geq 10\%$ rated core flow. Pressure safety limit is 1345 psig.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

26

Points: 1.00

Unit 2 was operating in MODE 3, with the following set of conditions:

- SDC in operation, with the 2B pump and heat exchanger in service.
- RBCCW in operation, with the 2B AND 2/3 pumps and heat exchangers in service.

The following annunciators are then received:

- Time 05:15:00; 902-4 A-23, SDC HX/FUEL POOL WTR TEMP HI.
- Time 05:25:00; 902-4 B-23, SDC PP TRIP.

Which of the following actions could have caused the **SDC Pump** to trip?

- A. Loss of U2 250 VDC.
- B. Bus 23-1 undervoltage.
- C. Trip of the 2B RBCCW pump.
- D. The 2B SDC pump discharge AOV drifting closed.

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 26 Details

Question Type: Multiple Choice
Topic: 26 - 295021.K2.04
System ID: 24149
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 3
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE205LN001.06
Reference: DAN 902-4 B-23
K/A: 295021.K2.04 3.0 / 3.1
K/A: Knowledge of the interrelations between LOSS OF SHUTDOWN COOLING and the following: Component cooling water systems: Plant-Specific.
Level: High
Pedigree: Bank
History: 2008 NRC
Comments: With the conditions given, only a trip of the 2B RBCCW pump would cause the SDC pump to trip. This occurs because after the RBCCW pump trips, the SDC temperatures start to rise (as indicated by both annunciators). When the SDC temperature reaches 339°F at the suction of the pumps, this causes the SDC pump to trip. Loss of U2 250 VDC would not effect the system flows. U2 SDC cooling valves are fed from U3 250 VDC and would fail as is. Closing of the 2B SDC pump discharge valve is incorrect as it would cause SDC pump suction pressure to increase (which is the opposite of the SDC pump trip on LOW suction pressure). Bus 23-1 undervoltage is incorrect as the pumps listed as operating in the initial conditions are powered from Bus 24-1 (common misconception of power supplies since both the SDC and RBCCW systems have 3 pumps - with opposite power supplies from each other).

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

27

ID: 295023.K1.03

Points: 1.00

Unit 3 is in Mode 5 with fuel moves in progress. SRM counts begin to steadily go up and continue to go up over a 5 minute period in the quadrant containing the fuel moves.

How are fuel moves affected?

- A. Fuel moves may continue. SRM response is expected for these conditions.
- B. Fuel moves may continue. The grapple may be lowered, but NOT raised.
- C. Fuel moves may continue. The grapple may be raised, but NOT lowered.
- D. Stop ALL fuel moves. Do NOT attempt to raise or lower the grapple.

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 27 Details

Question Type: Multiple Choice
Topic: 27 - 295023.K1.03
System ID: 24256
User ID: 295023.K1.03
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE272LN002.06
Reference: DOA 0800-03, DFP 800-1
K/A: 295023K1.03 3.7/4.0
K/A: Knowledge of the operational implications of the following concepts as they apply to REFUELING ACCIDENTS: Inadvertant criticality
CFR: 41.8 to 41.10
PRA: Yes
Level: High
Pedigree: New
History: None.
Explanation:
Per DOA 0800-03, conditions in the stem should be interpreted as inadvertant criticality. Immediate actions of DOA 0800-03 require operators to suspend fuel moves and NEITHER raise nor lower the grapple. This question meets the high cognitive level criteria because it requires the candidate to determine inadvertant criticality has occurred and then determine the correct operational implications.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

28

ID: 295025.A2.04

Points: 1.00

A transient occurred on Unit 2 resulting in the following conditions:

Unit 2 125vDC Bus 2B-1 is tripped and will NOT reclose
Reactor Pressure is 1050 psig and trending up

The Unit Supervisor has directed you verify Torus level is within band for ERV operations.

How is Torus Level determined?

- A. Wide Range Torus Level indication on 902-3 panel ONLY.
- B. Narrow Range Torus Level indication on 902-3 panel ONLY.
- C. BOTH Narrow and Wide Range Torus Level control room panel indications are available.
- D. ALL control room panel indications for Torus Level are lost; an operator must be dispatched to verify Torus Level using the local sightglass.

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 28 Details

Question Type: Multiple Choice
Topic: 28 - 295025.A2.04
System ID: 24252
User ID: 295025.A2.04
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: 29501LK100
K/A: 295025.A2.04 3.9/3.9
K/A: Ability to determine and/or interpret the following as they apply to HIGH REACTOR PRESSURE:
Suppression Pool Level
Reference: DOP 6800-05, 12E-6822
Level: High
PRA: No
Pedigree: New
History: None.
Comments:
This question examines the candidate's knowledge of the suppression pool capability to accept discharge from the ERVs as well as the control room indications available on a loss of power. 125vDC Bus 2B-1 feeds the DC portion of ATS Panel 2202-73B. Upon a loss of 125vDC Bus 2B-1, the narrow range torus level indication as well as HI and LO level annunciators are lost. Wide Range Torus level indications are still available on the 902-3 panel. Use of the local sight glass is an option, however, this distracter is not correct because control room indications of Torus Level are still available. Computer points for NR torus level are lost due to the DC power failure as well.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

29

Points: 1.00

Unit 2 was operating at near rated power, when a LOCA occurred. The following conditions exist:

- RPV pressure is 200 psig and lowering slowly.
- Indicated Wide Range RPV water level is 80 inches and rising slowly.
- Drywell pressure is 5.5 psig and rising slowly.
- Drywell temperature is 300°F and steady.

Wide Range RPV water level instrumentation is

- A. accurate and CAN be used for trending.
- B. NOT accurate and CAN be used for trending, since WR level is above indicated usable level.
- C. NOT accurate and CANNOT be used for trending, since WR level is below indicated usable level.
- D. NOT accurate and CANNOT be used for trending since D/W temperature is above saturation temperature.

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 29 Details

Question Type:	Multiple Choice
Topic:	29 - 295028.K1.01
System ID:	24152
User ID:	
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: DRE216LN001.12 Reference: DEOP 100 table 'A', EPG B-5-3 K/A: 295028.K1.01 3.5 / 3.7 K/A: Knowledge of the operational implications of the following concepts as they apply to HIGH DRYWELL TEMPERATURE: Reactor water level measurement. Level: High Pedigree: Bank History: 2009 Cert Comments: Utilizing DEOP 100 chart B, the parameters are below the line, so the instruments would be accurate in this situation, AND the instrument could be used to determine the level trend. Changes in instrument run temperatures can produce on-scale readings on some instruments even when the actual level is below their variable leg taps. Since DP is not affected by level changes below the variable leg tap, the indicated level would then no longer reflect changes in actual level (could not be used for trending).</p> <p>REQUIRED REFERENCES: DEOP charts, with the entry conditions blanked out.</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

30

ID: 24160

Points: 1.00

Unit 2 was operating at near rated power, when a LOCA occurred, resulting in the following set of conditions:

- Torus temperature is 109°F and steady.
- Drywell pressure is 10 psig and lowering slowly.
- Torus level is 15 ft.
- Off site power is available and grid voltage is stable.
- Core Spray flow is fluctuating between 2000 gpm to 4000 gpm.
- Core Spray discharge pressure is fluctuating between 150 psig and 325 psig.

What is the cause of the Core Spray indications?

- A. Vortexing due to high ECCS flow.
- B. ECCS suction strainers are plugging.
- C. A loss of NPSH caused by Torus temperature.
- D. Leak in the piping downstream of the PP DISCH VLV MO 2-1402-25A.

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 30 Details

Question Type:	Multiple Choice
Topic:	30 - 209001.K5.01
System ID:	24160
User ID:	24160
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	4
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	0.00
Num Field 2:	0.00
Text Field:	
Comments:	<p>Objective: DRE209LN001.08 Reference: NRC Bulletin 93-02 K/A: 209001.K5.01 2.6 / 2.7 K/A: Knowledge of the operational implications of the following concepts as they apply to LOW PRESSURE CORE SPRAY SYSTEM: Indications of pump cavitation. Level: High Pedigree: Bank History: 2007 NRC, 2011 Cert Explanation: A) Torus parameters are within the operating curves to prevent vortexing from occurring B) With the fluctuations in pump flow and discharge pressure, it is an indication that the suction strainers are the failure mode. C) Torus temperature is well within the band of ECCS operating curves at this Drywell pressure. D) A leak downstream of the disch valve would cause an increase in flow and amps without fluctuations.</p> <p>REQUIRED REFERENCES: DEOP Charts with entry conditions blanked out.</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

31

ID: 24248

Points: 1.00

Unit 2 was operating at near rated power, when a fire caused an overcurrent condition on Bus 29. Subsequently a feedwater transient caused the RPV to scram on RPV water level.

The SRO directs you to inject SBLC as an *Alternate Injection System* per DOP 1100-02, INJECTION OF SBLC Hard Card.

What would be the expected system response?

- A. NEITHER Squib valve would fire
- B. 'A' Squib valve would fire ONLY
- C. 'B' Squib valve would fire ONLY
- D. BOTH Squib valves would fire

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 31 Details

Question Type:	Multiple Choice
Topic:	31 - 211000.A3.03
System ID:	24248
User ID:	24248
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	4
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	0.00
Num Field 2:	0.00
Text Field:	
Comments:	<p>Objective: DRE211LN001.02 Reference: M-33, DOP 6700-13 K/A: 211000.A3.03 3.8 / 3.8 K/A: Ability to monitor automatic operations of the SLC including: Explosive valves indicating lights Level: High Pedigree: Bank History: 2011 Cert Comments: This question meets the K/A because it examines the candidate's ability to determine the status of the squib valves following a loss of power. The status of the squib valve will be determined through the change in light indications on the control panel. b) With a loss of Bus 29, MCC 29-1 would be lost. MCC 29-1 is the power supply to both the 'B' pump and squib valve, thus neither of them could become energized. 'A' pump and squib is powered from MCC 28-1, so when the control switch is taken to position "SYS 1 & 2" (per the hard card) they would become energized and operate as designed. a) The candidate may choose neither if they did not understand the power supplies c) The candidate may choose 'B' if they didn't know that the hard card has the NSO take the control switch to SYS 1 & 2, as opposed to SYS 1 or SYS 2. d) The candidate may chose both if they did not understand the power supplies.</p>

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

32

Points: 1.00

Unit 2 was operating at near rated power, when APRM 3 failed downscale.

A Half Scram will be generated on RPS ___(1)___ if IRM ___(2)___ becomes INOP.

- A. (1) A;
(2) 13
- B. (1) B;
(2) 13
- C. (1) A;
(2) 15
- D. (1) B;
(2) 15

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 32 Details

Question Type: Multiple Choice
Topic: 32 - 215003.K1.01
System ID: 24162
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE215LN003.06
Reference: DOP 0700-02, DAN 902-5 C-6
K/A: 215003.K1.01 3.9 / 3.9
K/A: Knowledge of the physical connections and/or cause effect relationships between INTERMEDIATE RANGE MONITOR (IRM) SYSTEM and the following: RPS.
Level: Memory
Pedigree: Bank
History: 2010 NRC
Explanation: A Half Scram is generated if an APRM downscale is received concurrent with its companion IRM being INOP. In this case APRM 3 and the companion IRM 13, cause a half-scram on RPS "A" side.

REQUIRED REFERENCES: None.

33

ID: 24163

Points: 1.00

A fully withdrawn SRM detector transmits 300 pulses in one second.
100 of these pulses are caused by neutrons.
200 of the pulses are caused by gammas.

What is the expected reading on the 902-5 SRM LEVEL meter?

- A. 100 cps
- B. 200 cps
- C. 300 cps
- D. 400 cps

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 33 Details

Question Type: Multiple Choice
Topic: 33 - 215004.K4.03
System ID: 24163
User ID: 24163
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE215LN004.03
Reference: LP DRE215LN004.03
K/A: 215004.K4.03 2.5 / 2.5
K/A: Knowledge of SOURCE RANGE MONITOR (SRM) SYSTEM design feature(s) and/or interlocks which provide for the following: Gamma compensation.
Level: Memory
Pedigree: Bank
History: 2011 Cert
Comments: The purpose of the pulse height discriminator is to provide "gamma compensation". The PHD sets a threshold level. The neutron pulses are large enough to pass through the threshold level and are allowed to be counted. The gamma pulses are smaller than the threshold value and are not passed on to be counted, therefore they are eliminated. The pulse pre-amplifier boosts the signal strength to separate out noise and get the pulses to the control room. SRMs count neutron pulses, not gamma pulses. The PHD only eliminates the smaller, gamma pulses.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

34

Points: 1.00

Unit 2 was operating at near rated power, when an ATWS occurred and the following conditions exist:

- Reactor power is 5%.
- **ALL** APRM downscale lights are illuminated.
- RPV level is -60 inches.
- Drywell pressure is 15 psig.
- Drywell AND Torus sprays have been initiated.

Given the above conditions, which of the following actions taken prior to timeout of the 120 second timer will PREVENT all automatic actuation of ADS?

- A. Restore drywell pressure below 2 psig.
- B. Maintaining RPV pressure below 150 psig.
- C. Placing ALL low pressure ECCS pumps in PTL.
- D. Depressing AND releasing the TIMER RESET pushbutton.

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 34 Details

Question Type: Multiple Choice
Topic: 34 - 218000.K4.03
System ID: 24164
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 4
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE218LN001.06
Reference: DAN 902-3 B-13
K/A: 218000.K4.03 3.8/4.0
K/A: Automatic Depressurization System: Knowledge of the physical connections and/or cause effect relationships between AUTOMATIC DEPRESSURIZATION SYSTEM and the following: Low pressure core spray: Plant-Specific.
Level: High
Pedigree: Bank
History: 2008 NRC, 2011 Cert
Comments: With RPV level lo-lo and/or Drywell pressure high AND any low pressure pump (LPCI or CS) running (discharge pressure greater than 100 psig) is a permissive to seal in the 120 sec ADS timer (DAN 902-3 B-13 references this as one of the conditions needed).
Once drywell pressure is above 2 psig, it seals in until reset (will not prevent actuation).
Reactor pressure is not an ADS permissive, but is a common misconception that the ADS will not open when RPV pressure is too low (150 psig).
Depressing and releasing the TIMER RESET pushbutton would only reset the timer and delay the ADS actuation (not prevent).

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

35

Points: 1.00

Unit 2 was operating at near rated power, when the following occurred sequentially:

- RPV pressure rose to 1085 psig for 30 seconds and then stabilized at 1005 psig.
- A fire in Unit 2 125 VDC Bus 2B-1 caused it to de-energize.

The effect this has on the plant is

- A. ALL Isolation Condenser isolation valves will close.
- B. ONLY the Isolation Condenser VENT valves will close.
- C. A loss of Control Room indications for components powered from Bus 23 AND Bus 24.
- D. A loss of Control Room indications for components powered from Bus 23-1 AND Bus 24-1.

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 35 Details

Question Type: Multiple Choice
Topic: 35 - 223002.K6.05
System ID: 24165
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE207LN001.12
Reference: DAN 902-3 H-2, 12E-2506 sheets 1-3
K/A: 223002.K6.05 3.0 / 3.3
K/A: Knowledge of the effect that a loss or malfunction of the following will have on the PRIMARY CONTAINMENT ISOLATION SYSTEM/NUCLEAR STEAM SUPPLY SHUT-OFF: Containment instrumentation.
Level: High
Pedigree: Bank
History: 2010 Cert
Explanation: With reactor pressure of 1085 psig, for 30 seconds, the Isolation Condenser will have actuated (1070 for 17 seconds). The power supplies for the Group 5 (Iso Cond) isolation instrumentation are 125VDC distribution panels 2A-1 & 2B-1. A Group 5 isolation is initiated whenever there is a loss of EITHER power supply circuits (de-energize to actuate). A Group 5 causes ALL isolation valves to close (NOT just the vent valves). Dist panel 2B-1 is normal control power to (and a loss of control room indication would only happen for) Bus 24 and Bus 24-1, and NOT Bus 23 (2A-1) OR Bus 23-1 (Rx Bldg Dist Pnl).

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

36

ID: 24166

Points: 1.00

Given the following plant conditions:

- Unit 3 is at 73% power.
- Torus bulk temperature is slowly rising.
- Div 2 torus water temperature Bay 1 is 95°F and slowly rising.
- DOA 0250-01, RELIEF VALVE FAILURE, has been entered for 3-203-3B ERV leaking by.
- Attempts to close the 3-203-3B ERV from the control room have failed.

The HVO has pulled the 3-203-3B ERV control power fuses.

All of the following indications can be used to verify the 3-203-3B ERV is closed EXCEPT:

- A. Torus temperature recorder trend
- B. Control switch valve position indication lights
- C. Valve leak detection temperature recorder trend
- D. Acoustic monitor valve position indicating lights

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 36 Details

Question Type: Multiple Choice
Topic: 36 - 239002 K5.04
System ID: 24166
User ID: 24166
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 239LN001.03
Reference: DOA 0250-01; 12E-3461 & 3461A
K/A: 239002 K5.04 3.3/3.5 Knowledge or the operational implications of the following concepts as they apply to SRV: Tail pipe temperature monitoring.
CFR:
Safety Function: 3
PRA: Yes
Level: High
Pedigree: Bank
History: None
Comments:
Options A,C, and D are all valid indications to confirm ERV closure. Option B is invalid due to ERV fuses being removed as indicated in the stem. Since the fuses are pulled, the CS indicating lights are extinguished.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

37

ID: 24249

Points: 1.00

U3 is operating at full power when a storm causes a loss of 345KV BUS 8.

What is the impact on the U3 4KV distribution system?

- A. Bus 31 AND 33 trip then fast xfer to TR 31
- B. Bus 32 AND 34 trip then fast xfer to TR 31
- C. Bus 31 AND 33 trip then fast xfer to TR 32
- D. Bus 32 AND 34 trip then fast xfer to TR 32

Answer: B

Question 37 Details

Question Type: Multiple Choice
Topic: 37 - 262001.K6.02
System ID: 24249
User ID: 24249
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00

Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments:

Objective: 262LN001.06
Reference: DAN 903-8 E-2
K/A: 262001.K6.02 3.6/3.9
K/A: Knowledge of the effect that a loss or malfunction of the following will have on the A.C. Electrical Distribution: Off-Site Power.
Safety Function: 6
PRA: Yes
Level: High
Pedigree: New
History:
Comments:
A) is incorrect, Bus 8 feeds the U3 division 2 buses.
B) is correct, Bus 8 feeds the U3 division 2 buses. On a trip a fast transfer occurs within 6 cycles.
C) is incorrect, Bus 8 feeds the U3 division 2 buses.
D) is incorrect, Bus 8 feeds the U3 division 2 buses, but TR 32 is dead with a loss of BUS 8

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

38

Points: 1.00

Unit 3 was operating at near rated power, when Bus 37 experienced an overcurrent condition. Which of the following Instrument Air Compressor(s) will lose its/their power supply?

- A. 3A ONLY
- B. 3B ONLY
- C. 3C ONLY
- D. 3B and 3C ONLY

Answer: D

Question 38 Details

Question Type:	Multiple Choice
Topic:	38 - 300000.K2.01
System ID:	24168
User ID:	
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	1.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: DRE278LN001.02 Reference: DOA 4700-01 K/A: 300000.K2.01 2.8 / 2.8 K/A: Knowledge of electrical power supplies to the following: Instrument air compressor. Level: Memory Pedigree: Bank History: 2009 NRC Explanation: The power supplies are 3A - Bus 36, 3B - Bus 37, and 3C - Bus 37.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

39

ID: 13452

Points: 1.00

Unit 2 was operating at near rated conditions, when the following occurred:

- 2A Recirc pump temperatures are rising rapidly.
- Annunciator 902-4 G-3 2A RECIRC PP SEAL CLG WTR FLOW LO alarms.

All other RBCCW parameters are normal.

The expected plant response is

- A. 2A Recirc pump will go to hold.
- B. 2A Recirc pump seals and bearings could be damaged within one minute.
- C. 2A Recirc pump seals will operate normally as long as CRD flow is maintained.
- D. RWCU system could isolate since cooling is lost to the non-regenerative heat exchanger.

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 39 Details

Question Type: Multiple Choice
Topic: 39 - 400000.K3.01
System ID: 24255
User ID: 13452
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 3
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE202LN001.08
Reference: DOA 3700-1, DAN 902-4 G-3, P+ID M-20
K/A: 400000.K3.01 2.9/3.3
K/A: Knowledge of the effect that a loss or malfunction of the CCWS will have on the following: Loads cooled by CCWS.
Level: High
Pedigree: Bank
History: 2005 NRC
Comments: The conditions in the stem indicate a loss of RBCCW to the Recirc pump seals. All other RBCCW parameters are stable. Per the DOA if cooling flow is lost and cannot be restored within one minute the operator must trip the recirc pumps. In the discussion section of the DOA it is stated that loss of cooling flow resulting from failures in the RBCCW system will cause damage to plant equipment. If RBCCW flow cannot be restored to the Recirc pumps within one minute, damage may occur to the pump seal and bearings.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

40

ID: 2461

Points: 1.00

Unit 3 is conducting a special test with the Main Generator conditions as follows:

- Real load is 800 MWe
- Terminal Voltage is 17.1 kV
- Reactive Load is 0 MVAR
- Voltage Regulator Mode Switch is in MANUAL
- Generator hydrogen pressure is 30 psig

If an operator placed the Voltage Regulator Mode Switch to AUTO, and the voltage regulator failed to its MINIMUM limit for the current voltage, which of the following indicates the final value of Main Generator reactive loading three minutes later (i.e. plant stable)?
(Assume terminal voltage remains constant.)

- A. positive (+) 220 MVAR
- B. negative (-) 100 MVAR
- C. negative (-) 120 MVAR
- D. negative (-) 220 MVAR

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 40 Details

Question Type:	Multiple Choice
Topic:	40 - 245000.A1.08
System ID:	24261
User ID:	2461
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: 245LN003.11 Reference:DOP 6400-08 K/A: 245000.A1.08 2.5 / 2.7 K/A: Ability to predict and/or monitor changes in parameters associated with operating the MAIN TURBINE GENERATOR AND AUXILIARY SYSTEMS controls including: Generator output voltage/reactive load CFR: 41.5 Safety Function: 6 PRA: No Level: High Pedigree: Bank History: ILT 11-1 NRC Comments:The examinee must identify the correct Minimum Excitation Limiter (MEL) curve from the supplied references. The MEL limits the excitation dependent on the current terminal voltage of the generator. The point on the graph will move straight down the 800MWE line until it reaches the 17.1 Kv limit Distracters indicates a misunderstanding of system operation or inability to read the graph.</p> <p>REQUIRED REFERENCES: Figures 5, 6 & 7 from DOP 6400-08</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

41

Points: 1.00

Unit 3 was in STARTUP, with the following conditions:

- Step 20 of the CRSP contains Control Rods H-8, F-10, H-6 and K-8 with a rod limit from position 08 to 12.
- Control Rod H-8 is withdrawn to position 12.
- Control Rod F-10 is withdrawn to position 10.

The NSO then selects Control Rod H-6, which is currently at position 08.

Prior to selecting the rod, what color will Control Rod H-6 be indicated on the RWM?

- A. Red
- B. Cyan
- C. White
- D. Green

Answer: D

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 41 Details

Question Type: Multiple Choice
Topic: 41 - 201006.A3.01
System ID: 24171
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1: 0.00
Num Field 2: 0.00
Text Field:
Comments: Objective: DRE201LN006.06
Reference: DOP 0400-02
K/A: 201006.A3.01 3.2/3.1
K/A: Ability to monitor automatic operations of the RWM including: System window and light indications: P-Spec(Not-BWR6).
Level: Memory
Pedigree: Bank
History: 2002 Quad NRC, 2009 NRC
Explanation: Control rods are in red when they are out of sequence, green when they are in the current latched step or selected for rod exercising, white if they are not the rod selected for exercising or not part of the in-sequence step. H-6 should remain green the entire time. Control Rods are indicated in Cyan when they are taken O.O.S.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

42

ID: 24172

Points: 1.00

Unit 2 was operating at near rated power when Bus 29 experienced an overcurrent condition. What affect does this have on the Unit 2 LPCI system?

A loss of the Div ___(x)___ ability to ___(y)___ , from the Main Control Room.

- A. (x) 1 ONLY;
(y) initiate Torus Cooling ONLY
- B. (x) 1 ONLY;
(y) initiate Torus Cooling, spray the Drywell, AND spray the Torus
- C. (x) 2 ONLY;
(y) initiate Torus Cooling ONLY
- D. (x) 2 ONLY;
(y) spray the Drywell, AND spray the Torus

Answer: D

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 42 Details

Question Type: Multiple Choice
Topic: 42 - 219000.K1.05
System ID: 24172
User ID: 24172
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE203LN001.02
Reference: Valve label power supplies in C/R, load list in LP DRE 203LN001, DOS 1500-1
K/A: 219000.K1.05 3.5 / 3.6
K/A: Knowledge of the physical connections and/or cause effect relationships between RHR/LPCI: TORUS/SUPPRESSION POOL COOLING MODE and the following: A.C. electrical power.
Level: High
Pedigree: Bank
History: 2013 Cert
Explanation:
This question meets the K/A because it examines the candidate's understanding of Torus Cooling flow paths and the loss of ability to perform TORUS COOLING operation caused by a loss of A.C. electrical power. Bus 29 powers MCC 29-1, which if lost removes power from the following: Torus Cooling valves (20 and 38), Drywell spray valves (27 and 28), and Torus Spray valves (18 and 19) for Division II only are fed from MCC 29-4.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

43

Points: 1.00

Unit 2 was operating at near rated power when a loss of coolant resulted in a Reactor Scram. The following conditions exist:

- Drywell pressure is 18 psig.
- RPV water level is 10 inches.
- 902-8 E-5, 4 KV BUS 24-1 OVERCURRENT annunciator illuminated.
- 10 minutes later, the US notices that the Division II CAM H2/O2 system is NOT working.

What action(s) is/are required to initiate the CAM system?

- A. Reset the Bus 29 UV device ONLY.
- B. Place the OFF-STANDBY-ANALYZE switch to ANALYZE.
- C. X-tie Bus 28 to Bus 29 then Reset the Bus 29 UV device.
- D. Close the feed breaker to MCC 29-1, then place the OFF-STANDBY-ANALYZE switch to ANALYZE.

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 43 Details

Question Type: Multiple Choice
Topic: 43 - 223001.K6.11
System ID: 24173
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1: 0.00
Num Field 2: 0.00
Text Field:
Comments: Objective: DRE223LN006.08
Reference: DAN 902-8 H-3, DGA-12, DOP 2400-01, DOP 7000-07
K/A: 223001.K6.11 3.0 / 3.2
K/A: Knowledge of the effect that a loss or malfunction of the following will have on the PRIMARY CONTAINMENT SYSTEM AND AUXILIARIES: A.C. electrical distribution.
Level: High
Pedigree: Bank
History: 2008 NRC
Comments: When Bus 24-1 goes overcurrent, Bus 24-1 and Bus 29 are de-energized and will load shed some equipment. During load shed conditions the breaker to the MCC 29-1 (which powers div 2 CAM) does not load shed. Once power is restored to Bus 29 (Xtie Bus 28 to Bus 29), the Bus 29 UV relay must be reset and then MCC 29-1 will be re-energized. The CAM feed breaker does NOT trip and with an ECCS signal still present, the system will start up automatically as soon as power is restored. This meets the K/a because the examinee has to have knowledge of the effect of an OC trip on Bus 24 on the load shed of Bus 29.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

44

Points: 1.00

Unit 2 was operating at near rated power, when the following occurred:

- Offgas flow dropped approximately 100 scfm.
- Offgas Recombiner temperature dropped approximately 600°F.

The Unit Supervisor has directed entering DOP 5400-14, EXTINGUISHING AN OFF GAS FIRE.

Which of the following actions is required prior to executing the procedure above?

- A. Ensure adequate margin in the Instrument Air system, to extinguish the fire.
- B. Initiate Station Fire Watches for the Offgas system, to identify potential insulation fires.
- C. Start all available Circ Water pumps to limit Condensate temperature rise from reduced Condenser vacuum.
- D. Drain loop seals upstream of the fire, to allow for intrusion of Instrument Air to extinguish the fire.

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 44 Details

Question Type: Multiple Choice
Topic: 44 - 271000.A2.11
System ID: 24174
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE271LN001.08
Reference: DOP 5400-14
K/A: 271000.A2.11 2.8 / 2.9
K/A: Offgas System: Ability to (a) predict the impacts of the following on the OFFGAS SYSTEM: and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: OFFGAS SYSTEM LOW FLOW
Level: High
Pedigree: Bank
History: 2009 NRC
Explanation: All available Circ Water pumps should be started to limit Condensate temperature rise from reduced Condenser vacuum.
A fire watch would be an acceptable practice, but is not required.
Service Air is used to extinguish an Offgas fire (NOT Instrument Air).
Loop seals are to be ensured filled (not drained).

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

45

Points: 1.00

Unit 2 was operating at near rated power with MCC 28-2 out of service, when the following annunciators are received:

902-8 B-8, 120/240 ESS BUS VOLT LO.
902-8 E-10, 120/240 ESS BUS ON EMERG SPLY.

An impact of this transient is that the _____ rad monitor(s) become(s) de-energized.

- A. Channel 'A' Off Gas
- B. Channel 'A' Refuel Floor
- C. 2B and 2D Main Steam Line (MSL)
- D. Outboard channel 'B' Reactor Building and Fuel Pool

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 45 Details

Question Type: Multiple Choice
Topic: 45 - 272000.K2.01
System ID: 24175
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE272LN002.02
Reference: DOA 0500-05, DOA 6800-01, DANs 902-8 B-8 and E-10
K/A: 272000.K2.01 2.5 / 2.8
K/A: Radiation Monitoring System: Knowledge of electrical power supplies to the following: Main steamline radiation monitors.
Level: High
Pedigree: Bank
History: 2009 Cert
Comments: With MCC 28-2 O.O.S, the RESERVE power supply to the U2 ESS bus is lost. The two alarms that are received indicate that the ESS Bus ABT has transferred (irregardless of the reserve power supply being energized or not). These events remove ALL power from the ESS bus, which is the power supply for the B and D MSL rad monitors. Channel A Off Gas rad monitor and Channel A Refuel Floor rad monitor are powered from RPS Bus A, which is still energized (from MCC 29-2 via the B RPS MG Set - cross divisional power). Outboard channel B RBX & fuel pool high rad aux relays are powered from the Inst Bus (which is still energized from MCC 25-2).

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

46

Points: 1.00

A hydraulic ATWS has occurred on Unit 2.

The Unit Supervisor has directed you to perform repeated scram resets per DEOP 0500-05.

Which of the following describes the MINIMUM electrical safety precautions required to perform this task?

All metal removed and ...

- A. safety glasses
- B. safety glasses, long sleeve cotton shirt and rubber gloves
- C. safety glasses, electrical safety coat, face shield and rubber gloves
- D. safety glasses, long sleeve cotton shirt, electrical safety coat and rubber gloves

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 46 Details

Question Type:	Multiple Choice
Topic:	46 - Generic.1.26
System ID:	24189
User ID:	
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	1.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: 295L105 Reference: SA-AA-129 K/A: Generic 2.1.26 3.4 / 3.6 K/A: Knowledge of industrial safety procedures (such as rotating equipment, electrical, high temperature, high pressure, caustic, chlorine, oxygen and hydrogen). CFR: 41.10 PRA: No Level: Memory Pedigree: Bank History: ILT 11-1 NRC Comments: SA-AA-129 states that for the voltage in the area being worked in for DEOP 500-5 the minimum PPE is all metal removed, long sleeve cotton shirt, safety glasses and rubber gloves

REQUIRED REFERENCES: None.

47

Points: 1.00

You are about to take the shift as a Unit 2 NSO. The last time you were on shift was seven (7) days ago.

To meet the requirements of OP-AA-112-101, What is the MINIMUM number of days of turnover logs that MUST be reviewed prior to making a relief?

- A. 1 day.
- B. 2 days.
- C. 4 days.
- D. 7 days.

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 47 Details

Question Type: Multiple Choice
Topic: 47 - Generic.1.03
System ID: 24190
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 29900LK022
Reference: OP-AA-112-101
K/A: Generic.1.3 3.7 / 3.9
K/A: Knowledge of shift or short-term relief turnover practices.
Level: Memory
Pedigree: Bank
History: 2008 NRC
Comments: OP-AA-112-101 requires Reactor Operator log review through the last previous date on shift, or the preceding four days, whichever is less. The distracters for 1 or 2 days are common misconceptions, based on days off during normal rotation. The 7 day distracter would be the choice (incorrect) based on not being on shift for the last 7 days.

REQUIRED REFERENCES: None.

48

ID: 24191

Points: 1.00

A locked throttle valve in a safety related system is being returned to service.

Per OP-AA-108-101-1001, COMPONENT POSITION DETERMINATION, which of the following verification techniques is required for the valve's position?

- A. Peer Check
- B. Double Verification
- C. Concurrent Verification
- D. Independent Verification

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 48 Details

Question Type: Multiple Choice
Topic: 48 - Generic.1.29
System ID: 24191
User ID: 24191
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 29900LK051
References: OP-AA-108-101-1001, HU-AA-101
K/A: Generic.1.29 4.1 / 4.0
K/A: Knowledge of how to conduct system lineups,
such as valves, breakers, switches, etc.
Level: Memory
Pedigree: Bank
History: 2008 NRC
Comments: Per OP-AA-108-101-1001 for component
position determination, concurrent verification is
required for throttle valve position.

REQUIRED REFERENCES: None.

49

Points: 1.00

Unit 2 and Unit 3 are operating at rated power.

IAW OP-AA-109-101, Clearance and Tagging, which of the following equipment isolations requires an EXCEPTIONAL clearance order if single point of isolation is used?

- A. 2B TBCCW Pump.
- B. RWCU Aux pump.
- C. Waste Collector Pump.
- D. Stator Cooling Hx tube side.

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 49 Details

Question Type: Multiple Choice
Topic: 49 - Generic.2.13
System ID: 24192
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 29900LK012
Reference: OP-AA-109-101
K/A: Generic.2.13 4.1 / 4.3
K/A: Knowledge of tagging and clearance procedures.
Level: High
Pedigree: New
History: None.
Comments: Per OP-AA-109-101 attachment 2 the RWCU Aux Pump would meet the EXCEPTION of lack of dual valve isolation when isolation greater than 500psig or greater than 200 degrees fahrenheit.

REQUIRED REFERENCES: None.

50

Points: 1.00

A Unit 2 Drywell entry is required to be made.

Which of the following statements are correct, with regards to dose concerns, for the personnel making the Drywell entry?

- A. Reactor MUST be shutdown.
- B. Reactor power is 34% OR lower.
- C. If in operation, the HPCI system MUST be secured.
- D. If in operation, the RWCU system MUST be secured.

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 50 Details

Question Type: Multiple Choice
Topic: 50 - Generic.3.12
System ID: 24193
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 299LK0028
Reference: DOP 1600-22
K/A: Generic.3.12 3.2/3.7
K/A: Knowledge of radiological safety principles pertaining to licensed operator duties, such as containment entry requirements, fuel handling responsibilities, access to locked high-radiation areas, aligning filters, etc.
Level: Memory
Pedigree: Bank
History: 2007 NRC
Explanation: Reactor power must be 34.2% or less for entry (not shutdown). The RWCU and HPCI systems should NOT be secured if running, since this would change conditions.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

51

Points: 1.00

Unit 2 was in STARTUP with *only* the 2C SDC pump in operation, when the 2C SDC pump tripped on high suction temperature.

One minute later, the U2 125 VDC Rx Bldg Distribution Panel de-energized, due to a fire.

Which picture below correctly identifies the proper indications for the above situation?

The image displays four panels (A, B, C, D) representing different states of a control panel. Each panel shows three columns of indicators for pumps 2A, 2B, and 2C. Each indicator consists of a top section with three buttons (OFF, AUTO TRIP, ON) and a bottom section with a TRIP/CLOSE selector switch.

- Panel A:** All buttons are unlit. The 2A and 2B switches are in the 'CLOSE' position, and the 2C switch is in the 'TRIP' position.
- Panel B:** The OFF buttons for 2A and 2B are illuminated (green). The 2A and 2B switches are in the 'CLOSE' position, and the 2C switch is in the 'TRIP' position.
- Panel C:** The OFF buttons for 2A and 2B are illuminated (green). The OFF button for 2C is illuminated (red). The 2A and 2B switches are in the 'CLOSE' position, and the 2C switch is in the 'TRIP' position.
- Panel D:** The OFF buttons for 2A and 2B are illuminated (green). The AUTO TRIP button for 2C is illuminated (yellow). The 2A and 2B switches are in the 'CLOSE' position, and the 2C switch is in the 'TRIP' position.

LEGEND

- Extinguished
- Illuminated

- A. A
- B. B
- C. C
- D. D

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Answer: A

Question 51 Details

Question Type: Multiple Choice
Topic: 51 - 205000.K6.02
System ID: 22570
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 3
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE205LN001.12
Reference: DOA 6900-T1
K/A: 205000.K6.02 2.7 / 2.9
K/A: Knowledge fo the effect that a loss or malfunction of the following will have on the Shutdown Cooling: D.C. electrical power.
Level: High
Pedigree: Bank
History: NRC, 2009 NRC
Explanation: With a loss of the U2 125 VDC Rx Bldg Dist Panel, all control power is lost to Bus 23-1. The 2A and 2C SDC pumps are powered from Bus 23-1. When control power is lost to Bus 23-1, all indicating lights for the 2A and 2C SDC pumps are lost. The 2B SDC pump will still have indicating lights, as it is powered from Bus 24-1, which receives its control power from 2B-1 Dist Panel. The 2B SDC pump does not auto start in this situation, so there will be no ON indicating light for it.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

52

Points: 1.00

Unit 2 was operating at near rated power when the following events occurred, sequentially:

- ? Drywell pressure increased to 3.0 psig.
- ? Annunciator 902-3 H-4, CORE SPRAY SYS B TIMERS NOT HOME is received.
- ? Bus 24 to 24-1 Feed and Main Feed Breakers trip.

With no further operation actions taken, when power is restored to Bus 24-1, the 2B Core Spray pump will

- A. start as soon as the Bus 24-1 undervoltage condition clears.
- B. start 5 seconds after the Bus 24-1 undervoltage condition clears.
- C. start 10 seconds after the Bus 24-1 undervoltage condition clears.
- D. start 15 seconds after the Bus 24-1 undervoltage condition clears.

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 52 Details

Question Type:	Multiple Choice
Topic:	52 - 262001 A3.04
System ID:	24208
User ID:	
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: DRE262LN001.06 Reference: DAN 902-3 H-4 K/A: 262001 A3.04 3.4 / 3.6 K/A: Ability to monitor automatic operations of the AC Electrical Distribution including: Load Sequencing. Level: High Pedigree: New History: Comments: A high DW pressure signal causes the Reactor to scram, Core Spray pumps start, and EDGs to start. A loss of power to Bus 24 causes the temporary loss of Bus 24-1. The U2 EDG will close on to Bus 24-1. The 2B Core Spray Pump will have lost power on the loss of 24-1. The 2B Core Spray pump breaker on Bus 24-1 opens and will reclose 10 seconds after the Bus 24-1 is re-energized by the U2 EDG due to load sequencing.

REQUIRED REFERENCES: None.

53

Points: 1.00

Unit 3 has just experienced a loss of 24/48 Bus 3B.
Which of the following plant components have lost electrical power?

- A. SDV instrumentation
- B. SRM channels 23 & 24
- C. Main Steam Line Rad Monitors
- D. APRM recorders on 902-5 panel

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 53 Details

Question Type:	Multiple Choice
Topic:	53 - 215004.K2.01
System ID:	24209
User ID:	
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	1.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: DRE 215LN004.02 Reference: UFSAR 8.3.2.3, DOA 6900-01 K/A: 215004.K2.01 2.6/2.8 K/A: Knowledge of electrical power supplies to the following: SRM channels/detectors. Level: Memory Pedigree: New History: Comment: A) Is incorrect-SDV instrumentation is powered from 24/48 on U2 but not U3. B) Is correct per FSAR section 8.3.2.3 24/48 V system is supplied from the 24/48 vdc battery system. DOA 6900-01 also lists the SRMs as a system supplied by 24/48 vdc. C) Is incorrect due to MSL Rad Monitors being powered from instrument bus. D) Is incorrect APRM recorders on the 902-5 panel are powered by ESS and Instrument Bus.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

54

Points: 1.00

Unit 2 was operating at near rated power, with the following conditions:

- The Unit 2A 125 VDC Battery Charger is supplying the Unit 2 125 VDC system.
- The Unit 2/3 250 VDC Battery Charger is supplying the Unit 2 250 VDC system.

Then a fire caused Bus 28 to de-energize.

(1) What effect will this have on the batteries AND (2) what actions can be taken to mitigate the transient?

- A. (1) The Unit 2 125 VDC batteries **ONLY** will begin to discharge;
(2) place the Unit 2 125 VDC Battery Charger in service.
- B. (1) The Unit 2 250 VDC batteries **ONLY** will begin to discharge;
(2) place the Unit 2 250 VDC Battery Charger in service.
- C. (1) The Unit 2 125 **AND** 250 VDC batteries will begin to discharge;
(2) place the Unit 2 125 **AND** Unit 2 250 VDC Battery Chargers in service.
- D. (1) The Unit 2 125 **AND** 250 VDC batteries will begin to discharge;
(2) place the Unit 2 125 Alternate Battery **AND** Unit 2 250 VDC Battery Charger in service.

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 54 Details

Question Type: Multiple Choice
Topic: 54 - 295004.A1.01
System ID: 24210
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE263LN001.02
Reference: DOA 6900-04, DOA 6900-T1, DOA 6900-02
K/A: 295004.A1.01 3.3 / 3.4
K/A: Ability to operate and/or monitor the following as they apply to Partial or Total Loss of DC Pwr: D.C. electrical distribution systems.
CFR: 41.7
Safety Function: 6
PRA: Yes
Level: High
Pedigree: Bank
History: ILT 11-1 NRC
Comments: Explanation: With the 2A charger (MCC 28-2) supplying the 125 VDC system and the 2/3 charger (MCC 29-2 or 39-2) supplying the 250 VDC system, a loss of Bus 28 will cause ONLY the 125 VDC 2A charger to lose power, which will cause the 125 VDC batteries to begin to discharge. Transferring the 125 VDC system to the Unit 2 125 VDC charger is the correct action.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

55

ID: 24250

Points: 1.00

Which one of the following describes the reason for placing the ISOL COND RX INLET VLV 2-1301 local selector switch on panel 2202-76 in **VLV1** position?

- A. To disconnect local control circuits from the valve.
- B. To disconnect Control Room control circuits from the valve.
- C. To isolate wire runs to meet divisional physical separation criteria.
- D. To prevent overloading the associated DG during a design basis LOCA.

Answer: B

Question 55 Details

Question Type:	Multiple Choice
Topic:	55 - 295016.K2.02
System ID:	24250
User ID:	24250
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	1.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: 29501LP083 Reference: DSSP 0100-CR K/A: 295016.K2.02 4.0/4.1 K/A: Knowledge of the interrelations between Control Room Abandonment and the following: Local control stations: Plant-Specific. Level: Memory Pedigree: New History: Comments: Placing the ISO COND '1' and '4' valves in the VLV1 position, removes the control circuit from the Main Control Room, in case of fire/evacuation. Operating this switch does not change the physical routing or location of equipment. This switch switches valve power from MCCs 28-1 to/from 38-1, which are both powered from the 2/3 EDG.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

56

ID: 24263

Points: 1.00

Unit 2 was operating at near rated power when a spike occurs resulting in annunciator 902-5 C-12, CHANNEL 1-3 APRM HI-HI / INOP illuminated.

An NSO reported that APRM 1 is pegged full scale.

What actions are required to return RPS to its pre-spike state?

- 1) Depress the TRIP RESET pushbutton on the 902-37 panel.
- 2) Turn the SCRAM RESET switch to the GP 1-4 position 902-5 panel.
- 3) Turn the SCRAM RESET switch to the GP 2-3 position 902-5 panel.
- 4) Place the APRM BYPASS switch in the CH-1 position on the 902-5 panel.

- A. 1, 2, 3, AND 4
- B. 2 and 3 ONLY
- C. 2 and 4 ONLY
- D. 2, 3, and 4 ONLY

Answer: D

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 56 Details

Question Type: Multiple Choice
Topic: 56 - 215005.K3.01
System ID: 24263
User ID: 24263
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 0.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE215LN005.08
Reference: DAN 902-5 C-12, DOP 0500-07
K/A: 215005.K3.01 4.0/4.0
K/A: Knowledge of the effect that a loss or malfunction of the APRM/LPRM will have on following: RPS.
Level: Memory
Pedigree: Bank
History: 2013 Cert
Explanation: The actions to reset the half scram is to first bypass the alarming APRM and then place the SCRAM RESET switch in BOTH positions. Depressing the TRIP RESET pushbutton on the 902-37 panel only clears the Hi-Hi indicator light on that panel and is NOT required.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

57

Points: 1.00

Unit 2 was operating at rated power when 2-203-1D, D Inboard MSIV, failed shut. The following conditions are currently present:

- RPV level is being controlled at -40" in automatic
- RPV pressure is 1040 psig and being controlled with the IC
- All attempts to open the 2-4399-74, CLEAN DEMIN VLV have failed

Per DOP 1300-03, Manual Operation of the Isolation Condenser, the preferred RPV pressure control method is:

- A. ADS valve operation
- B. HPCI operation in the pressure control mode
- C. IC operation with contaminated demin make up
- D. IC operation with fire suppression system make up

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 57 Details

Question Type:	Multiple Choice
Topic:	57 - 207000.A2.07
System ID:	24214
User ID:	
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: 207LN001.08 Reference: DOP 1300-03 K/A: 207000 A2.07 3.5/3.5 K/A: Ability to (a) predict the impacts of the following on the Isolation (Emergency) Condenser; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Valve Closures-BWR 2,3 CFR: 41.5 Safety Function: 4 PRA: Yes Level: High Pedigree: New History: Comments: This question meets the K/A because it examines the candidate's ability to PREDICT the IC will require shell side make up and use DOP 1300-03 knowledge to determine necessary pressure control methodology. With the conditions stated in the stem, a PCIS GRP I has occurred due to high steam flow. A reactor scram followed with a failure of all control rods to fully insert. IC shell side makeup is required due to inventory loss. With the failure of MO 2-4399-74 normal shell side makeup is unavailable. Per DOP 1300-03, clean demin is the preferred source with IC makeup pumps unavailable, however the flowpath for clean demin also requires the use of MO 2-4399-74 thereby making IC with clean demin an incorrect choice. Since RPV level is being maintained by FWLC in auto, HPCI is NOT needed for RPV level control and therefore available in the pressure control mode. Per DOP 1300-03, this is the preferred RPV pressure control method. ADS valve operations are available, but not preferred. IC operation with Fire suppression makeup is also available, however this option is pursued after ADS valve operation.</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

58

Points: 1.00

Unit 2 was operating at rated power when a small LOCA occurred resulting in Drywell Pressure of 1.8 psig and increasing 0.1 psig/min.

The US has directed you to establish Torus Cooling using Division 1 LPCI. In order to establish flow through the LPCI heat exchanger, you must....

- A. wait 30 seconds following LPCI initiation and then close the 2-1501-11A, Hx Bypass vlv.
- B. wait 30 seconds following LPCI initiation and then close the 2-1501-11B, Hx Bypass vlv.
- C. wait 5 minutes following LPCI initiation and then close the 2-1501-11A, Hx Bypass vlv.
- D. wait 5 minutes following LPCI initiation and then close the 2-1501-11B, Hx Bypass vlv.

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 58 Details

Question Type: Multiple Choice
Topic: 58 - 295024.A.1.13
System ID: 24215
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 203LN001.06
Ref: UFSAR Figure 7.3-2B
K/A: 295024 A1.13 3.6/3.6
K/A: Ability to operate and/or monitor the following as they apply to High Drywell Pressure: Suppression Pool Cooling
CFR: 41.7
Safety Function: 5
PRA: Yes
Level: Memory
Pedigree: New
History:
Comments:
A - Correct. 2-1501-11A is the LPCI/CCSW heat exchanger bypass for Division 1. This valve is interlocked open for 30 seconds following an initiation signal.
B - Incorrect. 2-1501-11B is the LPCI/CCSW heat exchanger bypass for Division 2. This valve is interlocked open for 30 seconds following an initiation signal.
C - Incorrect. 2-1501-11A is the LPCI/CCSW heat exchanger bypass for Division 1. This valve is interlocked open for 30 seconds following an initiation signal. 5 minutes is a plausible distracter based on additional LPCI interlocks.
D - Incorrect. 2-1501-11B is the LPCI/CCSW heat exchanger bypass for Division B. This valve is interlocked open for 30 seconds following an initiation signal. 5 minutes is a plausible distracter based on additional LPCI interlocks

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

59

Points: 1.00

An ATWS occurred on Unit 2 with the following conditions present:

- DEOP 400-2 has been executed due to being unable to hold RPV level above -164"
- 1 ERV failed to open
- RPV Pressure is above the Minimum Steam Cooling Pressure
- SBLC Pump discharge pressure is 400 psig
- SBLC switch is selected to System 1

Is SBLC injecting into the RPV and what is the status of the SBLC FLOW light on the 902-5 panel?

- A. No. Flow light is illuminated.
- B. No. Flow light is extinguished.
- C. Yes. Flow light is illuminated.
- D. Yes. Flow light is extinguished.

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 59 Details

Question Type:	Multiple Choice
Topic:	59 - 211000.A4.05
System ID:	24216
User ID:	
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: 211LN001.11 Reference: M-33, DEOP 400-5 K/A: 211000 A04.05 4.1/4.0 K/A: Ability to manually operate and/or monitor in the control room: Flow Indication: Plant Specific CFR: 41.7 Safety Function: 1 PRA: Yes Level: High Pedigree: New Comments: A - Incorrect - With RPV pressure above 420 psig (Minimum Steam Cooling Pressure with 4 ERVs open), and SBLC discharge pressure of 400 psig, SBLC is NOT injecting. The SBLC relief valve has lifted and the flow transmitter is downstream of the relief valve, therefore no flow is indicated and the light will be extinguished. B - Correct - With RPV pressure above 420 psig (Minimum Steam Cooling Pressure with 4 ERVs open), and SBLC discharge pressure of 400 psig, SBLC is NOT injecting. The SBLC relief valve has lifted and the flow transmitter is downstream of the relief valve, therefore no flow is indicated and the light will be extinguished. C - Incorrect - With RPV pressure above 420 psig (Minimum Steam Cooling Pressure with 4 ERVs open), and SBLC discharge pressure of 400 psig, SBLC is NOT injecting. The SBLC relief valve has lifted and the flow transmitter is downstream of the relief valve, therefore no flow is indicated and the light will be extinguished. D - Incorrect - With RPV pressure above 420 psig (Minimum Steam Cooling Pressure with 4 ERVs open), and SBLC discharge pressure of 400 psig, SBLC is NOT injecting. The SBLC relief valve has lifted and the flow transmitter is downstream of the relief valve, therefore no flow is indicated and the light will be extinguished.</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

60

ID: 24217

Points: 1.00

You are inspecting a Fire Extinguisher type that does NOT have a pressure gauge and discover that the seal is missing/broken. What action is required per DFPS 4114-15?

- A. Reseal the extinguisher ONLY.
- B. Verify alternate fire suppression is available.
- C. Verify correct weight of the extinguisher and replace the seal.
- D. Establish fire watch until approved extinguisher is in place.

Answer: C

Question 60 Details

Question Type:	Multiple Choice
Topic:	60 - Generic 4.25
System ID:	24217
User ID:	24217
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	1.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: DRE286286LN001.14 Reference: DFPS 4114-15 K/A: Generic 2.4.25 3.3/3.7 K/A: Knowledge of fire protection procedures. CFR: 41.10 Level: Memory Pedigree: Bank History: LSG NRC 05 Comments: Per DFPS 4114-15 Annual Fire Extinguisher Inspection, if you are performing extinguisher checks on an extinguisher type without a pressure gauge and discover that the seal is broken, then the correct action is to weigh the extinguisher and replace the seal per DFPP 4114-04. Replacing the extinguisher is not required. Only logging and continuing inspection is not the correct action. Verifying alternate fire suppression is not required by the procedure. There is no requirement to have a fire watch for a loss of an extinguisher. Per the TRM fire watches are only required for loss of fire systems i.e. Halon, Cardox, or Water systems.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

61

Points: 1.00

You have been tasked as the Unit 2 NSO with transferring ESS bus power from MCC 28-2 to Bus 25.

Per DOP 6800-01, to prevent the RWCU system from isolating during the transfer you are **REQUIRED** to....

- A. Place **ONLY** the RWCU INBD ISOL MN STEAM BYP SW to the Bypass position
- B. Place **ONLY** the RWCU OUTBD ISOL MN STEAM BYP SW to the Bypass position
- C. Place RWCU INBD ISOL MN STEAM BYP SW **AND** RWCU OUTBD ISOL MN STEAM BYP SW to the bypass positions
- D. Perform a controlled shutdown of the RWCU system per DOP 1200-03, RWCU SYSTEM OPERATION WITH THE REACTOR AT PRESSURE

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 61 Details

Question Type: Multiple Choice
Topic: 61 - 262002.A4.01
System ID: 24218
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 204LN001.11
Reference: DOP 6800-01
K/A: 262002 A4.01 2.8/3.1
K/A: Ability to manually operate and/or monitor in the control room: Transfer from alternative source to preferred source
CFR: 41.7
Safety Function: 6
PRA: No
Level: Memory
Pedigree: New
History:
Comments:
This question meets the K/A because it examines the candidate's ability to manually operate control room panels to accomplish ESS bus transfer from alternative to preferred source.
When transferring ESS Bus power supplies DOP 6800-01 requires the manipulation of both the inboard and outboard main steam bypass switches to the bypass position. The use of one switch is not permitted per DOP 6800-01. DOP 6800-01 provides no direction to perform an orderly shutdown of RWCU.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

62

Points: 1.00

An ATWS has occurred on Unit 3. The Unit Supervisor has directed you to pull RPS scram solenoid fuses per DEOP 0500-05.

Where are these fuses located and why is it important to remove them in the specified order?

- A. 903-15 and 903-17 panels; To prevent core oscillations.
- B. 903-16 and 903-17 panels; To prevent core oscillations.
- C. 903-15 and 903-17 panels; To prevent a direct vent path from the RPV to the reactor building.
- D. 903-16 and 903-17 panels; To prevent a direct vent path from the RPV to the reactor building.

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 62 Details

Question Type: Multiple Choice
Topic: 62 - 212000 G.1.30
System ID: 24219
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 29502LK094
Reference: DEOP 0500-05
K/A: 212000.G.1.30 4.4/4.0
K/A: Ability to locate and operate components, including local controls
CFR: 41.7
Safety Function: 1
PRA: No
Level: Memory
Pedigree: New
History:
Comments:
DEOP 0500-05 directs removal of RPS scram fuses from the 902(3)-15 and 902(3)-17 panels. DEOP 0500-05 caution warns the operator that pulling the fuses in the incorrect sequence may result in a discharge path from the RPV to the reactor building via the scram discharge volume vents and drains. Uncontrolled control rod insertion is incorrect because the operator is taking actions to insert the control rods, therefore this is NOT uncontrolled. 903-16 and 903-17 panels are valid distracters due to the proximity of the panels.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

63

ID: 24220

Points: 1.00

Unit 2 was at full power when a transient occurred causing an entry into an 'ALERT' EP classification.

You have been assigned the Operations Shift Communicator role.

Per EP-AA-112-100 F05 Whose permission is required(if any), to transfer ENS notification responsibility to the TSC/EOF?

- A. TSC Director
- B. Shift Manager
- C. Unit Supervisor
- D. No permission required

Answer: B

Question 63 Details

Question Type:	Multiple Choice
Topic:	63 - Generic 4.37
System ID:	24220
User ID:	24220
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: EP-G-105.2b Reference: EP-AA-112-100-F05 K/A: Generic 4.37 K/A: Knowledge of the lines of authority during implementation of the emergency plan. CFR: 41.10 PRA: N/A Level: Memory Pedigree: New History: Comments: Per EP-AA-112-100-F-05 step 2.2.D, when directed by the Shift Manager, then Contact the TSC/EOF ENS Communicator, using the ERF Telephone Directory to transfer ENS notification responsibilities.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

64

Points: 1.00

DOS 7500-02 is in progress for post maintenance testing for the 'A' SBGT, when 902-3 F-14, RX BLDG VENT CH A RAD HI-HI is received. The NSO reports both CH A and CH B Rx Bldg Vent monitors on the 902-10 panel indicate 5.8 mr/hr.

What procedural actions are required?

- A. Place C/S for running SBGT train to PRI
- B. Place C/S for non-running SBGT train to PRI
- C. Verify ONLY U2 RB Vent damper isolation has occurred.
- D. Verify PCIS GRP III has occurred and SBGT flow rate is within limits

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 64 Details

Question Type:	Multiple Choice
Topic:	64 - 261000.A2.13
System ID:	24221
User ID:	
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: 261LN001.08 Reference: DOP 7500-01, DOS 7500-02 K/A: 261000 A2.13 3.4/3.7 K/A: Ability to (a) predict the impacts of the following on the SGTS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: High secondary containment ventilation exhaust radiation CFR: 41.5 Safety Function: 9 PRA: No Level: High Pedigree: New History: Comments: The operator must determine that the set point for the alarm is also the setpoint for RB Vent trip and SBTG auto start. With the A Train already running the operator must understand that the non-running train must be placed in primary to allow for proper operation with all automatic functions activated. A - Incorrect. With BOTH channels A and B of RB Vent Radiation monitors above 4 mr/hr SBTG receives an autostart signal. Per DOS 7500-02, if an autostart signal is received during post maintenance testing, the operator is directed to place the CS for the running train to STBY. B - Correct. With BOTH channels A and B of RB Vent Radiation monitors above 4 mr/hr SBTG receives an autostart signal. Per DOS 7500-02, if an autostart signal is received during post maintenance testing, the operator is directed to place the CS for the non-running train to PRI. C - Incorrect. DOS 7500-02 directs the operator in these conditions to verify the RB Vent isolation on the 923-4 panel vice the 923-5 panel D - Incorrect. The conditions in the stem represent conditions necessary to actuate PCIS GRP II. A PCIS</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

GRP III signal is not present.

65

ID: 24222

Points: 1.00

U2 was at full power when the following occurs:

- A scram signal is received
- Reactor power is 10%
- A steam leak is occurring making the Rx Building inaccessible

Under these conditions, how will the crew raise CRD Drive Water pressure?

- A. open the CRD 2-0302-8 valve
- B. close the CRD 2-0302-8 valve
- C. open the CRD 2-0301-25 valve
- D. close the CRD 2-0301-25 valve

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 65 Details

Question Type:	Multiple Choice
Topic:	65 - 201001.A4.04
System ID:	24222
User ID:	24222
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: DRE 201LN001.06 Reference: DGP 2-3 K/A: 201001.A4.04 3.1/3.0 K/A: Ability to manually operate and/or monitor in the control room: Drive water header pressure control valve Level: High History: New Comments: This question requires an understanding of the flow paths for the CRD hydraulic system. a) opening the CRD 2-0302-8 valve will decrease drive water pressure b) closing the CRD 2-0302-8 valve is the correct answer. This will cause drive water pressure to increase and is guided by DGP 2-3 c) opening the CRD 2-0301-25 valve will allow flow through to the charging water header decreasing drive water pressure. The valve is located in the reactor building and not accessible due to the steam leak d) closing the CRD 2-0301-25 would isolate flow to the charging water header and increase flow to the drive water header. The valve is located in the reactor building and not accessible due to the steam leak

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

66

ID: 24223

Points: 1.00

Unit 3 is operating at near rated power, with a Control Rod selected for withdrawal, when APRMs 3 and 5 failed downscale simultaneously.

RBM(s) ___(x)___ auto bypassed AND the operator is required to bypass APRM(s) ___(y)___ to allow rod movement.

- A. (x) 8 ONLY;
(y) 3 ONLY
- B. (x) 8 ONLY;
(y) 5 ONLY
- C. (x) 7 ONLY;
(y) 3 AND 5
- D. (x) 7 AND 8;
(y) 3 AND 5

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 66 Details

Question Type: Multiple Choice
Topic: 66 - 215002.A2.03
System ID: 24223
User ID: 24223
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1: 0.00
Num Field 2: 0.00
Text Field:
Comments: Objective: 215L-S2-06
References: DAN 902-5 C-6, UFSAR 7.6.1.5.3.2
K/A: 215002.A2.03 3.1 / 3.3
K/A: Ability to predict the impacts of the following on the RBM; and based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Loss of associated reference APRM channel:
Level: High
Pedigree: Bank
History:
Explanation: RBMs are set up with a primary and alternate reference APRM. For channel 7, APRM 3 is the primary and APRM 2 is the alternate. For channel 8, APRM 4 is the primary and APRM 5 is the alternate. When APRM 3 failed downscale a rod block occurs and RBM 7 is auto bypassed. Since APRM 4 did not fail then APRM 8 is unaffected. Both APRM 3 and APRM 5 must be bypassed to clear the rod block.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

67

ID: 24224

Points: 1.00

The Reactor Water Cleanup pump room was recently surveyed and the following radiological conditions exist:

- General area radiation of 200 mrem/hr.
- Smearable contamination of 150 dpm/100cm² (beta-gamma)

How should the area be posted IAW RP-AA-376 Radiological Postings, Labeling, and Markings?

- A. "Caution - High Radiation Area" only.
- B. "Caution - Locked High Radiation Area" only.
- C. "Caution - High Radiation Area" **AND** "Caution - Contaminated Area"
- D. "Caution - Locked High Radiation Area" **AND** "Caution - Contaminated Area"

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 67 Details

Question Type: Multiple Choice
Topic: 67 - Generic 3.07
System ID: 24224
User ID: 24224
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective:
Reference: RP-AA-376
K/A: Generic 2.3.7 3.5/3.6
K/A: Ability to comply with radiation work permit requirements during normal or abnormal conditions.
Level: Memory
Pedigree: Bank
CFR: 41.12
History: None
Comments: Per RP-AA-376, a high radiation area is an area that could result in an individual receiving a deep dose equivalent rate in excess of 100 mrem/hr at 30 cm from the radiation source. A contaminated area contains contamination present at levels ≥ 1000 dpm/100cm² beta/gamma. Knowledge of radiation and contamination area markings is required to comply with RWPs.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

68

ID: 24225

Points: 1.00

With Unit 2 at 95% power, the following transient is observed:

- Rise in indicated core flow.
- Drop in core thermal power.
- Drop in Main Generator power.
- Drop in Core differential pressure.

Which of the following is causing the above operating anomaly?

- A. Failure of a jet pump
- B. Partial opening of an ERV
- C. Loss of RWCU system due to HELB isolation
- D. Failure of a condensate demineralizer post strainer

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 68 Details

Question Type: Multiple Choice
Topic: 68 - 202001.K5.02
System ID: 24225
User ID: 24225
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 20200LK016
Reference: DOA 0201-01
K/A: 202001.K5.02 3.1 / 3.2
K/A: Knowledge of the operational implications of the following concepts as they apply to RECIRCULATION SYSTEM: Jet pump operation: BWR-3,4,5,6
CFR: 41.5
Safety Function: 1 & 4
PRA: No
Level: High
Pedigree: Bank
History: ILT 11-1 NRC
Comments: DOA 0201-01 states the symptoms of a failed Jet Pump are: Rise in indicated core flow, drop in core thermal power, drop in main generator power and drop in core D/P. None of the distracters would have all of the symptoms listed.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

69

ID: 23475

Points: 1.00

Given the following:

- A Scram has occurred on U2.
- DW pressure is 3.1 psig and slowly rising.
- The US has ordered Torus Sprays to be placed in service per the Hard Card.

When operating the control switches for Torus Spray, in the OPEN direction, the TORUS SPRAY VLV MO 2-1501-18A MUST be ___(1)___ , and the TORUS SPRAY VLV MO 2-1501-19A MUST be ___(2)___ .

- A. (1) given a momentary open signal;
(2) given a momentary open signal
- B. (1) given a momentary open signal;
(2) held in the open direction until the valve is FULL open
- C. (1) held in the open direction until the valve is FULL open;
(2) given a momentary open signal
- D. (1) held in the open direction until the valve is FULL open;
(2) held in the open direction until the valve is FULL open

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 69 Details

Question Type: Multiple Choice
Topic: 69 - 230000.G1.23
System ID: 24226
User ID: 23475
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE203LN001.11
Reference: 12E-2441 sht 1+2
K/A: 230000.G1.23 3.8 / 3.6
K/A: RHR/LPCI: Torus/Pool Spray Mode: Ability to perform specific system and integrated plant procedures during all modes of plant operation
CFR: 41.10
Level: Memory
Pedigree: Bank
History: 2013 Cert
Explanation: Both valves are "Seal In" type control switches, in the open direction regardless of whether or not an initiation signal is present.

REQUIRED REFERENCES: None.

70

ID: 24227

Points: 1.00

Unit 2 was operating at 25% power when 2 out of 3 DEHC Pressure Controller Processors failed LOW.

What is the plant response to the above failures?

- A. The Backup Pressure Regulator will take control and turbine load remains steady.
- B. The Turbine trips, causing a Reactor Scram on load reject.
- C. The Turbine Control and Bypass Valves close, causing a Reactor Scram on High Pressure.
- D. Turbine throttle pressure drops, causing a Reactor Scram on MSIV closure.

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 70 Details

Question Type: Multiple Choice
Topic: 70 - 241000.K3.08
System ID: 24227
User ID: 24227
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE241LN001.12
Reference: DOA 5650-02
K/A: 241000.K3.08 3.7 / 3.7
K/A: Knowledge of the effect that a loss or malfunction of the REACTOR/TURBINE PRESSURE REGULATING SYSTEM will have on following: Control/governor valves.
Level: High
Pedigree: Bank
History: 2013 Cert
Explanation: When 2 of the 3 DEHC Pressure Controller Processors fail LOW then the Turbine Control Valves and Turbine Bypass Valves close, causing a Reactor Scram on high pressure. The backup pressure regulator will NOT be able to take control, since it is lost anytime 1 of the DEHC Pressure Controller Processors fail (high or low). The turbine trip will NOT cause a scram, if Reactor power is < 38.5% power. A scram on MSIV closure will NOT occur, since this happens only if the Pressure Control Processors fail HIGH (which would cause the Turbine Control Valves to open, causing Turbine throttle pressure to drop to \leq 827 psig [if the Mode Switch is in RUN], then the MSIVs close causing a Reactor Scram).

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

71

ID: 24115

Points: 1.00

Unit 3 was in STARTUP, with the following PRIOR TO STARTUP and CURRENT conditions:

PRIOR TO STARTUP

SRM 21 at 9 cps
SRM 22 at 11 cps
SRM 23 at 8 cps
SRM 24 at 10 cps
Moderator temp 148°F

CURRENT

SRM 21 at 38 cps
SRM 22 at 47 cps
SRM 23 at 39 cps
SRM 24 at 44 cps
Moderator temp 149°F

The Reactor is NOT critical.

The next sequence step is to move Control Rod F-05 from notch 00 to notch 48.

Which of the following methods is the FASTEST method allowed by DGP 3-4, CONTROL ROD MOVEMENT, to move Control Rod F-05?

- A. Continuous withdrawal from 00 to 48.
- B. Single notch withdrawal from 00 to 48.
- C. Single notch withdrawal from 00 to 36 and THEN continuous withdrawal to 48.
- D. Continuous withdrawal to 04, single notch withdrawal from 04 to 36 and THEN continuous withdrawal to 48.

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 71 Details

Question Type: Multiple Choice
Topic: 71 - Generic.2.02
System ID: 24262
User ID: 24115
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 2
Point Value: 1.00
Cross Reference Number:
Num Field 1: 0.00
Num Field 2: 0.00
Text Field:
Comments: Objective: 29800LK017
Reference: DGP 3-4, DGP 1-1
K/A: Generic.2.02 4.6 / 4.1
K/A: Ability to manipulate the console controls as required to operate the facility between shutdown and designated power levels.
Level: High
Pedigree: Bank
History: 2013 Cert
Explanation: DGP 3-4 States "Do NOT use Notch Override Switch between positions 04 and 36 after SRMs have experienced three doublings (8 times the initial count rate) until the Unit is in a steaming condition (one bypass valve partially OPEN or the Unit on-line)." The notch override shall not be used when moving the rod less than 3 notches. High Cog due to the operator having to determine the number of doubling based on the information in the stem, then the procedural requirement.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

72

ID: 24229

Points: 1.00

Unit 2 was at rated power when a control power fuse blew inside a Control Room Panel. The Shift Manager has declared that the event did NOT create an emergency situation. A replacement fuse has been located and determined to be like-for like.

IAW CC-AA-206, Fuse Control, which of the following is correct?

- A. The Operator may NOT install the fuse.
- B. ONLY EMD may install the fuse with NO further engineering evaluation.
- C. The Operator may install the fuse with NO further engineering evaluation.
- D. The Operator may install the fuse ONLY after the fuse is evaluated by the Fuse Engineer.

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 72 Details

Question Type:	Multiple Choice
Topic:	72 - Generic 2.14
System ID:	24229
User ID:	24229
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	1.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: 29900LK081 Reference: CC-AA-206 K/A: Generic 2.2.14 3.9/4.3 K/A: Knowledge of the process for controlling equipment configuration or status. CFR: 41.10 PRA: No Level: Memory Pedigree: New History: Comments: Since the plant was at rated power when a control fuse blew. The new fuse is like-for like with the old fuse. IAW the reference, the Operator may install the fuse and no further engineering evaluation. a) is incorrect due to the fact that operators can install the fuse b) is incorrect due to the fact that operators can install fuses in both emergency and non-emergency situations c) is correct due to the fact that operators can install fuses in both emergency and non-emergency situations d) is incorrect due to the fact that the fuse has been determined to be like for like replacement, no further evaluation is required.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

73

ID: 24230

Points: 1.00

Consider the following two TIP system conditions:

Condition 1:

TIP scan is in progress with the TIP half-way in the core in AUTO.

Condition 2:

TIP insertion in progress with the TIP half-way in the core in MANUAL.

Which of the following describes the initial TIP response if reactor water level drops to +5 inches?

	Condition 1	Condition 2
A.	Reverses direction immediately	Reverses direction immediately
B.	Continues inserting	Continues inserting
C.	Continues inserting	Reverses direction immediately
D.	Reverses direction immediately	Continues inserting

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 73 Details

Question Type: Multiple Choice
Topic: 73 - 215001.K4.01
System ID: 24230
User ID: 24230
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE215LN001.06
Reference: DAN 902-5 E-5, DRE215LN001
K/A: 215001.K4.01 3.4 / 3.5
K/A: Knowledge of TRAVERSING IN-CORE PROBE design feature(s) and/or interlocks which provide for the following: Primary containment isolation: Mark-I&II(Not-BWR1).
CFR: 41.7
Level: High
Pedigree: Bank
History: 2011 Cert
Explanation: At RPV Level Low (Group II Initiation Signal +8 inches) the TIPS auto or manually withdraw and the Ball valve closes.

REQUIRED REFERENCES: None.

74

Points: 1.00

Unit 2 is operating at full power when the 2C RFP Flow transmitter begins failing down.

How will ACTUAL/APRM power respond prior to operator action and what actions are REQUIRED to gain control of RPV level?

- A. Reactor Power will go up; take manual control of Low Flow FRV ONLY
- B. Reactor power will go up; take manual control of Main AND Low Flow FRVs
- C. Reactor power will go down; take manual control of Main FRVs ONLY
- D. Reactor power will go down; adjust FWLC setpoint to restore RPV level to desired band

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 74 Details

Question Type: Multiple Choice
Topic: 74 - 259002 A1.03
System ID: 24231
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 259LN002.11
Reference: DOA 0600-01
K/A: 259002 A1.03 3.8/3.8
K/A: Ability to predict and/or monitor changes in parameters associated with operating the Reactor Water Level Control controls including: Reactor Power
CFR: 41.5
Safety Function: 2
PRA: Yes
Level: High
Pedigree: New
History:
Comments:
A) Incorrect - Reactor Power will increase due to positive reactivity addition, however with LFRV already closed taking manual control will not reduce RPV water inventory.
B) Correct - Reactor Power will increase due to positive reactivity addition, taking Main and Low Flow FRVs to manual is required to discontinue the excess RPV water addition. Additional actions will be required to close the valves and match feed flow and steam flow to stabilize RPV level
C) Incorrect - Reactor Power will increase due to positive reactivity addition. Main FRV and Low Flow FRV must be taken to manual to restore RPV level
D) Incorrect - Reactor Power will increase due to positive reactivity addition. Main FRV and Low Flow FRV must be taken to manual to restore RPV level. Adjusting setpoint may temporarily avert the RPV level rise.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

75

ID: 24232

Points: 1.00

A DBA LOCA has occurred on Unit 2 with the following plant conditions present:

- RPV level is -100 inches and rising slowly
- Torus water level is 8.0 feet and lowering slowly
- The torus leak is unisolable

Given these conditions you would predict that the Core Spray pump discharge pressure would be _____ and the operator would throttle _____ the discharge valve.

- A. Lowering, Close
- B. Lowering, Open
- C. Rising, Close
- D. Rising, Open

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 75 Details

Question Type: Multiple Choice
Topic: 75 - 209001 A3.03
System ID: 24232
User ID: 24232
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 209LN001.06
Reference: DOP 1400-02
K/A: 209001 A3.03 3.5/3.5
K/A: Ability to monitor automatic operations of the
LPCS including: System Pressure
CFR: 41.7
Safety Function: 2
PRA: No
Level: High
Pedigree: Bank
History:
Comments:
As torus water level lowers, NPSH to CS pumps is
reduced. Lowering flow is necessary to reduce
vortexing/cavitation. As NPSH is reduced, system
discharge pressure is reduced.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

76

ID: 24253

Points: 1.00

Unit 2 was in a startup, when a transient occurred, resulting in a Scram signal being generated.

The following was reported to the Unit Supervisor:

- APRM DOWNSCALE lights are NOT lit.
- RPV water level is -45 inches and trending up slowly.
- MSIV's are closed.

With regards ONLY to RPV water level control, which of the following actions is the Unit Supervisor required to direct NEXT?

- A. Trip BOTH Recirc pumps per DEOP 400-5, FAILURE TO SCRAM.
- B. Bypass interlocks per DEOP 500-2, BYPASSING INTERLOCKS AND ISOLATIONS.
- C. Terminate AND Prevent to hold RPV water level between -50 inches and -164 inches, per DEOP 400-5, FAILURE TO SCRAM.
- D. Hold RPV water level between +48 inches and -164 inches using HPCI and feedwater per DEOP 400-5, FAILURE TO SCRAM.

Answer: D

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 76 Details

Question Type:	Multiple Choice
Topic:	76 - 295037.A2.01
System ID:	24253
User ID:	24253
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: 29502LP025 Reference: DEOP 400-5 K/A: 295037.A2.01 4.2 / 4.3 K/A: Ability to determine and/or interpret the following as they apply to SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN : Reactor Power Level: High Pedigree: Bank History: 2010 NRC Explanation: When RPV water level decreases to < 8 inches a scram signal is generated. The examinee must be able to determine that reactor power is > 6% and in an ATWS condition, as indicated by the downscale lights not being illuminated for this situation. During an ATWS, with power > 6% and RPV water level < -35 inches, per DEOP 400-5 the actions are to hold RPV water level between 48 inches and -143 inches (box 7) using HPCI and feedwater. (a) Trip recirc pumps are not the NEXT action (since would have tripped at -59 inches). (b) Bypass interlocks is incorrect, since the MSIVs would have went closed when a Group 1 isolation was received. (c) Terminate and Prevent and hold level between -50 inches and -164 inches is NOT to be directed since RPV water level is < -35 inches (the overrides are NOT met which does NOT send the SRO to box 8).</p> <p>SRO Criteria: 5</p> <p>REQUIRED REFERENCES: DEOP charts, with the entry conditions blanked out.</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

77

ID: 24177

Points: 1.00

Unit 2 is operating at near rated power when the following components lose their Control Room light indications:

- "A" RBCCW Pump
- "A" RWCU Pump
- "A" Core Spray Pump
- "A" and "B" LPCI Pumps

What is the cause of the event AND what action is the SRO required to direct?

- A. The normal feed breaker to the Unit 2 125VDC 2A-2 Dist Panel has tripped; the 2A Recirc ASD 4kv input breaker must be tripped at Bus 21.
- B. The normal feed breaker to the Unit 2 125VDC 2A-2 Dist Panel has tripped; the RBX to TBX **and** RBX to 2/3 D/G interlock doors must be blocked closed.
- C. The normal feed breaker to the Unit 2 125VDC Rx Bldg Dist Panel has tripped; the 2A Recirc pump must be tripped at Bus 21.
- D. The normal feed breaker to the Unit 2 125VDC Rx Bldg Dist Panel has tripped; the RBX to TBX interlock doors must be blocked closed.

Answer: D

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 77 Details

Question Type:	Multiple Choice
Topic:	77 - 295004.A2.01
System ID:	24177
User ID:	24177
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	0.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: 26302LK002 Reference: DOA 6900-02 K/A: 295004.A2.01 3.2 / 3.6 K/A: Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF D.C. POWER : Cause of partial or complete loss of D.C. power. PRA: Yes Level: Memory Pedigree: Bank History: Comments: The components that lost indication are all powered from Bus 23-1. The control power that supplies Bus 23-1 has been lost and normally comes from the Rx Bldg Dist Panel. Per the above DOA, interlock doors must be blocked.</p> <p>SRO per Criteria: Requires specific procedure content knowledge</p> <p>REQUIRED REFERENCES: None.</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

78

ID: 24178

Points: 1.00

Unit 3 was operating at near rated power when a reactor coolant leak occurred inside the Drywell, and the following conditions exist:

- Torus level is 13 feet.
- Torus sprays are operating.
- Torus bottom pressure is 11 psig and steady.
- RPV level is 10 inches and rising slowly.
- RPV pressure is 880 psig and lowering slowly.
- Drywell pressure is 6 psig and steady.
- Drywell temperature is 260°F and rising rapidly.
- Drywell sprays have NOT been attempted.

Which of the following actions is required to be performed NEXT per the DEOPs?

- A. Spray the Drywell ONLY.
- B. Trip Drywell Coolers.
- C. Perform an RPV Blowdown.
- D. Vent the Primary Containment.

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 78 Details

Question Type: Multiple Choice
Topic: 78 - 295028.A2.05
System ID: 24178
User ID: 24178
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 29502LP006
Reference: DEOPs 200-1 and 400-2
K/A: 295028.A2.05 3.6 / 3.8
K/A: Ability to determine and/or interpret the following as they apply to HIGH DRYWELL TEMPERATURE :
Torus/suppression chamber pressure: Plant-Specific.
Level: High
Pedigree: Bank
History: 2008 NRC
Comments: RPV blowdown required due to about to exceed drywell temperature limits. Can not spray the Drywell because the conditions are to the left of the Drywell Spray Initiation Limit curve. Can not vent because at this point there is no direction to exceed off-site release rates.

SRO per Criteria: 5

REQUIRED REFERENCES: DEOP 200-1 and 400-2.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

79

ID: 24179

Points: 1.00

Unit 3 was operating at 20% power when a transient occurred, causing the Unit to receive a scram signal, resulting in the following set of conditions:

- The SBLC system was NOT started.
- ALL RPS Scram lights are extinguished.
- All LPRM downscale lights are illuminated.
- RPV water level remained above +12 inches.
- RPV pressure is 900 psig and very slowly rising.
- The NSO reported that he can NOT confirm that all rods are fully inserted.
- IRMs are fully inserted and reading between range 3 and 4 and are lowering.

(1) Is the Reactor SHUTDOWN UNDER ALL CONDITIONS WITHOUT BORON?

(2) What is the Unit Supervisor required to direct NEXT?

- A. (1) No;
(2) Enter DEOP 100, RPV CONTROL.
- B. (1) No;
(2) Enter DGP 2-3, REACTOR SCRAM.
- C. (1) Yes;
(2) Enter DEOP 100, RPV CONTROL.
- D. (1) Yes;
(2) Enter DGP 2-3, REACTOR SCRAM.

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 79 Details

Question Type: Multiple Choice
Topic: 79 - 295015.A2.01
System ID: 24179
User ID: 24179
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 29502LK005
Reference: DGP 2-3, Tech Spec Definitions 1.1, DEOP Bases B-14-8
K/A: 295015.A2.01 4.1 / 4.3
K/A: Ability to determine and/or interpret the following as they apply to INCOMPLETE SCRAM: Reactor Power.
Level: High
Pedigree: Bank
History: 2009 NRC
Explanation: The Reactor can NOT be determined to be "shutdown under all conditions" by relying on the Tech Spec bases definition of shutdown margin (xenon free core, moderator 68 degrees, all rods inserted except one fully withdrawn). This will have to be determined by a QNE. The correct action is to enter DGP 2-3, and execute the CONTINGENCY ACTION leg. It is RO knowledge to know that DGP 2-3 will always be entered on a Reactor Scram and that a transition should be made to DEOP 400-5. It is SRO knowledge to determine whether DEOP 100 needs to be entered and based on the conditions in the stem to determine if the Reactor will stay shutdown under all conditions and therefore entry required to DEOP 400-5.

SRO per Criteria: 5

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

80

ID: 24180

Points: 1.00

Unit 3 is at full power.

When the following occurs:

- 903-4 C-19, LPCI/CS EAST SUMP LVL HI is received in the control room.
- An EO reports a large unisolable leak on the Core Spray suction piping and there is 10 inches of water on the floor in the East Corner Room.

20 minutes later:

- 903-4 D-19, LPCI/CS WEST SUMP LVL HI is received in the control room.
- An EO reports there is 8 inches of water on the floor in the West Corner Room.

Based on these conditions, at a minimum, the SRO is required to direct ____ (1) ____ and the basis for this is ____ (2) ____.

- A. (1) a reactor scram per DGP 02-03
(2) a direct threat exists relative to secondary containment integrity, to equipment located in the secondary containment and to continued safe operation of the plant.
- B. (1) a reactor shutdown per DGP 02-01
(2) a direct threat exists relative to secondary containment integrity, to equipment located in the secondary containment and to continued safe operation of the plant.
- C. (1) a reactor scram per DGP 02-03
(2) to reduce to decay heat levels the energy that the RPV may be discharging to the secondary containment.
- D. (1) a reactor shutdown per DGP 02-01
(2) to reduce to decay heat levels the energy that the RPV may be discharging to the secondary containment.

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 80 Details

Question Type: Multiple Choice
Topic: 80 - 295036.G.2.4.18
System ID: 24180
User ID: 24180
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 295L049
Reference: BWROG EPG/SAGs, Appendix B (DEOP Bases)
K/A: 295036.G.2.4.18 3.3/4.0
K/A: Secondary Containment High Sump/Area Water
Level: Knowledge of the specific bases for EOPs
Safety Function: 5
PRA: Yes
Level: High
Pedigree: Bank
History: ILT 11-1 NRC
Comments: Examinee must identify that a leak from core spray suction is not a leak from a primary system and a reduction in RPV pressure will not effect the leak rate. Per DEOP 300-1 a decision must be made by the SRO whether a Scram or Unit Shutdown must be performed. This is the responsibility of the Unit Supervisor.
a) Incorrect - the reactor would be scrammed if a primary system was discharging and unisolable.
b) Correct - Per BWROG EPG/SAGs, Appendix B
c) Incorrect - the reactor would be scrammed if a primary system was discharging and unisolable
d) Incorrect - this is the basis for scramming the reactor with an unisolable leak.

SRO per Criteria: 5

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

81

Points: 1.00

Unit 2 is operating at near rated conditions, when the following occurred:

- 125 Vdc Bus 2A-1 is de-energized due to a problem with its feed breaker.
- Subsequently, the feed breaker from 2B-1 to DIV II ADS LOGIC tripped on a fault.

What is the status of ADS system availability and based on this status what actions (if any) are required by Tech Specs?

- A. ADS valves can still actuate on an ADS signal;
NO action required.
- B. ADS valves will open when the control switch(es) are operated;
Be in MODE 3 in 12 hours, with steam dome pressure <150 psig in 36 hours.
- C. ADS valves can NOT be opened from the control room;
Be in MODE 3 in 12 hours, with steam dome pressure <150 psig in 36 hours.
- D. ADS valves can NOT be opened from the control room;
Declare ADS valves inoperable in immediately and restore the channel to operable status within 7 days.

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 81 Details

Question Type:	Multiple Choice
Topic:	81 - 218000.A2.05
System ID:	24181
User ID:	
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: DRE218LN001.12 Reference: Electrical Prints 12E-2461 & 12E-2462, I.T.S. 3.5.1, DOA 6900-T1 K/A: 218000.A2.05 3.4 / 3.6 K/A: Ability to (a) predict the impacts of the following on the AUTOMATIC DEPRESSURIZATION SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Loss of A.C. or D.C. power to ADS valves. Level: High Pedigree: Bank History: 2006 Cert, 2009 NRC Comments: Bus 2A-1 is the only source of power to Div 1 ADS Logic circuit. It is the backup source of power to Div II logic and the normal source to the ADS valves. Div I logic has no backup power source so when 2A-1 is de-energized, Div I logic has no power, the ADS valves swap to their alternate source from 2B-1 ckts 11 (3A & 3B) & 12 (3C, 3D, & 3E). When the 2B-1 feed to Div II logic is lost then the ADS function of the Relief valves is lost but they can fulfill their relief function and can be operated manually.</p> <p>SRO per Criteria: 2</p> <p>REQUIRED REFERENCES: Tech Spec 3.5.1, with the less than one hour entry conditions blanked out and LCo, applicability.</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

82

ID: 24236

Points: 1.00

Unit 2 is operating at 985 MWe when alarm 902-3 D-9, 2A TARGET ROCK RELIEF VLV OPEN, is received.

The NSO reports MWe output is 941.

Immediate operator actions are completed.

The NSO reports Unit 2 is now operating at 975 MWe.

The 2A ERV is _____ and the SRO will direct _____ .

- A. Open; Entry into DOA 0040-01 ONLY, establish max torus cooling.
- B. Closed; entry into DOA 0040-01 ONLY, cycle the ADS inhibit switch.
- C. Open; entry into DOA 0040-01 and DOA 0250-01, to cycle the ADS inhibit switch.
- D. Closed; entry into DOA 0040-01 and DOA 0250-01, establish max torus cooling.

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 82 Details

Question Type:	Multiple Choice
Topic:	82 - 239002 A2.03
System ID:	24236
User ID:	24236
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: 21800LP003 Reference: DAN 902(3)-3 D-9, DOA 0040-01, DOA 0250-01 K/A: 239002 A2.03 4.1/4.2 K/A: Ability to (a) predict the impacts of the following on the SRVs; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: STUCK OPEN SRV CFR: 41.5 PRA: Yes Level: High Pedigree: New History: SRO Criteria: 5 Comments: The determination of correct procedure usage based on assessment of facility conditions makes this question SRO ONLY. A - Incorrect. DAN 902(3)-3 D-9 directs entry into DOA 0250-01 if the ERV fails to close. Based on the indications listed in the stem, the 2A ERV failed to seat fully B - Incorrect. 2A ERV is still open based on indications provided in the stem. DOA 0040-01 is appropriate and a plausible distracter due to direction contained within to establish Torus Cooling. C - Correct. Based on MWe failing to return to the pre-transient value, 2A ERV failed to fully reseal. DOA 0250-01 would be appropriate for ERV failure as well as DOA 0040-01 based on the loss of RPV inventory. D - Incorrect - 2A ERV is still open based on indications provided in the stem. DOA 0040-01 is appropriate based on the statement above. DOA 0250-01 is also warranted at this point due to ERV failing to close.</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

83

ID: 24183

Points: 1.00

Unit 3 was at near rated power, with the RWCU system in operation when the Instrument Air supply line to RWCU FCV 3-1219, ruptured.

The Unit Supervisor directs _____.

- A. an operator to increase RWCU system blowdown flow
- B. reducing system flow per DAN 903-4 C-12 RWCU RECIRC PP DISCH PRESS LO
- C. check for system isolation per DOP 1200-03, RWCU SYSTEM OPERATION WITH THE REACTOR AT PRESSURE hard card
- D. securing the RWCU system per DOP 1200-03, RWCU SYSTEM OPERATION WITH THE REACTOR AT PRESSURE hard card

Answer: D

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 83 Details

Question Type:	Multiple Choice
Topic:	83 - 204000.A2.07
System ID:	24183
User ID:	24183
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: DRE204LN001.12 Reference: M-30, DOA 4700-01, DOP 1200-03, DANs 902-4 A-10 & C-12 K/A: 204000.A2.07 2.5 / 2.6 K/A: 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: Loss of plant air systems. Level: High Pedigree: Modified History: 2011 NRC, 2009 NRC Explanation: Loss of IA to the FCV causes valve to fail closed (does not lock up). The pump experiences a dead headed situation (NOT a pump trip). Per DOP 1200-03, during a system transient, secure the system via the hard card. The high pressure isolation (downstream of the PCV) would not occur, since flow was isolated by the failing closed of the FCV. a) incorrect - increasing RWCU blowdown is not procedural required. Isolating the system will stop all blowdown flow. b) incorrect - the breaker would have tripped if the valved failed open, DAN would not provide guidance. c) incorrect - the system will not isolate with the FCV failed closed. d) correct - the RWCU system is running deadheaded with a loss of FCV. SRO must order use of HardCard to rapidly secure RWCU system to prevent damage.</p> <p>SRO Criteria: 5</p>

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

84

ID: 24184

Points: 1.00

Unit 3 was operating at 20% power, shutting down for repairs inside containment.

On 1/23/15 at 05:00 Chemistry reported the following parameters:

- Reactor Water chlorides 180 ppb
- Reactor Water conductivity 0.07 micromhos/cm
- Reactor Water pH 8.6

On 1/23/15 at 07:30, Unit 3 NSO placed the reactor MODE switch in STARTUP.

On 1/23/15 at 07:32, Chemistry reported the following parameters:

- Reactor Water chlorides 165 ppb
- Reactor Water conductivity 1.1 micromhos/cm
- Reactor Water pH 7.2

If the chemistry numbers do NOT change, which of the following is the LATEST time that the Unit may enter MODE 4 and still meet the TLCO required action?

- A. 07:30 on 1/25/15
- B. 19:30 on 1/25/15
- C. 19:30 on 1/26/15
- D. 07:30 on 1/27/15

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 84 Details

Question Type:	Multiple Choice
Topic:	84 - Generic.1.34
System ID:	24184
User ID:	24184
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	0.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: DRE299LN001.04 Reference: TRM 3.4.b K/A: Generic.1.34 2.7 / 3.5 K/A: Knowledge of primary and secondary plant chemistry limits. Level: High Pedigree: Bank History: 2013 Cert Explanation: With the Unit unable to restore chemistry parameters, the required action of condition D will not be met after 48 hours from entering MODE 2, (chlorides are exceeded), (time 07:30 on 1/23). If not meeting the required action of condition D, condition E required action are to be in MODE 3 in 12 hours and MODE 4 in 36 hours. 48 hours + 36 hours (for mode 4) from 07:30 on 1/23 is 19:30 on 1/26. Distracter 07:30 on 1/25 may be chosen if the student applied the 48 hours only. Distracter 19:30 on 1/25 may be chosen if the student added 48 hours + 12 hours only. Distracter 07:30 on 1/27 may be chosen if the student applied the 48 hours + 12 hours + 36 hours..</p> <p>SRO per Criteria: 2</p> <p>REQUIRED REFERENCES: TRM 3.4.b., with less than 1 hour times removed and TLCO, applicability..</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

85

ID: 24185

Points: 1.00

Which of the following list is REQUIRED to be ensured prior to removing control rod XX-YY from the core for blade replacement during REFUEL operations?

- A. The control cell for control rod XX-YY is defueled.
- B. Fuel has been unloaded from all adjacent control cells.
- C. Two (2) SRMs are operable with at least one in an adjacent quadrant.
- D. The REFUEL INTERLOCKS for control rod XX-YY have been defeated.

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 85 Details

Question Type: Multiple Choice
Topic: 85 - Generic.1.40
System ID: 24185
User ID: 24185
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 0.00
Time to Complete: 2
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 29800LK084
Reference: DFP 0800-16, DGP 04-01
K/A: Generic.1.40 2.8 / 3.9
K/A: Knowledge of refueling administrative requirements.
Level: Memory
Pedigree: Bank
History: 2009 NRC, 2011 Cert
Comments: In the prerequisites section of DFP 0800-16, it states that prior to Control Rod removal, perform checklist D of DGP 04-01, which states that the cell for that particular (not adjacent) Control Rod must be defueled.
One (not two) SRMs must be operable with at least one in an adjacent quadrant.
MODE switch REFUEL INTERLOCKS must be operable, not defeated for a particular control rod.

SRO per criteria 7

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

86

ID: 24186

Points: 1.00

Use of DOP 2000-111, Waste Surge Tk Radwaste Discharge to River with the Off-Stream Liquid Effluent Monitor NOT in Operation, requires the authorization of the Shift Manager as well as

- A. Operations Director
- B. Chemistry Manager
- C. Shift Operations Supervisor
- D. Radiation Protection Manager

Answer: B

Question 86 Details

Question Type:	Multiple Choice
Topic:	86 - Generic.3.06
System ID:	24186
User ID:	24186
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	0.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: DRE268LN001.14 Reference: DOP 2000-111 K/A: Generic.3.06 2.0 / 3.8 K/A: Ability to approve release permits. Level: Memory Pedigree: New History New Explanation: With the discharge monitor not in use, then use DOP 2000-111 to perform a River Discharge. Prerequisite D.1 states that permission MUST be obtained from Shift Manager AND Chemistry Manager prior to implementation of this procedure.

SRO per criteria 4.

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

87

ID: 24254

Points: 1.00

Given the following plant conditions:

You are tasked to evaluate four available teams of EO's to perform a valve lineup in a 1500 mREM/hr radiation field

Given the following available teams:

TEAM A

EO A - 200mREM YTD
EO B - 4375 mREM YTD

Team A can complete the alignment in 30 minutes

TEAM B

EO A - 4700 mREM YTD
EO B - 200 mREM YTD
EO C - 250 mREM YTD

Team B can complete the alignment in 15 minutes

TEAM C

EO A - 500 mREM YTD
EO B - 3950 mREM YTD

Team C can complete the alignment in 45 minutes

TEAM D

EO A - 4400 mREM YTD
EO B - 1000 mREM YTD
EO C - 500 mREM YTD

Team D can complete the alignment in 20 minutes

Which ONE (1) of the available teams should be selected based on maintaining station radiation dose ALARA without allowing any individual worker to exceed a Federal annual exposure limit?

- A. Team A
- B. Team B
- C. Team C
- D. Team D

Answer: D

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 87 Details

Question Type:	Multiple Choice
Topic:	87 - Generic 3.14
System ID:	24254
User ID:	24254
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: N-NGET-RWT_I/RE 23 Reference: RP-AA-203 K/A: Generic 3.14 3.4/3.8 K/A: Knowledge of radiation or contamination hazards that may arise during normal, abnormal, or emergency conditions or activities. PRA: No CFR: 43.4 Level: High Pedigree: Bank History: 2012 MNS NRC Comments: To maintain station dose ALARA, the worker/team with the lowest dose for the job consistent with meeting all other exposure limits should be selected.</p> <p>a) Team A would receive 750mREM each and team total of 1500 mREM. However, Worker B would exceed their annual exposure limit.</p> <p>b) Team B would receive 1000 mREM each for a team total of 2000 mREM. Consequently, the total exposure for the valve alignment would be the highest of all teams.</p> <p>c) Team C would receive 375 mREM each for a team total of 1125mREM. This is the lowest total exposure of all teams. However, Worker A would exceed their annual exposure limit.</p> <p>d) Team D would receive 500mREM each for a total of 1500mREM. This is tied for the second lowest exposure for the valve alignment. While Team D has the highest overall exposure of any team, they are the best choice because of low team exposure and the fact that no one will exceed their annual exposure limit.</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

88

Points: 1.00

Unit 2 is operating near rated power.

- 2A Stator Cooling is OOS.
- HVO and EMD have been trying to locate and isolate an 80 volt ground on the 125 VDC System.
- The Unit 2 NSO then notices that two previously lit annunciators are now extinguished.
- A test of the annunciators shows ALL of the annunciators on the 902-3, 5, 6, and 8 panels have been lost.

45 minutes later 2B Stator Cooling pp trips.
Immediate operator actions of DOA-7400-1 are complete.

What is the minimum EP classification level (if any) that must be declared? (Exclude discretionary EALs)

- A. NO EP Classification
- B. Unusual Event
- C. Alert
- D. Site Area Emergency

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 88 Details

Question Type:	Multiple Choice
Topic:	88 - Generic.4.41
System ID:	24188
User ID:	
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	0.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: 29501LP032 Reference: EP-AA-1004 Addendum 3 K/A: Generic.2.4.41 2.9/4.6 K/A: Knowledge of the emergency action level thresholds and classifications. PRA: No Level: High Pedigree: Modified History: ILT 11-1 NRC Comments: The correct EAL is MA4 because ALL of the annunciators 902-3, 5 and 8 panels have been lost for >15 minutes (EAL Threshold Value). To upgrade to an Alert requires a significant transient in progress (a reactor scram would be required with a loss of stator cooling): OR the loss of one of the following: 1) all indication needed to monitor criticality 2) core heat removal 3) fission product barrier status. To upgrade to a Site Emergency, a loss of ability to monitor AND a significant event i.e. Scram occurs.</p> <p>SRO per Criteria: 5</p> <p>REQUIRED REFERENCES: EP-AA-1004 EAL Charts.</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

89

ID: 24233

Points: 1.00

Given the following:

- Unit 2 is at rated conditions
- IMD is installing a jumper in the 902-55 panel to troubleshoot the SO-2-2499-1A, DW H2/O2 MON Inlet valve, that failed to open during DOS 40-7
- The work order package does NOT have a 10CFR50.59 screening.

What is the MAXIMUM time this jumper may remain installed without having a 10CFR50.59 screening?

- A. 30 days
- B. 60 days
- C. 90 days
- D. 120 days

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 89 Details

Question Type:	Multiple Choice
Topic:	89 - Generic 2.05
System ID:	24233
User ID:	24233
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	1.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	Objective: 29900LK148 Reference: LS-AA-104-1000 K/A: Generic 2.2.05 2.2/3.2 K/A: Knowledge of the process for making design or operating changes to the facility. CFR: 43.3 PRA: No Level: Memory Pedigree: New History: New Comments: IAW LS-AA-104-1000 4.2.2, a temporary alternation is exempt from performing a 50.59 review as long as it is in direct support of maintenance. Temporary alternations that support maintenance including jumpering terminals, lifting leads, etc. An approved procedure must exist (CC-AA-112) for tracking and controlling the 90 day period. Otherwise at a minimum a 50.59 screening must be performed. CC-AA-112 step 2.5 declares: although the "90 days from the current date" is conservative, the addition of this date will result in a "flag" in the schedule that reflects the earliest possible date that the temporary configuration change has to be removed, UNLESS the maintenance activity that it supports is completed sooner. Note, that MR90s are required to be removed when the maintenance activity is completed or within 90 days of the temporary change installation, which ever comes first. 50.59 uses terms like "90 days at power" and not just 90 days. While "90 days at power" are the absolute limits, the ability to control the limits of temporary change installation is based on just 90 days. The reason for using 90 days and not taking credit for the "at power" is that the NEI guidance has defined "at power" as beginning when the reactor goes critical. The difficulty in controlling duration limits based on a "reactor criticality date" that may come earlier or later than scheduled introduces a variable that is difficult to

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

use in establishing an easily identified removal date. Risk considerations associated with the temporary change are addressed as part of the maintenance activity being performed. Procedure WC-AA-101 governs the risk evaluation for the for the on-line maintenance activity. MR90 work orders should have the term 'MR90' in their title to further identify that it is a Maintenance Rule (a)(4) temporary change.

90

ID: 24234

Points: 1.00

A Site Area Emergency has been declared.

The automated call out system is unavailable.

Which of the following emergency response personnel MUST be notified using pagers?

- A. Station ERO personnel ONLY
- B. Station ERO personnel and NDO ONLY
- C. Station ERO and Corporate ERO personnel ONLY
- D. Station ERO and Corporate ERO personnel and NDO

Answer: D

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 90 Details

Question Type: Multiple Choice
Topic: 90 - Generic.4.29
System ID: 24234
User ID: 24234
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 295L160
Reference: EP-AA-112-100-F-06
K/A: Generic 2.4.29 4.6/4.4
K/A: Knowledge of the emergency plan
CFR: 43.5
PRA: No
Level: Memory
Pedigree: Bank
History: ILT 11-1 NRC
Comments:
a) Incorrect - Unusual Events are not required to have offsite notifications when using the automated call out system.
b) Incorrect - Could be selected if not known that NDO is notified using the pager system.
c) Incorrect - Could be selected if not known that EOF is required to be staffed during a site area emergency.
d) Correct - Per EP-AA112-100-F-06 step 4

SRO per Criteria: 5

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

91

ID: 24235

Points: 1.00

Given the following:

- An ATWS has occurred on U2
- Reactor water level is currently -175 inches
- Reactor pressure is 940 psig
- DW pressure is 3 psig
- Fuel damage is suspected
- Hydrogen and Oxygen concentration is being monitored and trended
- Drywell O2 is 2 % and rising 0.1% every 2 minutes
- Drywell H2 is 0.5 and rising 0.1% every 5 minutes

What is the SHORTEST time when DEOP 200-2 must be entered and venting drywell required?

- A. 25 minutes
- B. 1 hour
- C. 1 hour and 20 minutes
- D. 4 hours and 35 minutes

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 91 Details

Question Type: Multiple Choice
Topic: 91 - 500000 G4.47
System ID: 24235
User ID: 24235
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 29800LP044
Reference: DEOP 200-1, DEOP 200-2
K/A: 500000 G2.4.47 4.2/4.2
K/A: High CTMT Hydrogen Conc.: Ability to diagnose and recognize trends in an accurate and timely manner utilizing the appropriate control room reference material.
CFR: 43.5
PRA: No
Level: High
Pedigree: New
History: ILT 14-1 NRC
SRO Criteria 5
Comments: The ability to trend H2 concentration is met through use of PPDS computer. Input to the computer comes from the sensing point that inputs H2/O2 monitor as well. SRO would be the individual monitoring on PPDS as well as making the decisions on DEOP 200-1 and DEOP 200-2 execution.
a) is correct based on the rate and trend of H2 concentration. This would drive entry into DEOP 200-2 and with O2 greater than zero and less than 5%, the action would be to go to section 31 and vent the drywell
b) is incorrect but plausible based on the trend of O2, 5% would be met in 1 hour.
c) is incorrect but plausible based on the trend of O2, 6% would be met in 1 hour and 20 minutes
d) is incorrect but plausible based on the trend on H2, 6% would be met in 4 hours and 35 minutes

Required References: DEOP charts, with the entry conditions blanked out.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

92

ID: 24237

Points: 1.00

Unit 2 was operating at near rated conditions, with the following conditions:

- Flow control line is 100.0%.
- Steam flow is 11.0 Mlbm/hr.
- Feedwater flow is 10.9 Mlbm/hr.

Then 2D Condensate/Condensate Booster pump tripped on overcurrent.

Condensate pump discharge flow is ___(1)___ than the required flow for the operating RFPs and the Unit Supervisor is required to direct entering ___(2)___ .

- A. (1) less;
(2) DGP 2-3, REACTOR SCRAM, and scram the reactor
- B. (1) less;
(2) DGP 3-4, CONTROL ROD MOVEMENTS, and insert CRAM arrays
- C. (1) greater;
(2) DGP 3-4, CONTROL ROD MOVEMENTS, and insert Control Rods using the CRSP
- D. (1) greater;
(2) DOA 0600-01, TRANSIENT LEVEL CONTROL, and shift REG VLV STATION(s) to MAN and control level manually

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 92 Details

Question Type:	Multiple Choice
Topic:	92 - 259001.G4.11
System ID:	24237
User ID:	24237
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: DRE259LN001.12 Reference: DGP 3-1, DOA 0600-1, DOA 0500-1, DAN 902-4 H-6 K/A: 259001.G4.11 4.0/4.2 K/A: Reactor Feedwater: Knowledge of abnormal condition procedures. CFR: 43.5 Level: High Pedigree: Bank History: 2009 Cert Comments: With 4 Cond/Bstr pumps and 3 RFPs running and a subsequent trip of a Cond/Bstr pump, the Cond feed flow will be less than that of the RFP suction needs (and cause a Recirc Runback). Per the DGP 3-1 and DOA 0500-1, cram arrays (not CRSP) are required to be inserted because MELLA will be violated. operation outside the licensed when the plant operating parameters indicate that operation is above the MELLLA rod line. In this situation, the plant should utilize time-averaged values for core flow and power to determine whether operation is within the MELLLA boundary. If it is determined from these average values that operation is outside the MELLLA boundary, then the equivalent thermal limit Technical Specification LCO statements (i.e. return power/flow to acceptable values within two (2) hours, etc.)</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

should be conservatively applied to this condition. (W-18). DOA 0600-01 is entered upon a RFP trip not a Cond/Bstr Pp trip.

SRO per criteria: 5

REQUIRED REFERENCES: None.

93

ID: 24238

Points: 1.00

Unit 2 is operating at rated power when IMD determines MTU 2-263-140A will NOT perform its intended safety function and must be replaced.

What actions, if any, are required per TS 3.3.1.1?

- A. No actions are required per TS 3.3.1.1.
- B. Place Unit 2 in Mode 3 within 12 hours
- C. Place RPS Channel A in trip within 6 hours
- D. Place RPS Channel A in trip condition within 12 hours

Answer: D

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 93 Details

Question Type: Multiple Choice
Topic: 93 - 295031 G.2.36
System ID: 24238
User ID: 24238
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 212LN001.07B
Reference: DOP 0010-10, TS 3.3.1.1, 12E-6822, 12E-2464 Sht 1
K/A: 295031.G.2.36 3.1/4.2
K/A: Reactor Low Water Level: Ability to analyze the effect of maintenance activities, such as degraded power sources, on the status of limiting conditions for operations.
Safety Function: 2
PRA: Yes
Level: High
Pedigree: New
History: New
Comments:
This question meets SRO criteria (2) because it examines the candidate's knowledge of: Facility operating limitations in the technical specifications and their bases.
Given in the stem MTU 2-263-140A should be determined inoperable. Through the use of print 12E-6822, it can be determined that MTU 2-263-140A feeds MTR 2-263-142A and this relay is displayed on print 12E-2464 Sheet 1. 12E-2464 Sheet 1 shows the number (2) of RPV low level channels in RPS channel A. With the use of the table in TS 3.3.1.1, the candidate will determine the required number of channels per RPS trip system is NOT met, and thus should enter LCO 3.3.1.1 Condition A - Place channel in trip in 12 hours. Placing the channel in a tripped condition within 6 hours is plausible, because the function is not maintained, however this is incorrect because the MTU in question only effects 1 RPS channel. Placing the Unit in Mode 3 in 12 hours is plausible, because the Table in TS 3.3.1.1 directs actions per LCO 3.3.1.1 G, however this is only correct if the completion time of condition A is not met. No actions required per TS 3.3.1.1 is also plausible, because it is reasonable to assume redundancy in

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

plant systems including RPS (i.e. the ability to bypass 1 APRM in each RPS channel and still comply with TS 3.3.1.1)

REQUIRED REFERENCE: Tech Spec 3.3.1.1 with 1 hour or less, LCO, and Mode applicability deleted; Print 12E-6822; Print 12E-2464 Sheet 1

94

ID: 24239

Points: 1.00

Which of the following sets of parameters would require the Unit Supervisor to direct lowering RPV Pressure, PRIOR TO being required to direct an Emergency Depressurization?

- A. Reactor Pressure: 500 psig
Torus Water Level: 15.0 feet
Torus Bulk Temperature: 170°F
- B. Reactor Pressure: 550 psig
Torus Water Level: 15.5 feet
Torus Bulk Temperature: 165°F
- C. Reactor Pressure: 600 psig
Torus Water Level: 16.5 feet
Torus Bulk Temperature: 175°F
- D. Reactor Pressure: 700 psig
Torus Water Level: 16.5 feet
Torus Bulk Temperature: 160°F

Answer: C

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 94 Details

Question Type: Multiple Choice
Topic: 94 - 295026.A2.01
System ID: 24239
User ID: 24239
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1: 0.00
Num Field 2: 0.00
Text Field:
Comments: Objective: 29501LP005
Reference: DEOP 200-1
K/A: 295026.A2.01 4.1 / 4.2
K/A: Ability to determine and/or interpret the following as they apply to SUPPRESSION POOL HIGH WATER TEMPERATURE: Suppression pool water temperature.
Level: High
Pedigree: Bank
History: 2009 NRC
Comments: Utilizing the DEOP 200-1 Heat Capacity Temperature Limit (HCTL) curve (table M), the only one of the choices that is violating the curve is the RPV pressure of 600 psig and Torus temperature of 175 °F.

SRO per Criteria: 5

REQUIRED REFERENCES: DEOP charts, with the entry conditions blanked out.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

95

ID: 24240

Points: 1.00

Unit 2 is preparing for a refueling outage.

- IRM 11 has been stuck full in the core since a forced outage 6 months ago.
- Unit 2 has operated at approximately 950 MWe for the past 6 months.

What is the status of IRM 11 and per DFP 0800-12, how should it be removed?

- A. Operable; From under the RPV
- B. Inoperable; From under the RPV
- C. Operable; From the top of the RPV
- D. Inoperable; From the top of the RPV

Answer: D

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 95 Details

Question Type: Multiple Choice
Topic: 95 - 215003.A2.03
System ID: 24240
User ID: 24240
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: 21504LK003
Reference: DOA 0700-02, DFP 0800-12
K/A: 215003 A2.03 2.9/3.1
K/A: Ability to (a) predict the impact of the following on the IRM; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Stuck Detector
Safety Function: 7
PRA: No
Level: High
Pedigree: New
History: New
SRO Criteria: 4
Comments:
This question meet SRO ONLY criteria 4 because it requires the candidate to have knowledge of the high radiation conditions that will exists when the IRM is removed. With the IRM fully inserted for 6 months of high powered operation, the IRM will be inoperable (per DOA 0700-02). Industry OPEX prove high rad levels exist due to over activation of the detector. This requires the detector to be removed via the top of the core as described in DFP 0800-12. NIs are typically removed from underneath the RPV, thus making this distracter plausible. However, due to rad concerns, if the NI has been exposed to high powered operation, it should be removed from the top of the RPV, underneath the water and directly into the spent fuel pool.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

96

ID: 24141

Points: 1.00

According to the LCO for jet pump operability bases, the structural failure of any of the jet pumps could cause significant degradation in the _____.

- A. accuracy of the calculations used to determine monitored core reactivity
- B. ability of the jet pumps to allow reflooding to 2/3 core height during a LOCA
- C. ability of the operators to adequately monitor core flow to ensure that limits are met during power operation
- D. ability of the jet pumps to provide adequate flow to prevent MCPR violations during a reactivity addition accident

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 96 Details

Question Type: Multiple Choice
Topic: 96 - 290002.G.1.32
System ID: 24241
User ID: 24141
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 1.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objectives: 223LN004.7
Reference: Tech Spec 3.4.2 Bases
K/A: 290002 G.1.32 3.8/4.0
K/A: Reactor Vessel Internals; Ability to explain and apply system limits and precautions.
Level: Memory
Pedigree: Bank
History: LSG 2005 NRC, ILT 14-1 NRC
CFR: 43.2
SRO Criteria 2
Comments. The capability of reflooding the core to two-thirds core height is dependant upon the structural integrity of the jet pumps. If the structural system, including the beam holding a jet pump in place, fails, jet pump displacement and performance degradation could occur, resulting in an increased flow area through the jet pump and a lower core flooding elevation. This could adversely affect the water level in the core during the reflood phase of a LOCA as well as the assumed blowdown flow during a LOCA.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

97

ID: 24242

Points: 1.00

During performance of DOS 1500-02 the following pump flows were recorded:

- Unit 2: 2B CCSW pump 3625 gpm
- Unit 3: 3B CCSW pump 3590 gpm

The Unit Supervisor will declare _____ .

- A. BOTH 2B AND 3B CCSW Pumps operable
- B. BOTH 2B AND 3B CCSW Pumps NOT operable
- C. the 3B CCSW Pump operable BUT the 2B CCSW Pump NOT operable
- D. the 2B CCSW Pump operable BUT the 3B CCSW Pump NOT operable

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 97 Details

Question Type: Multiple Choice
Topic: 97 - 400000 G.2.37
System ID: 24242
User ID: 24242
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective: DRE277LN001.07
Reference: DOS 1500-02, DOS 1500-12, T.S. Bases 3.7.1, UFSAR 9.2
K/A: 400000 G.2.37 3.6 / 4.6
K/A: Ability to determine operability and/or availability of safety related equipment. Component Cooling Water.
PRA: Yes
CFR: 43.5
Level: Memory
Pedigree: Modified
History: ILT 11-1 NRC
Explanation: The Unit 2 CCSW Pumps must have a flowrate > 3621 gpm (121 gpm for CREVs). Unit 3 CCSW Pumps must have a flowrate of >3500. If these flow rates cannot be achieved, the associated pump must be declared inoperable. In this case both pumps meet required flows.

SRO per Criteria: 1

REQUIRED REFERENCES: None.

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

98

ID: 24243

Points: 1.00

Unit 3 was operating at near rated power when 345KV BT 9-10 CB tripped.

Five (5) seconds later 345KV BT 10-11 CB tripped.

The Turbine Bypass valves failed to open.

Given the above, the opening of the ___(1)___ valves ensures that ___(2)___ is NOT challenged.

- A. (1) relief;
(2) LHGR
- B. (1) relief;
(2) MCPR
- C. (1) safety;
(2) LHGR
- D. (1) safety;
(2) MCPR

Answer: B

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 98 Details

Question Type:	Multiple Choice
Topic:	98 - 295005.G.2.25
System ID:	24243
User ID:	24243
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	1.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: 24501LK019 Reference: T.S. and Bases 3.4.3 K/A: 295005.G.2.44 -- / 4.4 K/A: Ability to interpret control room indications to verify the status and operation of a system, and understand how operator actions and directives affect plant and system conditions. CFR: 43.2 Level: Memory Pedigree: Bank History: 2013 Cert Explanation: Tech Spec Bases 3.4.3 states that under overpressurization events such as turbine trip and generator load reject without bypass valves capability, the pressure transient is mitigated by the opening of the relief valves which prevents challenges to MCPR. This question examines the bases for the Turbine Bypass valves and not the bases for the MCPR safety limit. This question meets the K/A due to the operators must interpret status of yard and bypass valves then understand that operator actions must be taken to prevent the reactor exceeding MCPR limit. REQUIRED REFERENCES: None.</p>

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

99

ID: 24244

Points: 1.00

A hydraulic ATWS has occurred on Unit 3.

- CRD pumps are unavailable
- Torus temperature is 112F
- SBLC tank level is 35%
- Repeated scrams are in progress
- Reactor pressure is currently 80 psig

The Unit Supervisor has appropriately entered DEOP 400-2.
The Aux NSO reports 3 ERVs failed to open.

Under these conditions can SDC be used as an alternate depressurization method? Why or why NOT?

- A. YES. Due to the reactor being S/D under all conditions.
- B. NO. The SDC interlock is NOT clear.
- C. NO. Cold Shutdown boron weight has NOT been injected.
- D. NO. SDC is NOT an Alt Depressurization system during an ATWS.

Answer: A

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 99 Details

Question Type:	Multiple Choice
Topic:	99 - 205000.G.4.20
System ID:	24244
User ID:	24244
Status:	Active
Always select on test:	No
Authorized for practice:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference Number:	
Num Field 1:	
Num Field 2:	
Text Field:	
Comments:	<p>Objective: 29502LK031 Reference: DEOP 400-02, EPG B-11 K/A: 205000 G.4.20 3.8/4.3 K/A: Knowledge of the operational implications of EOP warnings, cautions, and notes. Safety Function: 4 CFR: 43.5 PRA: Yes Level: High Pedigree: New SRO Criteria: 5 History: New Comments: This question meets SRO ONLY criteria 5 because it requires the candidate to assess the conditions and correctly select and apply procedures. Per EPG Bases Chapter 11, SDC is an acceptable method of alternate depressurization ONLY if the reactor will stay shutdown under all conditions. Given in the stem indicate Cold Shutdown Boron weight has been injected, therefore the use of SDC is permitted under these circumstances.</p> <p>a) is correct due to SDC being available due to S/D boron weight being injected and the reactor will stay S/D under all conditions. b) is incorrect, the information in the stem states that the SDC interlock is not clear. The interlock is 100 psig and is met. c) is incorrect, SDC can be used with cold shutdown boron weight injected. d) is incorrect, SDC is an Alternate Depressurization system in a ATWS.</p>

**REQUIRED REFERENCES: DEOP 400-2 WITH
DETAIL O BLANKED OUT And Cold Shutdown
boron weight blanked out.**

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

100

Points: 1.00

An ATWS has occurred on Unit 2. Current plant conditions are as follows:

- All rods are fully inserted
- Recirc pumps are tripped
- Drywell temperature is 197F
- SDC is NOT in operation

What is the lowest useable level indication available on the 902-5 panel?

- A. -39 inches
- B. -51 inches
- C. -60 inches
- D. -297 inches

Answer: D

EXAMINATION ANSWER KEY

ILT 14-1 NRC SRO exam

Question 100 Details

Question Type: Multiple Choice
Topic: 100 - 295027.G1.20
System ID: 24245
User ID:
Status: Active
Always select on test: No
Authorized for practice: No
Difficulty: 4.00
Time to Complete: 0
Point Value: 1.00
Cross Reference Number:
Num Field 1:
Num Field 2:
Text Field:
Comments: Objective:29501LK002
Reference: DEOP Detail A; DEOP 200-1
K/A: 295027 G.1.20 4.6/4.6
K/A: HIGH CONTAINMENT TEMPERATURE: Ability to interpret and execute procedure steps
Safety Function: 5
CFR: 43.5
PRA: No
Level: High
Pedigree: Bank
SRO Criteria: 5
History: 2014 ILT NRC Exam
Comments:
This question meets SRO ONLY criteria 5 because it requires the candidate to recognize entry into DEOP 200-1, assess plant conditions as directed by DEOP 200-1 and determine the availability of plant indications.
With the conditions given in the stem, a DEOP 200-1 entry condition exists due to high drywell temperature. The actions statement with respect to drywell temperature in DEOP 200-1 directs the analysis of conditions as they pertain to RPV level instrumentation. Detail A demonstrates with a drywell temperature of 197F fuel zone level indication minimum usable level indication is -297 inches. Fuel zone level indication is available on the 902-5 panel.

Required reference: DEOP charts, with the entry conditions blanked out.