

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

1

ID: 1455392

Points: 1.00

A startup is in progress on unit 1

While up ranging the IRM's they will swap from a low frequency amplifier to a high frequency amplifier

Which of the following describes when this will occur and a potential plant response?

Ranging IRM from range

Potential plant response

- | | | |
|----|--------|--------------------------|
| A. | 6 to 7 | Half SCRAM and rod block |
| B. | 6 to 7 | Half SCRAM only |
| C. | 2 to 3 | Half SCRAM and rod block |
| D. | 2 to 3 | Half SCRAM only |

Answer: A

Answer Explanation

- A Correct per GP-2 App 1; **WHEN** changing range from 6 to 7 on the IRMs, **THEN** the range change swaps from the low frequency amplifier to the high frequency amplifier **AND** could cause a half-scrum.
Although GP-2 does not reference a rod block the 1/2 scram is due to potential spiking of the IRM when ranging between 6 and 7. Any spiking that will cause a 1/2 scram will also cause a rod block
- B Incorrect a rod block will also be generated. Plausible to examinee who does not recall that when ranging from 6 to 7 there is a potential for spiking of the IRM which could result in a rod block and half SCRAM
- C Incorrect; plausible to the examinee who recalls an IRM function (SRM down scale rod block is bypassed) when ranging from 2 to 3
- D Incorrect; plausible to the examinee who recalls an IRM function (SRM down scale rod block is bypassed) when ranging from 2 to 3 and does not recall why a half scram may be generated

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 1 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	2
Difficulty:	2.50
System ID:	1455392
User-Defined ID:	Q# 1 BANK
Lesson Plan Objective:	LGSOPS0074.22A
Topic:	2414, A gas-filled radiation detector operating in the ionizati
RO:	2.6
SRO:	2.7
KA#:	215003 K5.10

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data			
	Level	RO		
	Tier	2		
	Group	1		
	KA # and Rating	215003 K5.01 2.6/2.7		
	KA Statement	215003 Intermediate Range Monitor (IRM) System Knowledge of the operational implications of the following concepts as they apply to INTERMEDIATE RANGE MONITOR (IRM) SYSTEM : Detector operation		
	Cognitive level	High		
	Safety Function	7		
	10 CFR 55	41.5		
	Technical Reference with Revision No:	GP-2 LGSOPS0074	Rev #:	5 3 5
	Justification for Non SRO CFR Link:	n/a		
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	New		
	Question Source: (i.e. New, Bank, Modified)	New		
	Low KA Justification (if required):	n/a		
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	New		
	ILT			
	Supplied Ref (If appropriate): (i.e. ABN-##)	none		
	Notes			
	PRA: (i.e. Yes or No or #)	No		
LORT Question Section: (i.e. A-Systems or B-Procedures)				
Comments				

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

2

ID: 1454410

Points: 1.00

Unit 1 plant conditions:

- DIV 1 STEAM LEAK DETECTION alarm is lit due to RCIC Room high temperature
- DIV 3 STEAM LEAK DETECTION alarm is **NOT** lit
- RCIC STEAM LINE HI FLOW alarm is lit due to RCIC high steam flow

Which of the following identifies the status of the RCIC Isolation Valves?

	<u>HV49-1F007 RCIC Steam Line Inboard</u>	<u>HV49-1F008 RCIC Steam Line Outboard</u>
	<u>Isolation</u>	<u>Isolation</u>
A.	Open	Open
B.	Open	Closed
C.	Closed	Open
D.	Closed	Closed

Answer: D

Answer Explanation

D Correct If power is available either division activation will close all associated RCIC steam line valves. The two divisions are for redundancy, but with a high steam line flow (>300%) there is a leak in RCIC room and therefore, a full isolation is warranted.

A incorrect plausible to the examinee who does not recognize the high flow alarm is equivalent to the isolation signal and incorrectly believes that both DIV 1 and 3 temperatures are required for any valve to close.

B incorrect plausible to the examinee who does not recognize the high flow alarm is equivalent to the isolation signal but correctly recalls that a DIV 1 hi temperature will close the outboard valve.

C incorrect plausible to the examinee who does not recognize the high flow alarm is equivalent to the isolation signal and incorrectly believes the DIV 1 isolation closes the inboard valve

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 2 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1454410
User-Defined ID:	Q# 2 BANK
Lesson Plan Objective:	LOT0380.06 RCIC
Topic:	Describe the status of RCIC Isolation valves with "DIV 1 STEAM LEAK DETECTION"
RO:	3.1
SRO:	3.2
KA#:	217000 K1.07

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data	
Level	RO
Tier	2
Group	1
KA # and Rating	217000 K1.07 3.1/3.2
KA Statement	Reactor Core Isolation Cooling System (RCIC) Knowledge of the physical connections and/or cause effect relationships between REACTOR CORE ISOLATION COOLING SYSTEM (RCIC) and the following: Leak detection
Cognitive level	high
Safety Function	2
10 CFR 55	41.5,41.7
Technical Reference with Revision No:	Rev #:
Justification for Non SRO CFR Link:	N/A
Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank
Question Source: (i.e. New, Bank, Modified)	bank 560597
Low KA Justification (if required):	n/a
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	n/a
ILT	
Supplied Ref (If appropriate): (i.e. ABN-##)	none
LORT	
PRA: (i.e. Yes or No or #)	
LORT Question Section: (i.e. A-Systems or B-Procedures)	
Comments	

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

3

ID: 1454509

Points: 1.00

Unit 1 plant conditions are as follows:

- OPCIION 4
- '1B' RHR is in Shutdown Cooling

The following sequence of events occurs

- Annunciator 122-A1 D12 BUS DIFF/ OVERCURRENT LOCKOUT alarms
- After the annunciator is received reactor level lowers to -25 inches before being restored (no other operator actions have been taken)

Which of the following describes the final position of the listed RHR valves due to the above conditions?

- HV51-1F008, RHR S/D Cooling Outboard PCIV
- HV51-1F009, RHR S/D Cooling Inboard PCIV
- HV51-1F015B, 2B RHR S/D Cooling injection Outboard PCIV

	<u>HV51-1F008</u>	<u>HV51-1F009</u>	<u>HV51-1F015B</u>
A.	Closed	Open	Open
B.	Closed	Closed	Closed
C.	Open	Closed	Open
D.	Open	Open	Closed

Answer: C

Answer Explanation

- HV51-1F008, 1RHR S/D Cooling Outboard PCIV power supply is D12
 - HV51-1F009, 1RHR S/D Cooling Inboard PCIV power supply is D11
 - HV51-1F015B, 1B RHR S/D Cooling injection PCIV power supply is D12
- A Incorrect plausible to the examinee who reverses the power supply for the HV51-1F008, and HV51-1F009 and recalls that both the HV51-1F015A&B are powered from the same source but believe it is D11 not D12
- B Incorrect plausible to the examinee who does not recognize that a D12 bus differential over current will deenergize the bus, preventing the motor operated valves from closing
- C Correct with D12 deenergized only the HV51-1F009, RHR S/D Cooling Inboard PCIV will close
- D Incorrect plausible to the examinee who reverse inboard and outboard power supplies

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 3 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	6
Difficulty:	2.00
System ID:	1454509
User-Defined ID:	Q# 3 NEW
Lesson Plan Objective:	LLOR0701E.3
Topic:	Loss of power to SDC valves
RO:	2.5
SRO:	2.7
KA#:	205000 K2.02

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	2	
	Group	1	
	KA # and Rating	205000 K2.02 2.5/2.7	
	KA Statement	Shutdown Cooling System (RHR Shutdown Cooling Mode Knowledge of electrical power supplies to the following: Motor operated valves	
	Cognitive level	high	
	Safety Function	4	
	10 CFR 55	41.7	
	Technical Reference with Revision No:	S51.7.B ON-121 B21-1090-E-01 2 Sh. 12, C61-1050-E-01	Rev #:
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	new	
	Question Source: (i.e. New, Bank, Modified)	new	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e, A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

4

ID: 1454528

Points: 1.00

Unit 2 plant conditions:

- HPCI is running in full flow test (CST to CST) at 5600 gpm

A loss of Division 2 DC power occurs.

Which of the following identifies the impact, if any, on HPCI operation?

- A. Continues to run at 5600 gpm
- B. Div 2 isolation occurs
- C. Turbine Governor Valve closes
- D. HPCI over speed trip occurs

Answer: C

Answer Explanation

A loss of DIV 2 power to HPCI will cause HPCI speed to run back to the low setting due to loss of control power to the flow controller which feeds the Turbine Governor. DIV 2 provides power for control power, isolation circuits, all DIV 2 valves, initiation logic, aux oil pump control and turbine trip logic. HPCI is out of service and not available on loss of DIV 2.

A Plausible to candidate who does not remember loss of div 2 will close governor but recalls that the isolation is energized to operate.

B Plausible to candidate who believes that HPCI isolation logic is deenergize to operate

C Correct A loss of DIV 2 power to HPCI will cause HPCI speed to run back to the low setting due to loss of control power to the flow controller which feeds the Turbine Governor.

D Plausible to candidate who believes the governor fails full open on a loss of power

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 4 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1454528
User-Defined ID:	Q# 4 BANK
Lesson Plan Objective:	HPCI 14.A
Topic:	Predict Impact of Loss of Div 2 DC on HPCI Operation
RO:	2.5
SRO:	2.7
KA#:	206000 K2.04

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	2		
Group	1		
KA # and Rating	206000 K2.04 2.5/2.7		
KA Statement	High Pressure Coolant Injection System Knowledge of electrical power supplies to the following: Turbine control circuits: BWR-2,3,4		
Cognitive level	lower		
Safety Function	2		
10 CFR 55	41.7		
Technical Reference with Revision No:	E41-1040-E-004, sht. 001 E41-1040-E-005, sht. 001 E41-1040-E-006, sht. 001 ARC-MCR-117, A1	Rev #:	26 30 36 2
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank 560442		
Question Source: (i.e. New, Bank, Modified)	Bank		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	n/a		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

5

ID: 1454611

Points: 1.00

Given:

- INSTRUMENT AIR HEADER A PRESSURE LO annunciator is in alarm
- INSTRUMENT AIR HEADER B PRESSURE LO annunciator is in alarm
- Instrument Air header pressure is still lowering

The CRS has directed a power reduction to 44%, per ON-119, Loss Of Instrument Air

Which of the following describes the bases for the power reduction?

- A. Reduce the probability of a turbine trip from lowering condenser vacuum.
- B. Reduce the transient if a SCRAM is required due to rods drifting in.
- C. Reduce the probability of a loss of adequate feedwater should the Condensate or RFP Min Flow valves begin to drift open.
- D. Reduce the probability of power exceeding 100% should the feedwater heater dump valves fail open.

Answer: C

Answer Explanation

1. Both inst. air header low alarms coming in is an entry condition for ON-119.
2. The bases for reducing power to 44% is to reduce the probability of a loss of adequate feedwater should the Condensate or RFP Min Flow valve begin to drift open.
3. Low Instrument Air pressure could cause CRD HCU scram valves to drift open, resulting in the associated control rods to insert. This is the Bases for manually SCRAMING the reactor if control rods start to drift in
4. Air ejector valves may fail due to loss of air causing vacuum to decrease, however ON-119 directs entry to OT-116 for loss of vacuum actions
5. Feed water dump valves may fail open on a loss of air causing a power increase, however ON-119 directs operators to OT-104 for a loss of feedwater heating

C is correct for the above reasons and the distractors are plausible to the examinee who does not recall the basis for reducing power to 44%

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 5 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1454611
User-Defined ID:	Q# 5 NEW
Lesson Plan Objective:	LGSOPS1550.03
Topic:	actions for loss of air
RO:	3.3
SRO:	3.4
KA#:	300000 K3.02

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	K3.02			
	General Data			
	Level	RO		
	Tier	2		
	Group	1		
	KA # and Rating	300000 K3.02 3.3/3.4		
	KA Statement	Instrument Air System (IAS) Knowledge of the effect that a loss or malfunction of the . INSTRUMENT AIR SYSTEM) will have on the following: Systems having pneumatic valves and controls		
	Cognitive level	Higher		
	Safety Function	8		
	10 CFR 55	41.7		
	Technical Reference with Revision No:	ON-119 P&ID M-0015 sht 4	Re v #:	28 40
	Justification for Non SRO CFR Link:	n/a		
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
	Question Source: (i.e. New, Bank, Modified)	new		
	Low KA Justification (if required):	N/A		
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		
	ILT			
	Supplied Ref (If appropriate): (i.e. ABN-##)	none		
	LORT			
	PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)				
Comments				

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

6

ID: 1454612

Points: 1.00

Unit 1 is operating at 100% power, with the following:

- FT-006-106A, 'A' RFP Flow (secondary flow transmitter) is failed downscale (0 mA output)

Then, FT-006-1N002A, 'A' RFP Flow (primary flow transmitter) fails downscale (0 mA output).

Which of the following:

- (1) describes the status of the Master Level Controller (LIC-M1-1R600), and
- (2) identifies the availability of the Post-Scram Profile?

- A. (1) Swaps to Single-element
(2) Available
- B. (1) Swaps to Single-element
(2) Not available
- C. (1) Remains in 3-element
(2) Available
- D. (1) Remains in 3-element
(2) Not available

Answer: B

Answer Explanation

[Ref: S06.1.H U/1] Loss of Primary and Secondary FW Flow Detectors (see S06.1.H U/1, Signal Identity 1XX-FW302.IPF EA) results in FWLCS **swapping to Single-element**. It will not swap back to 3-element on a scram; therefore, the Post-Scram Profile will **not be available**.

examinee must understand a hard failure is outside of 4 to 20 milliamps instrument will be hard upscale or down scale. soft failure is between 4 and 20 milliamps (somewhere between 0 and top of scale)

hard or soft failures of the same instrument in combination with other failures may result in different responses

- A Incorrect swap to single element is correct post scram profile is not available, plausible to examinee who confuses this failure with 1XX-FW302.ICFEA calc flow error
- B Correct[Ref: S06.1.H U/1] Loss of Primary and Secondary FW Flow Detectors (see S06.1.H U/1, Signal Identity 1XX-FW302.IPF EA) results in FWLCS **swapping to Single-element**. post scram profile is not available for feedwater response post scram
- C Incorrect plausible to examinee who confuses this failure with 1XX-FW302.ICFEA calc flow error with a subsequent soft failure
- D Incorrect plausible to the examinee who does not recognize the failures as hard failures

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 6 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1454612
User-Defined ID:	Q# 6 BANK
Lesson Plan Objective:	LLOT0550.7B
Topic:	Response of DFWLC to Both RFP 'A' Flow Transmitters Failing
RO:	3.7
SRO:	3.7
KA#:	259002.K3.02

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	2	
	Group	1	
	KA # and Rating	259002 K3.02 3.7/3.7	
	KA Statement	Reactor Water Level Control System Knowledge of the effect that a loss or malfunction of the REACTOR WATER LEVEL CONTROL SYSTEM will have on following: Reactor feedwater system	
	Cognitive level	higher	
	Safety Function	2	
	10 CFR 55	41.7	
	Technical Reference with Revision No:	S06.1.H U/1	Rev #:
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	Bank 563324	
	Question Source: (i.e. New, Bank, Modified)	bank	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
	PRA: (i.e. Yes or No or #)		
	LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

7

ID: 1454748

Points: 1.00

Unit 2 plant conditions are as follows:

- 100% Reactor Power
- Normal Electrical Lineup

The following sequence of events occurs:

t = 0 seconds	RPV level drops below -129 inches
t = 0 seconds	All RHR Pumps start
t = 20 seconds	201 Safeguard Bus < 70% bus voltage

Which of the following identifies the closed D23 Bus Source Breaker **AND** the response of the "2C" RHR Pump Breaker?

	<u>CLOSED D23 BUS SOURCE BREAKER</u>	<u>"2C" RHR PUMP RESPONSE</u>
A.	101-D23	Trips and remains shutdown
B.	101-D23	Trips and restarts immediately after 101-D23 closes
C.	D23 DG Output Breaker	Trips and remains shutdown
D.	D23 DG Output Breaker	Trips and restarts immediately after D23 DG Output Breaker closes

Answer: D

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Correct Answer

D23 DG Output Breaker

Trips and recloses immediately after D23 DG Output Breaker

D23 DG started on the LOCA signal. Since it had been running for greater than 10 seconds before the loss of power, the DG is ready to be loaded and the 0.5 second closing signal from the D23 Bus Under voltage logic will allow the D23 DG Output Breaker to close before the 1.0 second Dead Bus Transfer closing. Since the time frame between the initial start signal for the "2C" RHR Pump (LOCA signal) and the subsequent restart signal after the D23 Bus is re-energized by the D23 DG is greater than 2.0 seconds, the charging motor on the "2C" RHR Pump breaker will fully charge the closing springs on the breaker, and the anti-pumping relay will not seal-in, which will allow the breaker to reclose.

Distracters

101-D23

Trips and remains shutdown

This answer is incorrect because the D23 DG Output Breaker will close (0.5 second time delayed closure) before the 101-D23 Breaker (1.0 second time delayed closure), since the D23 DG was previously running and was in a "ready-to-load" status. Since the time frame between the initial start signal for the "2C" RHR Pump (LOCA signal) and the subsequent restart signal after the D23 Bus is re-energized by the D23 DG is greater than 2.0 seconds, the charging motor on the "2C" RHR Pump breaker will fully charge the closing springs on the breaker, and the anti-pumping relay will not seal-in, which will allow the breaker to reclose after the D23 DG Output Breaker closes. The "2C" RHR Pump will not remain shutdown.

101-D23

Trips and restarts immediately after 101-D23 closes

This answer is incorrect because the D23 DG Output Breaker will close (0.5 second time delayed closure) before the 101-D23 Breaker (1.0 second time delayed closure), since the D23 DG was previously running and was in a "ready-to-load" status. Since the time frame between the initial start signal for the "2C" RHR Pump (LOCA signal) and the subsequent restart signal after the D23 Bus is re-energized by the D23 DG is greater than 2.0 seconds, the charging motor on the "2C" RHR Pump breaker will fully charge the closing springs on the breaker, and the anti-pumping relay will not seal-in, which will allow the breaker to reclose after the D23 DG Output Breaker (not the 101-D23 Breaker) closes. The "2C" RHR Pump will not remain shutdown.

D23 DG Output Breaker

Trips and remains shutdown

This answer is incorrect because the time frame between the initial start signal for the "2C" RHR Pump (LOCA signal) and the subsequent restart signal after the D23 Bus is re-energized by the D23 DG is greater than 2.0 seconds, the charging motor on the "2C" RHR Pump breaker will fully charge the closing springs on the breaker, and the anti-pumping relay will not seal-in, which will allow the breaker to reclose after the D23 DG Output Breaker (not the 101-D23 Breaker) closes. The "2C" RHR Pump will not remain shutdown.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 7 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1454748
User-Defined ID:	Q# 7 BANK
Lesson Plan Objective:	LGSOPS0092.5A
Topic:	Unit 2 plant conditions are as follows: - 100% Reactor Power - Normal Electrical Lineup The
RO:	3.1
SRO:	3.4
KA#:	262001 K4.04

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier		
	Group		
	KA # and Rating	262001 K4.04 2.8/3.1	
	KA Statement	A.C. Electrical Distribution Knowledge of A.C. ELECTRICAL DISTRIBUTION design feature(s) and/or interlocks which provide for the following: Protective relaying	
	Cognitive level	Higher	
	Safety Function		
	10 CFR 55	41.7	
	Technical Reference with Revision No:	E-160, E-164	Rev #:
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank	
	Question Source: (i.e. New, Bank, Modified)	Bank 737416	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
	PRA: (i.e. Yes or No or #)	y	
	LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

8

ID: 1454749

Points: 1.00

Unit 1 plant conditions:

- Reactor scrammed; all control rods fully inserted
- RPV level is -7", steady
- Drywell pressure is 6.5 psig, up slow
- 1A RHR Pump is operating in Suppression Pool Spray
- All other low pressure ECCS pumps are secured

A **SINGLE** Div 1 Wide Range level instrument that inputs to ADS fails downscale.

Which of the following identifies the impact on the ADS SRVs?

- A. Remain closed
- B. Open immediately
- C. Open in 105 seconds
- D. Open in 525 seconds

Answer: A

Answer Explanation

	A	E	C	G
DW (1.68)	X (or 420)	X (or 420)	X (or 420)	X (or 420)
Rx Level (-129)	X	X	X	X
Conf Level (12.5)	X		X	
T.D. (105)	X		X	
125# RHR A/C	O	O		
145# A CS	O			
145# C CS		O		
125# B/D RHR			O	O
145# B CS			O	
145# D CS				O
Energizes	K6A	K6E	K6C	K6G

With RPV Level < 12.5" and Drywell Pressure > 1.68# and the "1A" RHR pump running, the 105 sec time delay and -129" on both A and E channels is needed. The failed instrument in the stem (LIS-42-1N691A,C,E or G) provides the -129" input to one channel, but not to the other channel. Therefore, ADS does not initiate.

System design is such that -129 signals are required for 1 division to initiate to prevent inadvertent isolation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 8 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1454749
User-Defined ID:	Q# 8 BANK
Lesson Plan Objective:	LGSOPS005.03F
Topic:	Impact of failed level instrument on ADS
RO:	3.7
SRO:	3.9
KA#:	218000 K4.01

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data		
Level	RO	
Tier	2	
Group	1	
KA # and Rating	218000 K4.01 3.7/3.9	
KA Statement	Automatic Depressurization System Knowledge of AUTOMATIC DEPRESSURIZATION SYSTEM design feature(s) and/or interlocks which provide for the following: Prevent inadvertent initiation of ADS logic	
Cognitive level	lower	
Safety Function	3	
10 CFR 55	41.7	
Technical Reference with Revision No:	see explanation	Rev #:
Justification for Non SRO CFR Link:	N/A	
Question History: (i.e. LGS NRC-05, OYS CERT-04)	2005 cert	
Question Source: (i.e. New, Bank, Modified)	bank 562181	
Low KA Justification (if required):	N/A	
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank	
ILT		
Supplied Ref (If appropriate): (i.e. ABN-##)	none	
LORT		
PRA: (i.e. Yes or No or #)	y	
LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments		

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

9

ID: 1455668

Points: 1.00

Unit 1 is operating at 100% power when the following alarm comes in.

- 113 B5 CORE SPRAY LINE INTERNAL BREAK
- An EO reports that PDT-052-1N056 is reading +2.1

Given the following from the annunciator response card

OPERATOR ACTIONS:

NOTE: Alarm designed to indicate failure of one of the core spray loop piping between the vessel penetration AND the core shroud penetration. Normal rated power shroud/annulus dP is 7.5 psid. A valid value of greater than +1.3 or less than -3.8 psid indicates a failure of the core spray piping outside the shroud. A value of greater than +7.5 psid or less than -10.0 psid indicates a failure of the core spray piping outside the vessel. A failure between the vessel AND containment would be measured by the containment leakage detection systems. This instrument loop is very noisy due to the condensation of steam inside the core spray piping AND also sensing pressures inside the shroud. Spurious alarms that immediately clear should NOT be considered valid.

For a subsequent loss of high pressure injection;

Which of the following lists the heat removal capabilities of the affected Core Spray system?

- A. Effective for both core submergence and spray cooling
- B. Not effective for both core submergence and spray cooling
- C. Effective for spray cooling ONLY
- D. Effective for core submergence ONLY

Answer: D

Answer Explanation

ARC-113-B5 alarm indicates an A loop leak in the annulus is detected. This break prevents core spray flow from reaching the spray nozzles, located above the core. But since the line break is in the annulus, core spray flow will discharge through the break into the annulus, which can provide water for core submergence. Answer D is correct and answer A, B, and C are incorrect but plausible to the examinee who miss understands the information provided, or does not understand the design features of the reactor vessel and internals.

A Incorrect plausible to the examinee who miss interprets the information in the ARC and believe the value +2.1 is in the acceptable range

B Incorrect plausible to the examinee who does not recognize the line break is in the annulus, core spray flow will discharge through the break into the annulus, which can provide water for core submergence.

C Incorrect plausible to the examinee who confuses spray and submergence cooling

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 9 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	4
Difficulty:	4.00
System ID:	1455668
User-Defined ID:	Q# 9 BANK
Lesson Plan Objective:	LLOT035.10A
Topic:	Core spray cooling mode
RO:	2.8
SRO:	2.9
KA#:	209001 K5.04

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	2		
Group	1		
KA # and Rating	209001 K5.04 2.8/2.9		
KA Statement	Low Pressure Core Spray System Knowledge of the operational implications of the following concepts as they apply to LOW PRESSURE CORE SPRAY SYSTEM : Heat removal (transfer) mechanisms		
Cognitive level	High		
Safety Function	2		
10 CFR 55	41.5		
Technical Reference with Revision No:	ARC-MCR-113-B5	Rev #:	0 0 0
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank 510688 Oyster creek modified		
Question Source: (i.e. New, Bank, Modified)	bank 510688 Oyster creek modified		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank 510688 Oyster creek modified		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

10

ID: 1455368

Points: 1.00

Unit 1 is at 100% power when the following alarm comes in:

- 120 G-1 1 UNIT SFGD BATTERY CHARGERS TROUBLE

An EO reports the following for the 1BCA2 Battery Charger (1A2D103):

- 480 VAC MCC Breaker for the Battery Charger has tripped on magnetics

Using the provided reference

Which of the following identifies the 125 VDC panel(s) being powered from DC Batteries as a result?

- A. 1PPA2 ONLY
- B. 1PPA1 ONLY
- C. 1PPA1 and 1PPA3
- D. 1PPA1, 1PPA2 and 1PPA3

Answer: A

Answer Explanation

Answer: 1PPA2 Only

With the 1BCA2 Battery Charger de-energized, the 1A2 Battery will begin to discharge and provide power to the connected loads on the negative and neutral buses on Division 1. 1PPA2 is the only 125 VDC panel that is powered from the negative and neutral buses on the Division 1 DC system. This can be determined by referencing E-92, sheet 1.

Distracters:

1PPA3 Only - 1PPA3 is powered from 1BCA1 Battery Charger on the positive and neutral buses. Misinterpreting the E-92 Schematic Diagram could result in selecting this answer.

1PPA1 and 1PPA3 - these 125 VDC panels are powered from the positive and neutral buses on Division 1 and will remain energized from the 1BCA1 Battery Charger. Misinterpreting the E-92 Schematic Diagram could result in selecting this answer.

1PPA1, 1PPA2 and 1PPA3 - 1PPA1 and 1PPA3 are powered from 1BCA1 Battery Charger. A common mistake is that a loss of one charger results in both batteries discharging. Since Division 1 has two batteries, there is a battery charger for each battery and only the effected battery will discharge when the charger is de-energized.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 10 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	3.30
System ID:	1455368
User-Defined ID:	Q# 10 BANK
Lesson Plan Objective:	LGSOPS0095.06A
Topic:	The MCC Breaker for Battery Charger 1BCA2 trips
RO:	3.2
SRO:	3.3
KA#:	263000.K1.02

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data			
	Level	RO		
	Tier	2		
	Group	1		
	KA # and Rating	263000 K1.02		
	KA Statement	D.C. Electrical Distribution Knowledge of the physical connections and/or causeeffect relationships between D.C. ELECTRICAL DISTRIBUTION and the following: Battery charger and battery		
	Cognitive level	higher		
	Safety Function	6		
	10 CFR 55	41.5		
	Technical Reference with Revision No:	E-0092 sht1	Rev #:	3 1
	Justification for Non SRO CFR Link:	n/a		
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank 833381		
	Question Source: (i.e. New, Bank, Modified)	bank 833381		
	Low KA Justification (if required):	n/a		
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank 833381		
	ILT			
	Supplied Ref (If appropriate): (i.e. ABN-##)	E-0092 sht1		
	LORT			
	PRA: (i.e. Yes or No or #)	Y		
	LORT Question Section: (i.e. A-Systems or B-Procedures)	A		
Comments				

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

11

ID: 1454874

Points: 1.00

A LOCA occurs on Unit 2 which results in the following conditions:

- RPV level drops to -140" before being restored to +20" with low pressure ECCS
 - All Unit 2 diesels are running unloaded
- The PRO has been directed to synchronize D23 D/G with the 201 Safeguard Bus.
 - Before this can be performed, D23 D-G TROUBLE (221 B-1) alarms in the MCR.
 - An EO dispatched to D23 reports that "J.W. TEMP HIGH" is in alarm at 2C-C514 panel and actual Jacket water temperature is 200°F.

WHICH ONE of the following describes the response of the D23 Diesel Generator if the "Diesel Generator Auto Start Signal Bypass" (BYPASSED) pushbutton PB/CG001 is depressed?

- A. Diesel will trip
- B. Diesel will continue to run in isochronous mode
- C. Diesel converts from droop to isochronous mode
- D. Diesel converts from isochronous to droop mode

Answer: A

Answer Explanation

On a LOCA signal, the diesel will start in the isochronous mode. To synchronize the engine it must be converted to droop. To perform this, the operator must first depress the DG AUTO START BYPASS pushbutton to de-energize the LOCA start logic for the diesel and closes a permissive in the control switch logic to allow energization of the droop relay. Once this has been performed, the diesel control switch in the MCR must be placed to start. This will place the diesel in the droop mode of operation. However, if any trips that are normally bypassed are present when the DG AUTO START pushbutton is depressed, the engine will trip due to the LOCA relay being de-energized by the pushbutton. Ref. caution in S92.7.N. the distractors are plausible to the examinee who does not recall that the TRIP bypass will go away when the LOCA is reset and C also requires the examinee to misinterpret droop and isochronous operation. Hi temp trip is bypassed on LOCA signal

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 11 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	1.80
System ID:	1454874
User-Defined ID:	Q# 11 BANK
Lesson Plan Objective:	LGSOPS0092B.10F
Topic:	Effect on Diesel running on LOCA due to depressing AUTO START BYPASS with High Lube Oil Temp present
RO:	3.8
SRO:	3.9
KA#:	264000 K6.07

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	2	
	Group	1	
	KA # and Rating	264000 K6.07 3.8/3.9	
	KA Statement	Emergency Generators (Diesel/Jet) Knowledge of the effect that a loss or malfunction of the following will have on the EMERGENCY GENERATORS (DIESEL/JET) :Cooling water system	
	Cognitive level	high	
	Safety Function	6	
	10 CFR 55	41.7	
	Technical Reference with Revision No:	S92.7.N	Rev #:
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank 554174	
	Question Source: (i.e. New, Bank, Modified)	bank	
	Low KA Justification (if required):	bank	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	modified to better match K.A	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
	PRA: (i.e. Yes or No or #)		
	LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

12

ID: 1454875

Points: 1.00

Unit 2 plant conditions are as follows:

- "2A" FPC Service Water Booster Pump is being windmilled
- "2A" FPC Heat Exchanger is in service

A tube leak develops in the "2A" FPC Heat Exchanger.

WHICH ONE of the following identifies the skimmer surge tank response and the fuel pool response?

	Skimmer Surge Tank	Fuel Pool
A.	Rise	Rise
B.	Remain constant	Rise
C.	Lower	Lower
D.	Remain constant	Lower

Answer: A

Answer Explanation

Skimmer Surge Tank level will rise Fuel pool level will rise is correct. The Fuel Pool Service Water Booster Pumps provide increased flow rates through the heat exchangers. DP between Service Water and Fuel Pool Cooling water is maintained by elevation head. The FPCC heat exchanger SW inlet valve is throttled to maintain pump dp between 21 to 30 psid when the pump is running. Service Water can supply design flow to the FPCC Heat Exchangers without the booster pumps in service. The pumps will be windmilled through the open discharge valves. Per S10.0.A, SW pressure to the FPCC heat exchangers is maintained >30 psig to prevent leakage from the FPC system into the SW system thus preventing a FPCC heat exchanger tube failure from releasing radiation to the open service water system. Since leakage into the Fuel Pool Cooling Heat Exchanger will occur, this will result in Fuel Pool Level rising which will mean more spillage into the Skimmer Surge Tanks which will cause tank level to rise.

This question is based on service water being a closed loop system and the candidates ability to determine if leakage is into or out of the servicewater system

Distracters:

remain constant rise Incorrect plausible to the examinee who does not recall the interrelationship between the overflow weir and pump suction.

Lower Lower plausible to the examinee who does not recognize that the service water is at a higher pressure than fuel pool cooling

Remain constant Lower plausible to the examinee who does not recognize that the service water is at a higher pressure than fuel pool cooling and does not recall the interrelationship between the overflow weir and pump suction.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 12 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	4
Difficulty:	3.00
System ID:	1454875
User-Defined ID:	Q# 12 NEW
Lesson Plan Objective:	LGSOPS0010.02
Topic:	Identify plant response to a "2A" FPC Heat Exchanger tube leak
RO:	2.9
SRO:	2.9
KA#:	400000 K6.06

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data		
Level	RO	
Tier	2	
Group	1	
KA # and Rating	400000 K6.06 2.9/2.9	
KA Statement	Component Cooling Water System (CCWS) Knowledge of the effect that a loss or malfunction of the following will have on the CCWS: Heat exchangers and condensers .	
Cognitive level	higher	
Safety Function	8	
10 CFR 55	41.7	
Technical Reference with Revision No:	LGSOPS0010	Rev #:
Justification for Non SRO CFR Link:	n/a	
Question History: (i.e. LGS NRC-05, OYS CERT-04)	new	
Question Source: (i.e. New, Bank, Modified)	new	
Low KA Justification (if required):	n/a	
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new	
ILT		
Supplied Ref (If appropriate): (i.e. ABN-##)	none	
LORT		
PRA: (i.e. Yes or No or #)		
LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments		

SST lower fpcp ttrip
Lesson plan: LOT-420, Obj. 2
(CFR: 41.7 /45.6)

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

13

ID: 1454932

Points: 1.00

Unit 1 was operating at 100% power when a LOCA occurred.
Plant conditions are as follows

- Reactor level is -150 inches, being controlled with LPCI

Which of the following describes (1) the source of water to the LPCI unit coolers and (2) where the cooling water is returning?

- A. (1) Service Water
(2) Cooling Tower
- B. (1) Service Water
(2) Spray Pond
- C. (1) ESW
(2) Cooling Tower
- D. (1) ESW
(2) Spray Pond

Answer: B

Answer Explanation

At -129 inches a loca signal will start the diesel generators and the ESW pumps. However, since there is no loss of off site power service water will still be running. The examinee must realize that service water is at a higher pressure than ESW and service water will keep the ESW supply check valve closed and continue to supply the unit coolers. On the return header the the air operated valves will realign on the ESW pump start causing the return path to realign from the cooling tower to the Spray Pond.

For the above reasons B is correct. The distractor are plausible to the examinee who does not recall that Service Water is at a higher pressure than ESW or incorrectly recalls the return flow path arrangement

- A Incorrect plausible to the examinee who does not recall that at -129 inches LOCA signal will start the Diesel generators which will cause the ESW pumps to start. however service water is at a higher pressure so it will supply the loads. When the ESW pump starts the valve line up for ESW return path swaps from the cooling towers to the spray pond.
- B Correct service water is at a higher pressure and suppling the loads and ESW return path is aligned to the spray pond
- C Incorrect plausible to the examinee who does not recall that at -129 inches LOCA signal will start the Diesel generators which will cause the ESW pumps to start. however service water is at a higher pressure so it will supply the loads. When the ESW pump starts the valve line up for ESW return path swaps from the cooling towers to the spray pond.
- D Incorrect plausible to the examinee who does not recall that at -129 inches LOCA signal will start the Diesel generators which will cause the ESW pumps to start. however service water is at a higher pressure so it will supply the loads.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 13 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	3.00
System ID:	1454932
User-Defined ID:	Q# 13 NEW
Lesson Plan Objective:	LOT051.16I
Topic:	LPCI component cooling water
RO:	2.9
SRO:	2.9
KA#:	203000 A1.09

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data			
	Level	RO		
	Tier	2		
	Group	1		
	KA # and Rating	203000 A1.09 2.9/2.9		
	KA Statement	RHR/LPCI: Injection Mode (Plant Specific) Ability to predict and/or monitor changes in parameters associated with operating the RHR/LPCI: INJECTION MODE (PLANT SPECIFIC) controls including: Component cooling water systems		
	Cognitive level	lower		
	Safety Function	2		
	10 CFR 55	41.5		
	Technical Reference with Revision No:	M-0011 sht2	Rev #:	9 2
	Justification for Non SRO CFR Link:	n/a		
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
	Question Source: (i.e. New, Bank, Modified)	new		
	Low KA Justification (if required):	n/a		
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		
	ILT			
	Supplied Ref (If appropriate): (i.e. ABN-##)	none		
	LORT			
	PRA: (i.e. Yes or No or #)			
	LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments				

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

14

ID: 1455377

Points: 1.00

The SPDS MSIV Event Indicator is showing MSIVs SHUT, with a green border.

Which of the following situations can cause this display?

- A. MSIVs have received an isolation command, but are still full open.
- B. MSIVs have received an isolation command, and are stroking closed.
- C. MSIVs are closed manually, with an isolation command present.
- D. MSIVs are closed manually, with **NO** isolation command present.

Answer: D

Answer Explanation

COLOR CODING CONVENTION:

- a. MAGENTA = bad data, which means a signal is out of range, or there has been a system failure.
- b. RED = Alarm condition exists. One or more of the associated points have exceeded their setpoints.
- c. YELLOW = Off-normal condition exists. One or more of the associated points are approaching their operating limits (e.g. Rx water level approaching scram point); an important plant event is initiated (e.g. ADS timer initiated); insufficient information available to validate a control parameter (or disagreement of data).
- d. GREEN = Safe condition exists. Normal operating parameters present.
- e. CYAN = Sufficient data available to validate control parameters; indicates normal/satisfactory operation of systems/equipment.
- f. DARK BLUE = System/component is INACTIVE.
- g. WHITE = Active / permissive conditions exists.
- h. "BLINKING" = Used to ALERT the operator of a dynamic condition which requires acknowledgment.

- A Incorrect plausible to the examinee who believe the shut indication means that MSIV received an isolation command and that green indicates that they have not reposition
- B Incorrect plausible to examinee who believes green indication is activated when MSIV red light goes out (this will cause MSIV to indicate closed) but fails to recognize that green SPDS indication is normal operating parameters
- C Incorrect plausible to examinee who believe green is closed and does not apply red exceeding setpoint to the MSIV indication
- D Correct MSIV's where shut with no isolation signal (manually closed)

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 14 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1455377
User-Defined ID:	Q# 14 BANK
Lesson Plan Objective:	LGSOPS0038B.1
Topic:	ERFDS Critical Plant Variables display, format 00
RO:	2.5
SRO:	2.8
KA#:	223002 A1.03

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data	
Level	RO
Tier	2
Group	1
KA # and Rating	223002 A1.03 2.5/2.8
KA Statement	Primary Containment Isolation System/Nuclear Steam Supply Shut-Off Ability to predict and/or monitor changes in parameters associated with operating the PRIMARY CONTAINMENT ISOLATION SYSTEM/NUCLEAR STEAM SUPPLY SHUT-OFF controls including: SPDS/ERIS/CRIDS/GDS: Plant-Specific
Cognitive level	lower
Safety Function	5
10 CFR 55	41.5
Technical Reference with Revision No:	LGSOPS0038B Rev #:
Justification for Non SRO CFR Link:	n/a
Question History: (i.e. LGS NRC-05, OYS CERT-04)	Bank 562321
Question Source: (i.e. New, Bank, Modified)	Bank 562321
Low KA Justification (if required):	n/a
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	Bank 562321
ILT	
Supplied Ref (If appropriate): (i.e. ABN-##)	none
LORT	
PRA: (i.e. Yes or No or #)	
LORT Question Section: (i.e. A-Systems or B-Procedures)	
Comments	

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

15

ID: 1455388

Points: 1.00

Unit 1 is operating at 100% power with the following conditions:

- RT-6-041-490-1, Suppression Pool Gross Input Leak Rate Determination is being performed
- Per the above RT, the last RT-6-041-230-1 MSRV tailpipe temperature data monitoring data monitoring information is retrieved and the data for the A SRV is shown below.

1

RT-6-041-230-1, Rev. 9
Page 6 of 6

ATTACHMENT 1

Page 1 of 1

MSRV PERFORMANCE DATA

SRV	Date/Time RX Power RX Press	4/22/16 02:00	4/22/16 08:00	4/22/16 14:00
		100 % 1044 PSIG	100 % 1044 PSIG	100 % 1044 PSIG
A	Tailpipe Temp	141 °F	141 °F	141 °F
	Pilot Temp	505 °F	505 °F	505 °F

Which of the following combinations of pilot valve temperature and tailpipe temperature would require continued monitoring due to leakage past the pilot valve?

	<u>Pilot valve temperature</u>	<u>Tailpipe temperature</u>
A.	500 degrees F	140 degrees F
B.	500 degrees F	150 degrees F
C.	511 degrees F	140 degrees F
D.	511 degrees F	150 degrees F

Answer: B

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

B is correct temperature will lower due to the cooling effect of the steam flow and the pressure drop of the steam. leakage past the seat will end up in the tailpipe causing tailpipe temperature to rise

A incorrect plausible to the examinee who recalls temperature will lower due to the cooling effect of the steam flow and the pressure drop of the steam. but does not know where pilot valve leakage goes

C incorrect plausible to the examinee who believes that the stagnant steam in the line would be replaced with 545 degree reactor steam but neglects the cooling effect of flow and pressure drop and does not know where pilot valve leakage goes

D Incorrect but plausible for the reasons described above

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 15 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1455388
User-Defined ID:	Q# 15 NEW
Lesson Plan Objective:	LGSOPS001
Topic:	Determine pilot leakage tailpipe temperature for leaking SRV
RO:	3.1
SRO:	3.2
KA#:	239002

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data			
	Level	RO		
	Tier	2		
	Group	1		
	KA # and Rating	239002 A2.02 3.1/3.2		
	KA Statement	Relief/Safety Valves Ability to (a) predict the impacts of the following on the RELIEF/SAFETY VALVES ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Leaky SRV		
	Cognitive level	higher		
	Safety Function	3		
	10 CFR 55	41.5		
	Technical Reference with Revision No:	OT-114 RT-6-041-490-1	Rev #:	3 5 2 5
	Justification for Non SRO CFR Link:	n/a		
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
	Question Source: (i.e. New, Bank, Modified)	new		
	Low KA Justification (if required):	n/a		
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		
	ILT			
	Supplied Ref (If appropriate): (i.e. ABN-##)	none		
	LORT			
	PRA: (i.e. Yes or No or #)			
	LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments				

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

16

ID: 1455407

Points: 1.00

A Reactor Startup is in progress with the following conditions:

- Reactor is critical on a stable, positive period.
- Reactor power is on range 3 of the IRMs.
- The RO is withdrawing SRMs.
- The RO continues to up range the IRMs until all IRMs are on range 8
- A malfunction in the '1A' SRM causes count rate to rise to 2×10^5 cps.

Given the above, which one of the following is correct regarding,

(1) Any automatic actions

AND

(2) Any required actions directed by plant procedures that would allow the startup to continue?

- A. (1) SRM rod block and upscale alarm.
(2) Bypass SRM "A"
- B. 1) SRM rod block and upscale alarm.
(2) Place SRM "A" in standby.
- C. 1) Upscale alarm **ONLY**.
(2) Bypass SRM "A".
- D. (1) Upscale alarm **ONLY**.
(2) Place SRM "A" in standby.

Answer: C

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

A. Incorrect: If any SRM channel detects $> 1 \times 10^5$ cps, a rod block is activated. This rod block is bypassed if:

- The mode switch is in RUN

- The associated IRM range switches are at range 8 or above

Since the IRMs are on range 8, the rod block would not occur.

IAW the ARC107 H4 the directed action is to bypass the SRM.

B. Incorrect: Taking the function switch out of operate will cause an INOP/upscale alarm.

Plausible if the candidate does not remember that taking the

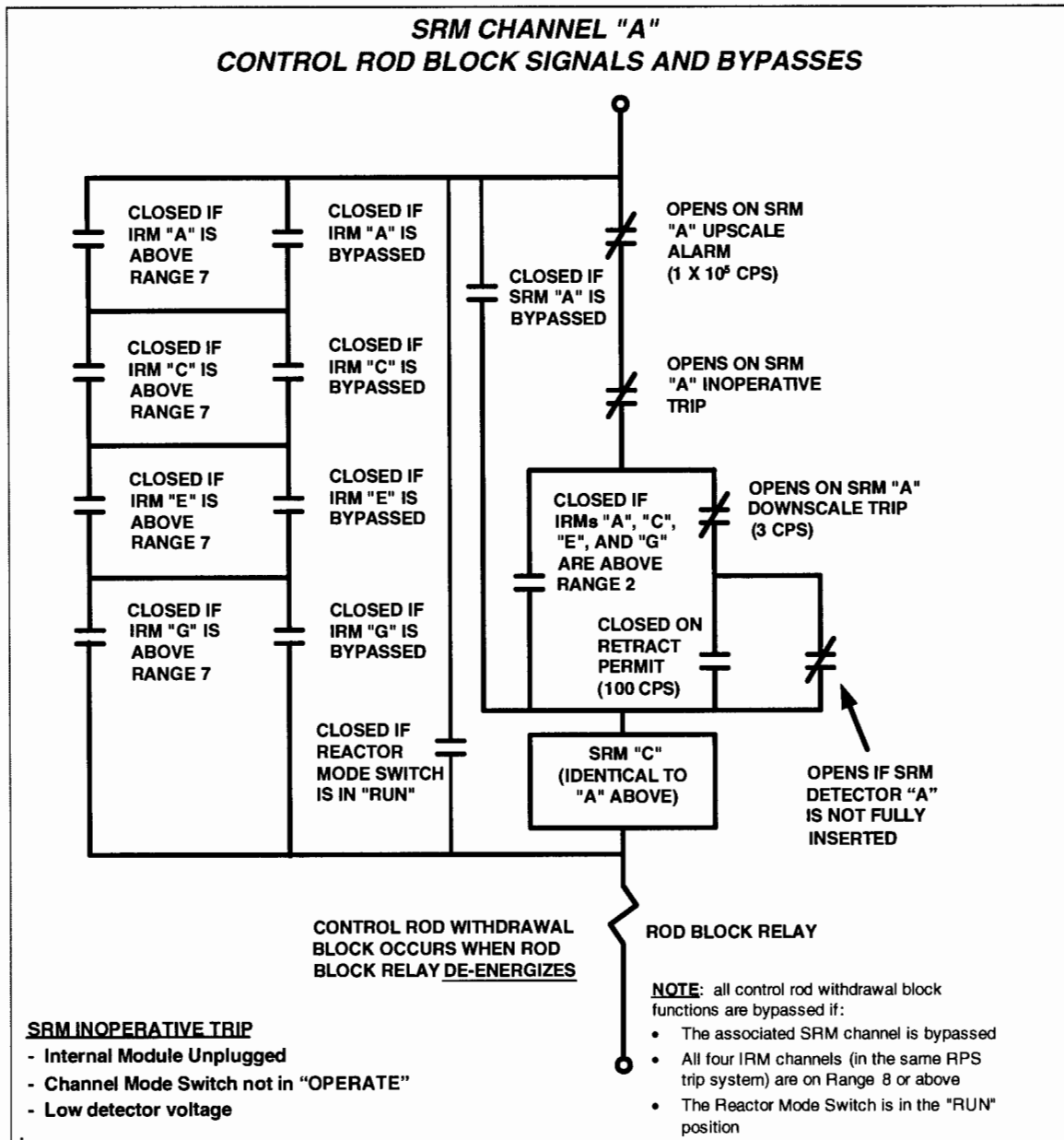
function switch out of Operate will cause an INOP trip. Additionally this action is not directed by any plant procedure.

C. Correct: Upscale alarm The IRMs on range 8 or higher. ARC-MCR-107 H4 directs bypassing the SRM.

D. Incorrect: This action is not authorized by the ARC and will generate an INOP TRIP alarm

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test



EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 16 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.50
System ID:	1455407
User-Defined ID:	Q# 16 MODIFIED
Lesson Plan Objective:	LGSOPS0074.6
Topic:	Predict Response to SRM Count rate dropping
RO:	3.3
SRO:	3.5
KA#:	215004 A2.05

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	2	
	Group	1	
	KA # and Rating	215004 A2.05 3.3/3.5	
	KA Statement	Source Range Monitor (SRM) System Ability to (a) predict the impacts of the following on the SOURCE RANGE MONITOR (SRM) SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Faulty or erratic operation of detectors/system	
	Cognitive level	higher	
	Safety Function	7	
	10 CFR 55	41.5,41.6,41.7	
	Technical Reference with Revision No:	ARC-107-G4 ARC-107-I4	Rev #:
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	Modified NRC bank see revision history	
	Question Source: (i.e. New, Bank, Modified)	Modified	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	Modified	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
	PRA: (i.e. Yes or No or #)		
	LORT Question Section: (i.e. A-Systems or B-Procedures)		
	Comments		

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

17

ID: 1455428

Points: 1.00

Unit 1 plant conditions are as follows:

- Reactor STARTUP is in progress
- Reactor power is 20%
- 1B RPS/UPS, "Inverter AC Feed Switch" is aligned to **Primary Alternate** Supply

During the startup the following alarms on MCR PNL 122 annunciate:

- 1B RPS & UPS STATIC INVERTER TROUBLE
- 1DB-1 250 VDC MCC UNDERVOLTAGE
- 1DB-2 250 VDC MCC UNDERVOLTAGE

All RPS white status lights are lit.

WHICH ONE of the following identifies the source currently providing power to "1B" RPS?

- A. 480VAC Non-Safeguard **NOT** bypassing the RPS/UPS inverter
- B. 480VAC Non-Safeguard bypassing the RPS/UPS inverter
- C. TSC UPS Inverter **NOT** bypassing the RPS/UPS Inverter
- D. TSC UPS Inverter bypassing the RPS/UPS Inverter

Answer: C

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

DISTRACTOR	480VAC Non-Safeguard not bypassing the RPS/UPS Inverter – This is incorrect answer because the DC supply is the normal preferred source from 1DB-1 250 VDC MCC. The primary alternate supply is from the TSC UPS Inverter (144D-C-F) and the Secondary Alternate supply is from Non Safeguard 480 VAC MCC 124A-G-F for the 1B Inverter. Per the conditions stated, The primary alternate is selected on the Inverter AC Feed Selector Switch and the RPS inverter static switch will auto swap to the selected supply which in this case is the primary alternate supply. In this stated condition the AC supply is not bypassing the RPS inverter, but is going through the inverter.
ANSWER	TSC UPS Inverter not bypassing the RPS/UPS Inverter – This answer is correct because the conditions do not state that the Inverter is bypassed. The conditions also state that the primary Alternate Supply is selected which is the TSC MCC supply. The inverter can be manually bypassed by procedure if the inverter fails to auto swap utilizing the maintenance BYPASS switch.
DISTRACTOR	TSC UPS Inverter bypassing the RPS/UPS Inverter – This answer is incorrect because the conditions do not state that the Inverter is bypassed. The conditions also state that the Secondary Alternate Supply is selected which is not the TSC MCC supply. The inverter can be manually bypassed by procedure if the inverter fails to auto swap utilizing the maintenance BYPASS switch.
DISTRACTOR	480VAC Non-Safeguard bypassing the RPS/UPS Inverter – This answer is partially correct by identifying the correct Secondary Alternate AC supply but is incorrect because the inverter is not Manually bypassed using the maintenance BYPASS switch.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 17 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	3.00
System ID:	1455428
User-Defined ID:	Q# 17 MODIFIED
Lesson Plan Objective:	LGSOPS0071.2A
Topic:	RPS/UPS static inverter
RO:	2.8
SRO:	3.1
KA#:	262002

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	2		
Group	1		
KA # and Rating	262002 A3.01 2.8/3.1		
KA Statement	Uninterruptable Power Supply (A.C./D.C.) Ability to monitor automatic operations of the UNINTERRUPTABLE POWER SUPPLY (A.C./D.C.) including: Transfer from preferred to alternate source		
Cognitive level	lower		
Safety Function	6		
10 CFR 55	41.7		
Technical Reference with Revision No:	S94.1.A E-0032 sht 1	Rev #:	1 8 6 4
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	2010 lgs NRC exam 995089 bu cert modified		
Question Source: (i.e. New, Bank, Modified)	2010 lgs NRC exam		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	2010 lgs NRC exam		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

18

ID: 1455088

Points: 1.00

Unit 2 is operating at 100% power when a loss of feedwater occurs.

RPV water level drops to -43" before recovering to 35".

RO Scram actions are complete and ALL automatic scram signals are either clear or bypassed.

The RO places the RPS RESET switch to 'GP 1/4' then to 'GP 2/3' positions:

- No other operator actions are taken

WHICH ONE of the following identifies the status of RPS and the SCRAM air header?

- A. Reset
Pressurizing
- B. Reset
Depressurized
- C. Not reset
Pressurizing
- D. Not reset
Depressurized

Answer: B

Answer Explanation

Because RPV level dropped below -38", ARI also initiated. Although the RO has successfully reset RPS, the "no other operator actions" statement means that the RO has not reset ARI. Thus, RPS is reset, but the HCU Scram Valves (Inlet/Outlet) are still open; i.e., until ARI is reset, the ARI Valves remain open, blocking/venting the scram air header, with no air to the actuators needed to re-close the Scram Valves.

- A Incorrect plausible to examinee who does not recognize that ARI has not been reset so the scram air header will not pressurize
- B Correct RPS will reset but the scram air header will not pressurize
- C incorrect plausible to the examinee who believes placing the RPS reset switch to 'GP 1/4' and 'GP 2/3' positions will allow the air header to pressurize independent of RPS reset
- D Incorrect plausible to the examinee who believe ARI must be reset in order to reset RPS

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 18 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1455088
User-Defined ID:	Q# 18 BANK
Lesson Plan Objective:	LLOT0046.4G
Topic:	Actions Required to Reset a Scram that included RPV level dropping to -38"
RO:	3.6
SRO:	3.6
KA#:	212000 A.07

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	2	
	Group	1	
	KA # and Rating	212000 A3.07 3.6/3.6	
	KA Statement	212000 Reactor Protection System Ability to monitor automatic operations of the REACTOR PROTECTION SYSTEM including: SCRAM air header pressure	
	Cognitive level	High	
	10 CFR 55	41.7	
	Technical Reference with Revision No:	GP-11	Rev #:
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank 1244449, 553971	
	Question Source: (i.e. New, Bank, Modified)	bank	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	minor revision to match KA	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
	PRA: (i.e. Yes or No or #)		
	LORT Question Section: (i.e. A-Systems or B-Procedures)		
	Comments		

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

19

ID: 1455570

Points: 1.00

Unit 2 is operating at 85% power with both Recirc Pumps in service.

I&C discovers an error in the recently completed 'B' Recirc Loop (Drive) Flow surveillance:

- Indicated 'B' Recirc Loop Flow is LOWER than actual flow

As a result of this discovery, which of the following APRM STP trip setpoints are affected, (if any)?

- A. 1,2,3, and 4
- B. 1 and 3 only
- C. 2 and 4 only
- D. No APRM STP trip setpoints are affected

Answer: A

Answer Explanation

A is correct the examinee must recall that A and B recirc loop flows are summed and used by all APRM STP and displayed on the ODA's

B Incorrect plausible to the examinee who believes B recirc loop only provides input to 2 of 4 APRM STP indication on the ODA

C incorrect plausible to the examinee who believes B recirc loop only provides input to 2 of 4 APRM STP indication on the ODA

D Incorrect plausible to the examinee who does not recall how APRM STP is calculated

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 19 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1455570
User-Defined ID:	Q# 19 NEW
Lesson Plan Objective:	LGSOPS0074B.13B
Topic:	ODA setpoint shange in core flow
RO:	3.6
SRO:	3.8
KA#:	215005 A4.06

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	2		
Group	1		
KA # and Rating	215005 A4.06 3.6/3.8		
KA Statement	Average Power Range Monitor/Local Power Range Monitor System Ability to manually operate and/or monitor in the control room: Verification of proper functioning/ operability		
Cognitive level	lower		
Safety Function	7		
10 CFR 55	41.7		
Technical Reference with Revision No:	M-0043 sht 2	Rev #:	4 0
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
Question Source: (i.e. New, Bank, Modified)	new		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

20

ID: 1455452

Points: 1.00

Unit 1 is in OPCON 1 with the following conditions:

- 1B SLC pump is deenergized and blocked for repair
- Division II D.C. has experienced a fault and is deenergized
- A feedwater transient caused reactor water level to drop to +5 inches before being restored to +35 inches
- Reactor power is 100% and steady
- All RO SCRAM actions have been completed

WHICH ONE of the following identifies the status of RWCU System isolation valves?

INBOARD ISOLATION VALVE
HV-44-1F001

OUTBOARD ISOLATION VALVE
HV-44-1F004

- | | | |
|----|--------|--------|
| A. | Open | Open |
| B. | Closed | Closed |
| C. | Open | Closed |
| D. | Closed | Open |

Answer: D

Answer Explanation

- A Incorrect plausible to the examinee who recalls that without Div II DC that Div II RRCS is INOP but incorrectly believes that both divisions of RRCS are required to close either RWCU isolation valve.
- B Incorrect plausible to the examinee who who does not recall that Div I RRCS uses B SBLC pp logic to close the HV-44-1F004
- C Incorrect plausible to the examine who reverse Div I and Div II RRCS actions
- D Correct although DIV 1 RRCS normally closes both RWCU isol valves it does so through the SLC pump logic. with the B SLC pump deenergized the outboard valve will not close. The distractors are plausible to the examinee who does not properly recall how SLC in conjunction with RRCS work to isolate RWCU.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 20 Info																																																																	
Question Type:	Multiple Choice																																																																
Status:	Active																																																																
Always select on test?	No																																																																
Authorized for practice?	No																																																																
Points:	1.00																																																																
Time to Complete:	4																																																																
Difficulty:	3.00																																																																
System ID:	1455452																																																																
User-Defined ID:	Q# 20 NEW																																																																
Lesson Plan Objective:	LGSOPS0048.08A																																																																
Topic:	SLC RWCU isolation																																																																
RO:	3.9																																																																
SRO:	3.9																																																																
KA#:	211000 A4.06																																																																
Comments:	<table border="1"> <thead> <tr> <th colspan="3">General Data</th> </tr> </thead> <tbody> <tr> <td>Level</td> <td colspan="2">RO</td> </tr> <tr> <td>Tier</td> <td colspan="2">2</td> </tr> <tr> <td>Group</td> <td colspan="2">1</td> </tr> <tr> <td>KA # and Rating</td> <td colspan="2">211000 A4.06 3.9/3.9</td> </tr> <tr> <td>KA Statement</td> <td colspan="2">Standby Liquid Control System Ability to manually operate and/or monitor in the control room: RWCU system isolation</td> </tr> <tr> <td>Cognitive level</td> <td colspan="2">higher</td> </tr> <tr> <td>Safety Function</td> <td colspan="2">1</td> </tr> <tr> <td>10 CFR 55</td> <td colspan="2">41.7</td> </tr> <tr> <td>Technical Reference with Revision No:</td> <td></td> <td>Rev #:</td> </tr> <tr> <td>Justification for Non SRO CFR Link:</td> <td colspan="2">n/a</td> </tr> <tr> <td>Question History: (i.e. LGS NRC-05, OYS CERT-04)</td> <td colspan="2">new</td> </tr> <tr> <td>Question Source: (i.e. New, Bank, Modified)</td> <td colspan="2">new</td> </tr> <tr> <td>Low KA Justification (if required):</td> <td colspan="2">n/a</td> </tr> <tr> <td>Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)</td> <td colspan="2">new</td> </tr> <tr> <th colspan="3">ILT</th> </tr> <tr> <td>Supplied Ref (If appropriate): (i.e. ABN-##)</td> <td colspan="2">none</td> </tr> <tr> <th colspan="3">LORT</th> </tr> <tr> <td>PRA: (i.e. Yes or No or #)</td> <td colspan="2"></td> </tr> <tr> <td>LORT Question Section: (i.e. A-Systems or B-Procedures)</td> <td colspan="2"></td> </tr> <tr> <td>Comments</td> <td colspan="2"></td> </tr> </tbody> </table>		General Data			Level	RO		Tier	2		Group	1		KA # and Rating	211000 A4.06 3.9/3.9		KA Statement	Standby Liquid Control System Ability to manually operate and/or monitor in the control room: RWCU system isolation		Cognitive level	higher		Safety Function	1		10 CFR 55	41.7		Technical Reference with Revision No:		Rev #:	Justification for Non SRO CFR Link:	n/a		Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		Question Source: (i.e. New, Bank, Modified)	new		Low KA Justification (if required):	n/a		Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		ILT			Supplied Ref (If appropriate): (i.e. ABN-##)	none		LORT			PRA: (i.e. Yes or No or #)			LORT Question Section: (i.e. A-Systems or B-Procedures)			Comments		
General Data																																																																	
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

21

ID: 1455676

Points: 1.00

Plant conditions are as follows;

- Unit 1 is at 50% power, shutting down due to a fuel failure.
- Unit 2 is in OPCIION 5 with refueling activities in progress with secondary containment set on the refuel floor.
- An unisolable steam leak develops in the UNIT 1 reactor enclosure.
- Unit 1 reactor enclosure radiation levels rise to 2.3 Mr/hr

Which of the following describes the Zones SBGT will maintain at a negative pressure and the reason for the initiation of SBGT?

Zones SBGT will maintain negative	Reason for SBGT initiation
-----------------------------------	----------------------------

- | | | |
|----|---|---|
| A. | Unit 1 reactor enclosure ONLY | Limit iodine and particulate concentration in gases, prior to discharge |
| B. | Unit 1 reactor enclosure ONLY | Limit particulate concentration in gases ONLY, prior to discharge |
| C. | Unit 1 reactor enclosure and Refuel floor | Limit iodine and particulate concentration in gases, prior to discharge |
| D. | Unit 1 reactor enclosure and Refuel floor | Limit particulate concentration in gases ONLY, prior to discharge |

Answer: A

Answer Explanation

- A Correct Reactor HVAC isolates at 1.35 mr/h.although refuel floor containment is set, only when Zones are crosstied will a reactor HVAC isolation also isolate the refuel floor. The purpose of the SBGT filters per the Design basis document L-S-32 is The SGTS/RERS filters iodine and particulate concentrations in gases potentially present within the Secondary Containment prior to discharge to the environment via the North Stack.
- B Incorrect Limit particulate only is incorrect but plausible to the examinee who does not recall the purpose of the charcoal filters
- C incorrect plausible to the examinee who recognizes that the radiation levels are above the refuel floor setpoint, but either does not recall the crosstie logic or believe that hi reactor radiation will isolate the refuel floor as long as the zone is established
- D incorrect plausible to the examinee who recognizes that the radiation levels are above the refuel floor setpoint, but either does not recall the crosstie logic or believe that hi reactor radiation will isolate the refuel floor as long as the zone is established and does not recall the purpose of the charcoal filters

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 21 Info																																																																																							
Question Type:	Multiple Choice																																																																																						
Status:	Active																																																																																						
Always select on test?	No																																																																																						
Authorized for practice?	No																																																																																						
Points:	1.00																																																																																						
Time to Complete:	3																																																																																						
Difficulty:	3.00																																																																																						
System ID:	1455676																																																																																						
User-Defined ID:	Q# 21 NEW																																																																																						
Lesson Plan Objective:	LOT0200.01C																																																																																						
Topic:	SBGT initiation																																																																																						
RO:	3.9																																																																																						
SRO:	4.0																																																																																						
KA#:	261000 2.1.27																																																																																						
Comments:	<table border="1"> <thead> <tr> <th colspan="4">General Data</th> </tr> </thead> <tbody> <tr> <td>Level</td> <td colspan="3">RO</td> </tr> <tr> <td>Tier</td> <td colspan="3">2</td> </tr> <tr> <td>Group</td> <td colspan="3">1</td> </tr> <tr> <td>KA # and Rating</td> <td colspan="3">261000 2.1.27 3.9/4.0</td> </tr> <tr> <td>KA Statement</td> <td colspan="3">Standby Gas Treatment System Knowledge of system purpose and/or function.</td> </tr> <tr> <td>Cognitive level</td> <td colspan="3">higher</td> </tr> <tr> <td>Safety Function</td> <td colspan="3">9</td> </tr> <tr> <td>10 CFR 55</td> <td colspan="3">41.7</td> </tr> <tr> <td>Technical Reference with Revision No:</td> <td>DBD L-S-32</td> <td>Rev #:</td> <td>0 0 9</td> </tr> <tr> <td>Justification for Non SRO CFR Link:</td> <td colspan="3">n/a</td> </tr> <tr> <td>Question History: (i.e. LGS NRC-05, OYS CERT-04)</td> <td colspan="3">new</td> </tr> <tr> <td>Question Source: (i.e. New, Bank, Modified)</td> <td colspan="3">new</td> </tr> <tr> <td>Low KA Justification (if required):</td> <td colspan="3">n/a</td> </tr> <tr> <td>Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)</td> <td colspan="3">new</td> </tr> <tr> <th colspan="4">ILT</th> </tr> <tr> <td>Supplied Ref (If appropriate): (i.e. ABN-##)</td> <td colspan="3">none</td> </tr> <tr> <th colspan="4">LORT</th> </tr> <tr> <td>PRA: (i.e. Yes or No or #)</td> <td colspan="3"></td> </tr> <tr> <td>LORT Question Section: (i.e. A-Systems or B-Procedures)</td> <td colspan="3"></td> </tr> <tr> <td>Comments</td> <td colspan="3"></td> </tr> </tbody> </table>			General Data				Level	RO			Tier	2			Group	1			KA # and Rating	261000 2.1.27 3.9/4.0			KA Statement	Standby Gas Treatment System Knowledge of system purpose and/or function.			Cognitive level	higher			Safety Function	9			10 CFR 55	41.7			Technical Reference with Revision No:	DBD L-S-32	Rev #:	0 0 9	Justification for Non SRO CFR Link:	n/a			Question History: (i.e. LGS NRC-05, OYS CERT-04)	new			Question Source: (i.e. New, Bank, Modified)	new			Low KA Justification (if required):	n/a			Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new			ILT				Supplied Ref (If appropriate): (i.e. ABN-##)	none			LORT				PRA: (i.e. Yes or No or #)				LORT Question Section: (i.e. A-Systems or B-Procedures)				Comments			
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

22

ID: 1649592

Points: 1.00

Unit 1 is operating at 100% power when emergent maintenance on the SLC tank level indication bubbler is required.

The level indication bubbler is taken out of service for maintenance by isolating the air and venting the bubbler.

WHICH ONE of the following describes the SLC alarm that will be received and the operability of the SLC pumps in the above configuration?

	<u>ALARM</u>	<u>SLC Pump OPERABILITY</u>
A.	High level	Operable
B.	Low level	Inoperable
C.	High level	Inoperable
D.	Low level	Operable

Answer: D

Answer Explanation

To answer the question the candidate must understand the operation of the SLC tank bubbler and how the bubbler will fail when air is removed. With air removed from the bubbler, level indication will fail low. Also the candidate must know that the bubbler is for indication only and has no effect on the the operation of the SLC pumps and SLC system operability.

Higher back pressure equals higher tank level. with air isolated to the bubbler tank level indication in the MCR will read 0

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 22 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	6
Difficulty:	2.00
System ID:	1649592
User-Defined ID:	Q# 22 NEW
Lesson Plan Objective:	LLOR1102E
Topic:	SLC operability
RO:	3.1
SRO:	4.2
KA#:	211000 2.2.36

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	2	
	Group	1	
	KA # and Rating	211000 2.2.36 3.1/4.2	
	KA Statement	Standby Liquid Control System Ability to analyze the effect of maintenance activities, such as degraded power sources, on the status of limiting conditions for operations.	
	Cognitive level	low	
	Safety Function	1	
	10 CFR 55	41.10	
	Technical Reference with Revision No:	S48.1.A	Rev #: 22
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	Bank 906982	
	Question Source: (i.e. New, Bank, Modified)	bank	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank	
	ILT		
	Supplied Ref (if appropriate): (i.e. ABN-##)	none	
	LORT		
	PRA: (i.e. Yes or No or #)		
	LORT Question Section: (i.e, A-Systems or B-Procedures)		
Comments	211000 A1.10		

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

23

ID: 1601488

Points: 1.00

Unit 1 is in OPGON 3 with the following

- Reactor pressure is 500 psi
- Drywell purge is in progress with the 0A Drywell Purge fan through the 0A SBTG filter
- Maintenance has entered the drywell

Which of the following describes the suppression pool to drywell delta pressure (suppression pool pressure - drywell pressure) that must be maintained and the basis for this requirement?

	Delta pressure	Basis for this requirement
A.	0.5 PSID	To prevent suppression pool N2 from entering the drywell
B.	0.5 PSID	To prevent exceeding the maximum containment external to internal design pressure
C.	5.0 PSID	To prevent suppression pool N2 from entering the drywell
D.	5.0 PSID	To prevent exceeding the maximum containment external to internal design pressure

Answer: A

Answer Explanation

- A Correct per warning in S57.5.B The Primary Containment Vacuum Relief Valves are designed to lift at 0.5 psid to relieve Suppression Pool pressure to the Drywell. For personnel access to the Drywell, with the Suppression Pool inerted with N2, Suppression Pool/Drywell differential pressure must be maintained below 0.5 psid to prevent Suppression Pool inerted atmosphere from flooding the Drywell.
- B Incorrect 5.0 is the containment external to internal limit plausible to the examinee who confuses internal to external pressure with DW to supp pool.
- C Incorrect plausible to the examinee who confuses internal to external pressure with DW to supp pool. bases
- D Incorrect 5.0 is the containment external to internal limit

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 23 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1601488
User-Defined ID:	Q# 23 NEW
Lesson Plan Objective:	LOT0060.4D
Topic:	purge containment DP
RO:	2.9
SRO:	3.2
KA#:	261000 A4.05

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	2		
Group	1		
KA # and Rating	261000 A4.05 2.9/3.2		
KA Statement	Standby Gas Treatment System Ability to manually operate and/or monitor in the control room: Drywell to suppression chamber/torus differential pressure: Mark-I,II		
Cognitive level	lower		
Safety Function	9		
10 CFR 55	41.7,41.10		
Technical Reference with Revision No:	S57.5.B	Rev #:	27
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
Question Source: (i.e. New, Bank, Modified)	new		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	None		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

24

ID: 1455288

Points: 1.00

Plant conditions are as follows;

- Control enclosure HVAC is in service with the A Safeguard Battery room exhaust fan 0AV124 in service
- Unit 1 Safeguard Battery room exhaust fan supply damper HD-78-90B has failed closed

Which of the following describes the plant response and the reason for this response?

	PLANT RESPONSE	REASON FOR THIS RESPONSE
A.	B Safeguard Battery room exhaust fan 0BV124 Starts	Maintain battery room temperature
B.	B Safeguard Battery room exhaust fan 0BV124 Starts	Reduce Hydrogen buildup
C.	Connecting damper HD-78-092B Unit 1 battery room to Emergency Switchgear and Battery Room Supply Air will open	Maintain battery room temperature
D.	Connecting damper HD-78-092B Unit 1 battery room to Emergency Switchgear and Battery Room Supply Air will open	Reduce Hydrogen buildup

Answer: D

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Lesson plan LGSOPS0078

- if both battery exhaust fans trip, or any of the battery exhaust fan inlet dampers are less than full open, dampers will open connecting the battery room exhaust duct to the emergency switchgear and battery room supply fan suction. This ensures hydrogen does not accumulate in the battery rooms.

UFSAR 9.5-13

The exhaust ducts from the Class 1E battery rooms are provided with safety-grade isolation dampers in both branches of duct-work leading to the battery room exhaust fans and to the emergency switchgear and battery room supply air fan cabinets. The dampers in the duct-work leading to the exhaust fans are provided with safety-related position switches which activate the dampers in the duct-work leading to the supply air fan cabinets. In the event of closure of any of the dampers leading to the exhaust fans, the dampers in the duct-work from the battery rooms of the affected reactor unit and leading to the air supply fan cabinets will automatically open, thereby establishing recirculation air flow through the affected battery rooms. This re-establishment prevents accumulation of hydrogen above safe limits.

A is incorrect plausible to the examinee who does not recall that all battery rooms tie into a common header there by thinking an A/C damper closure would start the B fan. also the examinee does not recall the bases for recirculation.

B is incorrect plausible to the examinee who does not recall that all battery rooms tie into a common header there by thinking an A/C damper closure would start the B fan.

C Incorrect plausible to the examinee who does not recall the bases for recirculation.

D correct for the reasons stated above.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 24 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1455288
User-Defined ID:	Q# 24 NEW
Lesson Plan Objective:	LGSOPS0078.1C
Topic:	Battery H2 buildup
RO:	2.6
SRO:	2.9
KA#:	263000 K5.01

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	2		
Group	1		
KA # and Rating	263000 K5.01 2.6/2.9		
KA Statement	D.C. Electrical Distribution Knowledge of the operational implications of the following concepts as they apply to D.C. ELECTRICAL DISTRIBUTION : Hydrogen generation during battery charging		
Cognitive level	lower		
Safety Function	6		
10 CFR 55	41.5		
Technical Reference with Revision No:	M-078 sht 4	Rev #:	2 2
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
Question Source: (i.e. New, Bank, Modified)	new		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

25

ID: 1455268

Points: 1.00

Unit 1 plant conditions are as follows:

- HPCI is in service for RPV pressure control (CST to CST)
- FIC-055-1R600 "HPCI FLOW CONTROL VALVE AUTO/MAN switch" is in AUTO
- HV-55-1F008 "HPCI, Test Loop Shutoff" is throttled to maintain pump discharge pressure 150 psig over Reactor pressure.
- The RO throttles HV-55-1F008 in the closed direction for one second

WHICH ONE of the following describes HPCI turbine speed and flowrate five minutes later?

	<u>HPCI Turbine Speed</u>	<u>Flow rate</u>
A.	No change	Higher
B.	Higher	No change
C.	Lower	No change
D.	No change	Lower

Answer: B

Answer Explanation

B Correct: Higher/ No change: With Flow Controller in AUTO, system flow is maintained constant. IF F008 is throttled closed HPCI speed will need to increase to maintain the same flow

A Incorrect: No change/Higher: plausible to the examinee who believe speed is maintained constant and that flow will increase with a higher DP across the valve

C Incorrect: Lower/No change: plausible to the examinee who believe throttling the 1F008 will lower pump speed

D Incorrect: No Change/Lower: Flow Controller is in Auto, maintaining system flow constant. plausible to the examinee who believes AUTO maintains speed constant

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 25 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.50
System ID:	1455268
User-Defined ID:	Q# 25 BANK
Lesson Plan Objective:	LOT-340.12 HPCI
Topic:	Unit 1 plant conditions are as follows: <input type="checkbox"/> HPCI is in service for RPV pressure control (CST to CST) <input type="checkbox"/>
RO:	3.8
SRO:	3.7
KA#:	206000 A1.06

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	2		
Group	1		
KA # and Rating	206000 A1.06 3.8/3.7		
KA Statement	High Pressure Coolant Injection System Ability to predict and/or monitor changes in parameters associated with operating the HIGH PRESSURE COOLANT INJECTION SYSTEM controls including: System flow: BWR-2,3,4		
Cognitive level	higher		
Safety Function	2		
10 CFR 55	41.5		
Technical Reference with Revision No:	S55.1.D, note Step 4.4.3	Rev #:	4 4
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	Bank 591110		
Question Source: (i.e. New, Bank, Modified)	Bank		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	Bank		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

26

ID: 1455689

Points: 1.00

Unit 2 plant conditions are as follows:

- Offsite power is available
- RPV pressure is 360 psig
- Drywell pressure reaches 1.68 psig

WHICH ONE of the following describes the RHR pump starting sequence?

- A. All Unit 2 RHR pumps will start immediately
- B. All Unit 2 RHR pumps will start after a 7 second time delay
- C. "2A" and "2B" RHR pumps start immediately, "2C" and "2D" RHR pumps start after a 5 second time delay
- D. "2C" and "2D" RHR pumps start immediately, "2A" and "2B" RHR pumps start after a 5 second time delay

Answer: D

Answer Explanation

The RHR pumps start on a LOCA signal

a) With offsite power pumps C&D start immediately and A&B start 5 seconds later.

b) Without off-site power each pump starts when the associated diesel output breaker shuts.

A Incorrect, plausible to the examinee who confuses sequence with RHR pump start on a loss of offsite power

B Incorrect, plausible to the examinee who confuses sequence with Core Spray initiation on a loss of off site power

C Incorrect plausible to the examinee who reverses the dedicated LPCI pp

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 26 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	5
Difficulty:	2.00
System ID:	1455689
User-Defined ID:	Q# 26 BANK
Lesson Plan Objective:	LOT0051.07
Topic:	offsite power is available - RPV pressure is 360 psig - drywell pressure reaches 1.68 psig describ
RO:	4.0
SRO:	3.9
KA#:	203000 A3.02

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	2	
	Group	1	
	KA # and Rating	203000 A3.02 4.0/3.9	
	KA Statement	RHR/LPCI: Injection Mode (Plant Specific) Ability to monitor automatic operations of the RHR/LPCI: INJECTION MODE (PLANT SPECIFIC) including: Pump start	
	Cognitive level	lower	
	Safety Function	2	
	10 CFR 55	41.7	
	Technical Reference with Revision No:	E11-1040	Rev #:
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank 554543	
	Question Source: (i.e. New, Bank, Modified)	bank 554543	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank 554543	
	ILI		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
	PRA: (i.e. Yes or No or #)		
	LORT Question Section: (i.e. A-Systems or B-Procedures)		
	Comments		
	Lesson Plan: LOR-9305-B, Obj. 2 LLOR0101C, Obj. 4 K/A Catalog: 203000 K4.01 4.2/4.2 JTA 2030020101		

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

27

ID: 1478356

Points: 1.00

Unit 1 is operating at 100% power with the following:

- 1D01 TURBINE ENCLOSURE 250V DC MOTORCONTROL CENTER (10-D125) has been deenergized for 2 hours

A malfunction on the main turbine lube oil system results in the following:

- Main Shaft Oil Pump (MSOP) discharge pressure of 150 psig
- Turning gear oil pump (TGOP) discharge pressure of 10 psig

WHICH ONE of the following identifies the status of the Turning Gear Oil Pump (TGOP) and Emergency Bearing Oil Pump (EBOP)?

	<u>TGOP</u>	<u>EBOP</u>
A.	Running	Running
B.	Running	Not Running
C.	Not Running	Not Running
D.	Not Running	Running

Answer: B

Answer Explanation

EBOP is powered from non safeguard DC.

TGOP is powered from D114-G-D

TGOP Start on MSOP discharge pressure < 190 OR bearing header pressure <15 psig

EBOP Start on MSOP discharge pressure < 180 AND TGOP discharge pressure < 12 psig

- A Incorrect plausible to examinee who believes EBOP is powered from safeguard DC
- B Correct TGOP has a start signal as does EBOP however EBOP power supply is lost
- C Incorrect plausible to the examinee who does not recall the TGOP start setpoints
- D Incorrect plausible to the examinee who reverses the power supplies for TGOP and EBOP

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 27 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	2
Difficulty:	2.00
System ID:	1478356
User-Defined ID:	Q# 27 NEW
Lesson Plan Objective:	LGSOPS0019.IL4
Topic:	Main turb oil pp power
RO:	2.7
SRO:	2.7
KA#:	245000 K1.09

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	2		
Group	2		
KA # and Rating	245000 K1.09 2.7/2.7		
KA Statement	Main Turbine Generator and Auxiliary Systems Knowledge of the physical connections and/or causeeffect relationships between MAIN TURBINE GENERATOR AND AUXILIARY SYSTEMS and the following: D. C . electrical distribution		
Cognitive level	higher		
Safety Function	4		
10 CFR 55	41.4		
Technical Reference with Revision No:	LGSOPS0019	Rev #:	2
Justification for Non SRO CFR Link:	N/A		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
Question Source: (i.e. New, Bank, Modified)	new		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e, A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

28

ID: 1455690

Points: 1.00

Unit 1 is in OPCON 1, with the following:

- '1A' Recirc Pump removed from service due to seal failure
- '1B' Recirc Pump operating at 980 rpm with the following failed/bypassed cells on '1B' ASD:
 - Two (2) Phase 'A' cells
 - One (1) Phase 'B' cell

WHICH ONE of the following combinations of **additional** cell failures would require operators to insert a manual scram?

	A Phase	B Phase	C Phase
A.	0	0	3
B.	0	2	1
C.	2	1	0
D.	1	1	1

Answer: C

Answer Explanation

See S43.1.F, Attachment 2, page 16 of 65, FRR # 2.1.2...the '1B' ASD will trip if EITHER all 4 cells fail on a given Phase, OR a total of more than 6 cells fail. Therefore, the two additional Phase 'A' cell failures will trip the '1B' ASD. With '1A' Recirc Pump already secured, a trip of '1B' will require a manual scram per OT-112, step 3.1.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 28 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	4.00
System ID:	1455690
User-Defined ID:	Q# 28 BANK
Lesson Plan Objective:	LGSOPS0043B.2C
Topic:	ASD Response to Cell Bypass
RO:	3.2
SRO:	3.2
KA#:	202001 K2.01

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	2	
	Group	2	
	KA # and Rating	202001 K2.01 3.2/3.2	
	KA Statement	Recirculation System Knowledge of electrical power supplies to the following: Recirculation pumps: Plant-Specific	
	Cognitive level	higher	
	Safety Function	1	
	10 CFR 55	41.7	
	Technical Reference with Revision No:	S43.1.F	Rev #: 3
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank 966665	
	Question Source: (i.e. New, Bank, Modified)	bank 966665	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank 966665	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
	PRA: (i.e. Yes or No or #)		
	LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

29

ID: 1535797

Points: 1.00

Unit 1 initial plant conditions are as follows:

- SAMPS are being implemented
- Reactor Level is -290" down slow with no injection
- Reactor Pressure is 1175 psig steady (no SRV pneumatics available)

RPV pressure reduction has been ordered by performing section 4.7 of T-260, "RPV Venting Through HPCI Steam Line."

During the depressurization, HPCI Pump Room pressure peaked at 3 psig.

WHICH ONE of the following correctly identifies whether the release is (a) Scrubbed and/or Filtered and (b) the release path?

	<u>Scrubbed and/or Filtered</u>	<u>Release Path</u>
A.	Yes	Monitored Elevated
B.	Yes	Unmonitored Ground Level
C.	No	Monitored Elevated
D.	No	Unmonitored Ground Level

Answer: D

Answer Explanation

Section 4.7 of T-260, RPV Venting Through HPCI Steam Line contains the following Cautions:

2. It is highly probable that the vent path in Section 4.7 will flood the Reactor Enclosure with nuclear steam **AND** reactor source term.

3. The flooding of the Reactor Enclosure with Nuclear Steam will cause severe Reactor Enclosure environmental conditions which could render ECCS **AND** other equipment inoperable, along with the potential of losing Reactor Enclosure electrical power.

This in addition to the Stem stating that the pump room peaking at 3 psig (well above the 5 inches of water column for the Steam Flooding Dampers and the 0.5 psig for the blowout panes) the candidate should determine that there is an unscrubbed, unfiltered ground level release.

A is plausible if the candidate mistakenly believes that steam is scrubbed through the suppression pool water or the SBGTS filters and is released through the North Stack via SBGTS.

B is plausible if the candidate mistakenly believes that the steam is scrubbed through the suppression pool prior to going out the blowout panel

C is plausible if the candidate mistakenly believes that the steam exits the plant via Reactor Enclosure HVAC out the South Stack.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 29 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	3.00
System ID:	1535797
User-Defined ID:	Q# 29 BANK
Lesson Plan Objective:	LGSOPS0076B.9
Topic:	Given plant conditions and applicable T-260 section determine unmonitored release path
RO:	4.0
SRO:	4.4
KA#:	290001 K3.01

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	2	
	Group	2	
	KA # and Rating	290001 K3.01 4.0/4.4	
	KA Statement	Secondary Containment Knowledge of the effect that a loss or malfunction of the SECONDARY CONTAINMENT will have on following: †Off-site radioactive release rates	
	Cognitive level	higher	
	Safety Function	5	
	10 CFR 55	41.7	
	Technical Reference with Revision No:	LGSOPS0076B.	Rev #:
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank 1247968	
	Question Source: (i.e. New, Bank, Modified)	bank 1247968	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank 1247968	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
	PRA: (i.e. Yes or No or #)		
	LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

30

ID: 1601388

Points: 1.00

Unit 1 plant conditions are as follows:

- Reactor power is 100%
- 30 scfm Offgas effluent flow
- Offgas dewpoint monitor is reading 40°F

The Charcoal Vault Refrigeration Compressors trip and cannot be restarted.

WHICH ONE of the following identifies the change in the activity of the Offgas effluent and the monitoring location?

	<u>Change in Activity</u>	<u>Monitoring Location</u>
A.	Rises	North Stack
B.	Rises	South Stack
C.	Lowers	North Stack
D.	Lowers	South Stack

Answer: A

Answer Explanation

The charcoal delays gaseous xenon, krypton, and their daughter products along with biologically significant isotopes Sr-89, Sr-90, Ba-140 and Cs-137 in the Offgas stream through adsorption. This allows the radioactive isotopes to decay to levels acceptable for release to the atmosphere.

Rises, North Stack is correct. With the refrigeration system out of service, Offgas temperatures will rise which will cause flow through the charcoal guard bed to rise. The increased flow will result in higher release rates.

Rises, South Stack is incorrect. Release is through the North Stack. This distractor is plausible if the operator believes that Offgas flow is through the South Stack.

Lowers, North Stack is incorrect. Release rates will be higher. This distractor is plausible if the operator believes that Offgas flow will drop with the refrigeration machine out of service.

Lowers, South Stack is incorrect. Release rates will be higher and the release will be through the South Stack. This distractor is plausible based on the misconceptions described in the first two distractors.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 30 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	0
Difficulty:	1.20
System ID:	1601388
User-Defined ID:	Q# 30 BANK
Lesson Plan Objective:	LOT0510.06
Topic:	Given the following conditions: - Reactor power is 100% - 30 scfm Offgas effluent flow - Offgas de
RO:	2.7
SRO:	2.9
KA#:	271000

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	2	
	Group	2	
	KA # and Rating	271000 K4.06	
	KA Statement	Offgas System Knowledge of OFFGAS SYSTEM design feature(s) and/or interlocks which provide for the following: Decay of fission product gases to particulate daughters	
	Cognitive level	higher	
	Safety Function	9	
	10 CFR 55	41.7	
	Technical Reference with Revision No:	M-0079 sheet 2	Rev #:
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank 833329	
	Question Source: (i.e. New, Bank, Modified)	bank 833329	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank 833329	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
	PRA: (i.e. Yes or No or #)		
	LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

31

ID: 1601440

Points: 1.00

Unit 1 is operating at 100% power when the following occurs:

- HIGH-HIGH level condition in the '1A' Feedwater Heater (FWH)

WHICH ONE of the following describes the response of APRMs and the resultant feedwater temperature at the inlet to the reactor feed pump ? (assume no operator action)

	<u>APRM Readings</u>	<u>Reactor feed pump inlet temperature</u>
A.	Lower	Lower
B.	Lower	Higher
C.	Higher	Higher
D.	Higher	Lower

Answer: D

Answer Explanation

Upon a high high FWH isolation on the 1A FWH, HV-005-*02 and HV-005-*01 close stopping all FW flow through the 1A low pressure string. The flow through the 1B and 1C FW String combines and is equally distributed to the 1A, 1B, and 1C Feed pumps. The FW temperature at the inlet of the RFPT is lower than normal resulting in a an overall temperature decrease at the RFP inlet

- A Incorrect plausible to the examinee who does not recall that the effect of the loss of extraction steam has a greater effect than the increase in flow through the remaining heat exchangers
- B Incorrect plausible to the examine who believe a loss of the "A" low pressure heater string will cause flow to the A RFP to lower resulting in a recirc runback and at the effect of the loss of extraction steam has a greater effect than the increase in flow through the remaining heat exchangers
- C Incorrect plausible to the examine the loss of extraction steam will override the effect of increased flow through the remaining strings and reverses the reactivity effect
- D Correct feed water temp. entering the 6th feedwater heaters is higher so feed water to the vessel temp is higher causing a power increase

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 31 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1601440
User-Defined ID:	Q# 31 BANK
Lesson Plan Objective:	LOT-0530, OBJ. #3
Topic:	A "High-High" level condition occurs in the "1A" feedwater heater (FWH) - Any automatic actions th
RO:	2.7
SRO:	2.7
KA#:	256000 K5.08

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	2	
	Group	2	
	KA # and Rating	256000 K5.08 2.7/2.7	
	KA Statement	Reactor Condensate System Knowledge of the operational implications of the following concepts as they apply to REACTOR CONDENSATE SYSTEM : Heat removal (transfer) mechanisms	
	Cognitive level	higher	
	Safety Function	2	
	10 CFR 55	41.5	
	Technical Reference with Revision No:		Rev #:
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	Bank 554691	
	Question Source: (i.e. New, Bank, Modified)	Bank 554691	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	Bank 554691	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
	PRA: (i.e. Yes or No or #)		
	LORT Question Section: (i.e, A-Systems or B-Procedures)		
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

32

ID: 1601405

Points: 1.00

Both units are operating at 100% power

Which of the following describes if the power supply to the Motor Driven Fire Pump is safeguard power or Non-safeguard power, and if a Tech Requirements Manual (TRM) entry is required for a loss of power to the Motor Driven Fire Pump ?

	<u>Safeguard or non-safeguard</u>	<u>TRM entry Required</u>
A.	Safeguard	No
B.	Safeguard	Yes
C.	Non-safeguard	Yes
D.	Non-safeguard	No

Answer: C

Answer Explanation

Motor driven fire pump MDFP

- A Incorrect plausible to examinee who believes fire protection pump are safeguard and believes loss of 1 of 3 pumps Motor diesel and backup diesel would not require TRM entry
- B Incorrect plausible to examinee who believes fire protection pump are safeguard
- C Correct MDFP is powered for 214D (non-safeguard) and loss of 1 pump does require TRM entry (7day)
- D Incorrect plausible to examinee who believe loss of 1 of 3 pumps Motor diesel and backup diesel would not require TRM entry

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 32 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1601405
User-Defined ID:	Q# 32 NEW
Lesson Plan Objective:	LGSOPS0022.7H
Topic:	Loss of pwr to MDFP
RO:	3.1
SRO:	3.1
KA#:	286000 K6.01

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	2	
	Group	2	
	KA # and Rating	286000K6.01 3.1/3.1	
	KA Statement	Fire Protection System Knowledge of the effect that a loss or malfunction of the following will have on the FIRE PROTECTION SYSTEM A.C. electrical distribution: Plant-Specific	
	Cognitive level	lower	
	Safety Function	8	
	10 CFR 55	41.7	
	Technical Reference with Revision No:	s22.8.H	Rev #: 3 4
	Justification for Non SRO CFR Link:	N/A	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	new	
	Question Source: (i.e. New, Bank, Modified)	new	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
	PRA: (i.e. Yes or No or #)		
	LORT Question Section: (i.e., A-Systems or B-Procedures)		
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

33

ID: 1455176

Points: 1.00

Unit 1 is operating at 50% power with the following conditions:

- HPCI is being operated in full flow test
- "1B" RHR loop is operating in Suppression Pool Cooling
- "0D" RHRSW pump is providing cooling water to the "1B" RHR heat exchanger
- The "0B" RHRSW Rad Monitor is bypassed due to being INOP, and ODCM actions have been completed

A Division 2 LOCA signal is inadvertently generated. The PRO reopens HV-051-1F024B "SUPP POOL CLG B" no other operator actions are taken.

WHICH ONE of the following describes the suppression pool temperature response over the next 5 minutes and the reason for the response?

	<u>Suppression Pool Temperature Response</u>	<u>Reason for Response</u>
A.	Temperature will rise faster	LOCA Signal trips the "0D" RHRSW pump
B.	Temperature will rise faster	"1B" RHR Heat Exchanger is bypassed
C.	Temperature rise will remain constant	"0D" RHRSW remains in service
D.	Temperature will lower	HPCI trips on Hi level

Answer: B

Answer Explanation

With the Div 2 LOCA signal the F048 Heat Exchanger Bypass valve would get an open signal for three minutes along with the F024, test valve closing. Therefore, the heat exchanger is bypassed and Suppression Pool temperature will increase.

- A Incorrect. Temperature will rise faster but the RHRSW pump will not trip. Plausible to the examinee who either does not recall the relationship between RHRSW rad monitors and RHRSW pumps or does not recall that D RHRSW pump is powered from D22
- B Correct. Temperature will rise due to the HTX bypass valve opening
- C Incorrect. Plausible to the examinee who does not recall that the heat exchanger bypass valve opens on an LOCA signal
- D Incorrect. Plausible to the examinee who does not correlate power to feed flow and believe that a HPCI injection from the DIV2 LOCA signal at 50% power will cause a high level HPCI turbine trip.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 33 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	3.50
System ID:	1455176
User-Defined ID:	Q# 33 BANK
Lesson Plan Objective:	LOT0051.08
Topic:	pool temp RHR in pool cooling loca occurs
RO:	4.0
SRO:	4.0
KA#:	219000 A1.01

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	2	
	Group	2	
	KA # and Rating	219000 219000 A1.01 4.0/4.0	
	KA Statement	RHR/LPCI: Torus/Suppression Pool Cooling Mode Ability to predict and/or monitor changes in parameters associated with operating the RHR/LPCI: TORUS/SUPPRESSION POOL COOLING MODE controls including: Suppression pool temperature	
	Cognitive level	higher	
	Safety Function	5	
	10 CFR 55	41.5	
	Technical Reference with Revision No:		Rev #:
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	562335	
	Question Source: (i.e. New, Bank, Modified)	562335	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	562335	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
	PRA: (i.e. Yes or No or #)		
	LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

34

ID: 1649532

Points: 1.00

Unit 1 is operating at 100% power.

- Control rod 30-31 SCRAMS

Which of the following describes the indications on the four rod display, and the action required (if any) to run a P-1?

	<u>Four rod display indication</u>	<u>Action required to run a P-1</u>
A.	Blank, Blank	Wait for rod to settle ONLY
B.	Blank, Blank	Isolate rod and wait for it to settle
C.	0,0	No action required
D.	--, --	Isolate rod and wait for it to settle

Answer: B

Answer Explanation

When a control rod SCRAMS it goes to the overtravel in position (beyond RPIS position switches for a 00 position

note in ON-104 page 8 states

Until a control rod settles to a known position, i.e. other than inserted to beyond 00, a P-1 **cannot** be run.

A incorrect four rod position will indicate blank, blank but rod must be isolated to settle, plausible to the examinee who thinks that it will respond as a full reactor scram does. when scram discharge volume fills the rods will settle to 00 without isolating.

B correct RPIS will show blank (no position on the four rod display) when it scrams (overtravel in) since only 1 rod scrambled the SDV will not fill and the rod will stay at over travel position. once the rod is isolated and allowed to settle at 00 a P-1 can be run

C incorrect plausible to the examinee who does not recall the RPIS reed switch allocations at 00 and past 00. If examinee believes that position will show 00 than a P-1 would be able to be run

D incorrect --,-- (a dash in each window) of the four rod display for 30-31 is what is shown when rods are between notches while stroking. this is plausible to the examinee who believes that past 0,0 is equivalent to between notches

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 34 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	3.00
System ID:	1649532
User-Defined ID:	Q# 34 NEW
Lesson Plan Objective:	LGSOPS0073A.2H
Topic:	RPIS Overtravel
RO:	3.6
SRO:	3.9
KA#:	214000 A2.03

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	2		
Group	2		
KA # and Rating	214000 A2.03 3.6/3.9		
KA Statement	RPIS Ability to (a) predict the impacts of the following on the ROD POSITION INFORMATION SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Overtravel/in-out		
Cognitive level	low		
Safety Function	7		
10 CFR 55	41.6		
Technical Reference with Revision No:	ON-104 LGSOPS0073B	Rev #:	5 5 0 2
Justification for Non SRO CFR Link:	NA		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	New		
Question Source: (i.e. New, Bank, Modified)	New		
Low KA Justification (if required):	NA		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	New		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	None		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

35

ID: 1601449

Points: 1.00

A chemical spill results in the following:

- 'A' and 'C' Toxic Gas detectors tripped
- 'A' and 'D' Control Enclosure Chlorine detectors UPSCALE

WHICH ONE of the following identifies the status of the CREFAS Fans?

- A. Both are running
- B. Neither is running
- C. Only the 'A' fan is running
- D. Only the 'B' fan is running

Answer: B

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Answer: Remains in Standby, Neither CREFAS fan running

Chlorine Monitors

The chlorine monitoring system will initiate an automatic isolation of the Control Room HVAC system if chlorine concentration exceeds 0.40 ppm in the Control Room HVAC intake plenum. There are four chlorine detectors, which provide input to four chlorine isolation channels, as follows: (If the A and D chlorine detectors sense high chlorine, but not the B and C = No isolation)

The A and C or B and D detectors must sense high chlorine to cause an isolation signal. If the A and C chlorine detectors sense greater than 0.40 ppm chlorine, then both the A and C chlorine isolation channels will trip. If the B and D chlorine detectors sense greater than 0.40 ppm chlorine, then both the B and D chlorine isolation channels will trip.

If a chlorine isolation signal is generated on all four isolation channels, then a complete isolation will occur, which results in the following: The main Control Room air is recirculated using the normal supply and return fans, while the CREFAS fan draws some of the recirculating air through the CREFAS filter, then sends it back to the suction of the normal supply fans. (Since no outside air is drawn in, MCR \square P will decay to 0 psid.)

A chlorine isolation is accomplished as follows: The A or B CREFAS fan will start after a 30 second time delay. (Whichever fan is in AUTO will start.) The A CREFAS fan is started only by the C isolation channel, and the B CREFAS fan is started only by the D isolation channel (B & D detectors).

Toxic Gas

The toxic gas monitors provide indication and alarm in the event of toxic gas enters the Control Enclosure. Three analyzers located in the Control Enclosure are used to detect gases that are proven to be toxic, and initiate a MCR alarm once triggered. There are no automatic functions or interlocks associated with the toxic gas monitors.

Distractors:

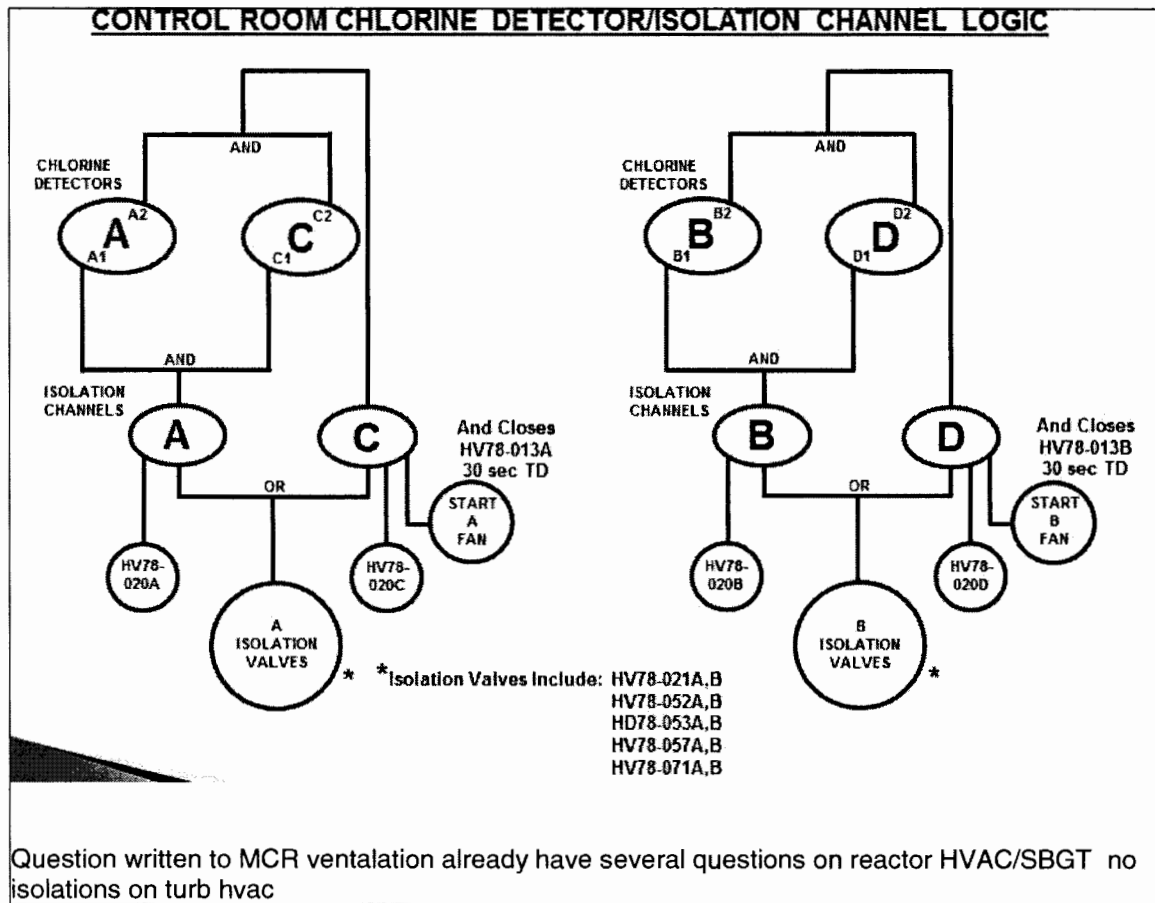
Automatically initiates "A" CREFAS only, with the "A" CREFAS running – see explanation

Automatically initiates "B" CREFAS only, with the "B" CREFAS running – see explanation

Automatically initiates both "A" & "B" CREFAS, with both CREFAS fans running – see explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test



EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 35 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1601449
User-Defined ID:	Q# 35 BANK
Lesson Plan Objective:	LGSOPS0078.3H
Topic:	Describe CREFAS operation with a A MCR Radiation Isolation auto initiation
RO:	3.8
SRO:	3.8
KA#:	288000 A3.01

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	2	
	Group	2	
	KA # and Rating	288000 A3.01 3.8/3.8	
	KA Statement	Plant Ventilation Systems Ability to monitor automatic operations of the PLANT VENTILATION SYSTEMS including: Isolation/initiation signals	
	Cognitive level	higher	
	Safety Function	9	
	10 CFR 55	41.7	
	Technical Reference with Revision No:		Rev #:
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	Bank 560587	
	Question Source: (i.e. New, Bank, Modified)	Bank 560587	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	Bank 560587	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
	PRA: (i.e. Yes or No or #)		
	LORT Question Section: (i.e. A-Systems or B-Procedures)		
	Comments		
	<p>On a MCR Rad Isolation, the CREFAS Fan that is in AUTO will start (only 1 fan is in AUTO in a normal alignment) and the outside air dampers to the CREFAS Filters will open.</p>		

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

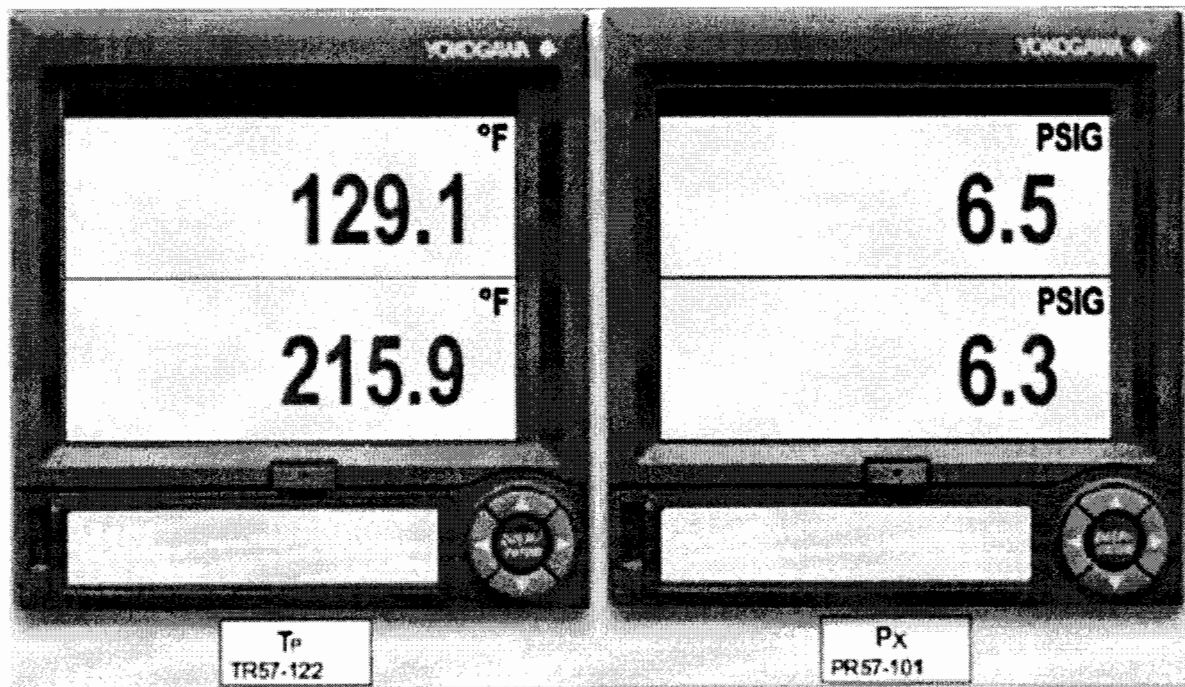
36

ID: 1455868

Points: 1.00

Unit 1 was operating at 100% power when the following occurred.

- The 1M SRV spuriously opened several minutes ago.
- The PRO observes the following indications and diagnosis a tailpipe leak.
- Temperatures are up 0.1 degree per minute
- Suppression pool level is 22.5 feet



Which of the following describes where the 1M SRV tailpipe leak is located and the allowed action that will mitigate the containment pressure rise?

	<u>Location of tailpipe leak</u>	<u>Allowed action that will mitigate the condition</u>
A.	Suppression Pool	Spray the Drywell
B.	Suppression Pool	Spray the Suppression Pool
C.	Drywell	Spray the Suppression Pool
D.	Drywell	Spray the Drywell

Answer: B

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Answer Explanation

Examinee must recognize / recall that TR-157-122 Drywell reading is on top, but on PR-57-101 Suppression Pool is on top. Given that pool pressure is > drywell the leak must be in the suppression pool air space. There are 2 ways to reach drywell spray in T-102, from containment pressure leg and from drywell temperature leg. Drywell temperature leg DWT-4 stop sign when DW temp cannot be maintained <145 degrees continue. From the containment pressure leg drywell spray is not authorized until pool pressure is > 7.5 psig

- A Incorrect spraying the DW is not allowed nor would it be the most efficient way to deal with the leak plausible to the examinee who believe that since the air volume of the DW is larger than that of the pool spraying the DW will be more effective and does not recall the limits for DW spray or thinks DW is at 215 degrees.
- B Correct pool pressure is > than DW pressure so the leak is in the pool and the downcomer vacuum breakers have opened causing DW pressure to rise. Spraying the pool is directed before pool pressure reaches 7.5 psig, pool spray is allowed and the most effective way to mitigate the pressure rise.
- C Incorrect leak is in the pool plausible to the examinee who does not recall which reading is dw and which is pool
- D Incorrect spraying the DW is not allowed nor would it be the most efficient way to deal with the leak plausible to the examinee who believe that since the air volume of the DW is larger than that of the pool spraying the DW will be more effective and does not recall the limits for DW spray or thinks DW is at 215 degrees.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 36 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	4.00
System ID:	1455868
User-Defined ID:	Q# 36 NEW
Lesson Plan Objective:	LGSOPS1560.05
Topic:	pool spray
RO:	4.0
SRO:	3.9
KA#:	230000

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data			
	Level	RO		
	Tier	2		
	Group	2		
	KA # and Rating	230000 A4.13 4.0/3.9		
	KA Statement	RHR/LPCI: Torus/Suppression Pool Spray Mode Ability to manually operate and/or monitor in the control room: Suppression chamber pressure		
	Cognitive level	high		
	Safety Function	5		
	10 CFR 55	41.7		
	Technical Reference with Revision No:	T-102	Rev #:	2 5
	Justification for Non SRO CFR Link:	n/a		
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
	Question Source: (i.e. New, Bank, Modified)	new		
	Low KA Justification (if required):	n/a		
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		
	ILT			
	Supplied Ref (If appropriate): (i.e. ABN-##)	none		
	LORT			
	PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)				
Comments				

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

37

ID: 1455770

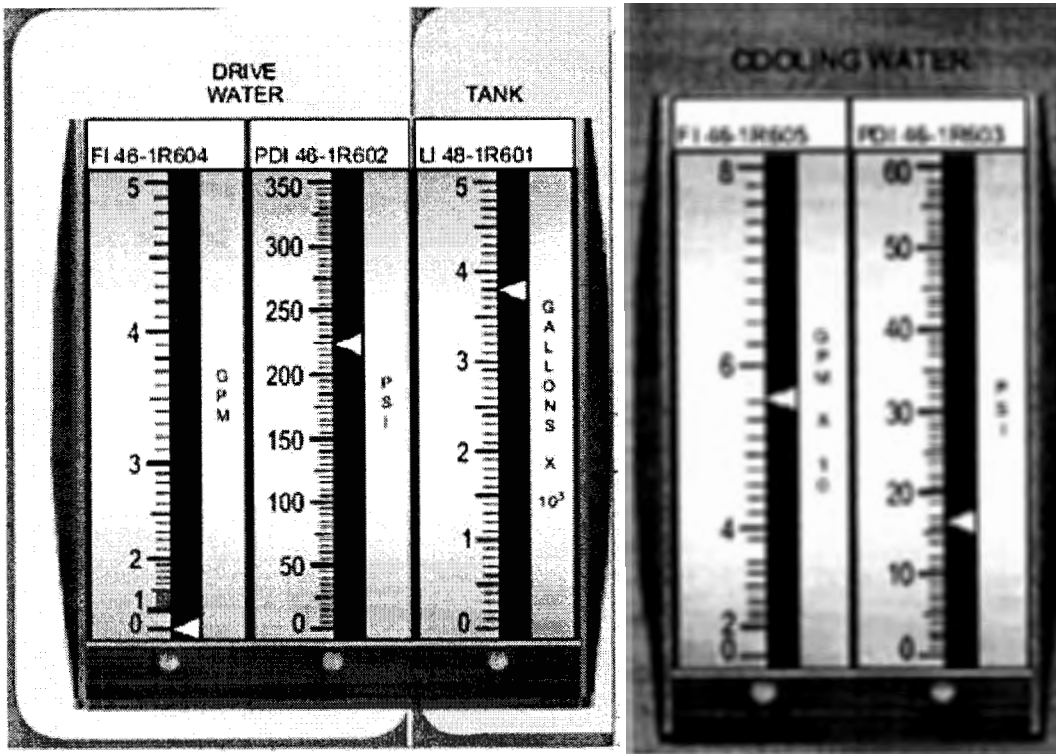
Points: 1.00

Unit 1 is at 75% reactor power.

Operators are preparing to continue raising power by control rod withdrawal

Operators are performing S73.1.A NORMAL OPERATION OF THE REACTOR MANUAL CONTROL SYSTEM

Given the following indications;



Which of the following lists both the direction to manipulate the Drive Water Pressure Control Valve HV-46-1F003 and the resulting pressure indication to be obtained, prior to withdrawing control rods?

Direction to manipulate Drive Water Pressure Control Valve HV-46-1F003

Indication to obtain

- | | |
|----------|----------------------------------|
| A. Close | PDI-46-1R602 between 255-265 PSI |
| B. Open | PDI-46-1R602 between 255-265 PSI |
| C. Close | PDI-46-1R603 between 25-35 PSI |
| D. Open | PDI-46-1R603 between 25-35 PSI |

Answer: A

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

- A Correct per S46.1.a normal operating pressure for CRD drive water is 255-265 psi. closing pressure control valve will raise drive water pressure
- B Incorrect opening pressure control valve will reduce pressure, plausible to the examinee who incorrectly recalls which side of the pressure regulating valve the indicator is on and does not take into account that the flow control valve will auto open as the pressure control valve is closed
- C Incorrect cooling water DP is within its normal band of 10 to 25 psi. adjusting pressure control valve HV-46-1F003 will have minimal affect on the down stream side of the valve because the flow control vave will is in auto and will open or close to maintain system flow. plausible to the examinee who does not recall normal value for PDI-46-1R603 or how the flow controller in automatic will affect system pressure
- D Incorrect cooling water DP is within its normal band of 10 to 25 psi. adjusting pressure control valve HV-46-1F003 will have minimal affect on the down stream side of the valve because the flow control vave will is in auto and will open or close to maintain system flow. plausible to the examinee who does not recall normal value for PDI-46-1R603 or how the flow controller in automatic will affect system pressure

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 37 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	5
Difficulty:	3.50
System ID:	1455770
User-Defined ID:	Q# 37 NEW
Lesson Plan Objective:	LGSOPS0046.2A
Topic:	drive water DP
RO:	4.2
SRO:	4.4
KA#:	201001 2.2.44

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	2		
Group	2		
KA # and Rating	201001 2.2.44 4.2/4.4		
KA Statement	Control Rod Drive Hydraulic System 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.		
Cognitive level	higher		
Safety Function	1		
10 CFR 55	41.5		
Technical Reference with Revision No:	M-0046 sht1 S46.1.A	Rev #:	5 1 3 1
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
Question Source: (i.e. New, Bank, Modified)	new		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e, A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

38

ID: 1455177

Points: 1.00

WHICH ONE of the following identifies the required POST-LOCA Drywell ventilation fans and what the operation of these fans will ensure?

- | | <u>FANS</u> | <u>Operation Ensures</u> |
|----|-------------|--|
| A. | A,B,C,D | A valid Drywell temperature indication |
| B. | A,B,G,H | A valid Drywell temperature indication |
| C. | A,B,C,D | Prevent areas of high H2 and O2 concentrations in the DW |
| D. | A,B,G,H | Prevent areas of high H2 and O2 concentrations in the DW |

Answer: D

Answer Explanation

T.S 3.6.6.2 lists 1AV212,1BV212,1GV212,1HV212 as the subset of drywell coolers that are the H2 mixing coolers. They discharge to the higher elevations to prevent localized accumulation of H2 and O2 from exceeding the lower flammability limits during LOCA conditions. Incorrect answers either have incorrect fans or valid temperature. selecting incorrect fans is plausible to if examinee fails to memorize correct fans. Valid temperature is plausible to examinee who believe the cooling function of the higher elevations is the bases for requiring these fans

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 38 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1455177
User-Defined ID:	Q# 38 BANK
Lesson Plan Objective:	LGSOPS0077.3
Topic:	Post-LOCA DW Vent Fans And Design Function Of These Fans
RO:	3.5
SRO:	3.8
KA#:	223001

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	2	
	Group	2	
	KA # and Rating	223001 K4.04 3.5/3.8	
	KA Statement	Primary Containment System and Auxiliaries Knowledge of PRIMARY CONTAINMENT SYSTEM AND AUXILIARIES design feature(s) and/or interlocks which provide for the following: Prevents hydrogen from reaching an explosive mixture	
	Cognitive level	lower	
	Safety Function	5	
	10 CFR 55	41.7	
	Technical Reference with Revision No:	T.S 3.6.6.2	Rev #:
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank 557056	
	Question Source: (i.e. New, Bank, Modified)	bank 557056	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank 557056	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
	PRA: (i.e. Yes or No or #)		
	LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments			
Reference: T.S. Bases 3/4.6.6 557056 K/A: 223001 K4.04, SG.07, K6.04 Used as SRO ONLY for ILT Proc Final - Good for RO Use			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

39

ID: 1454413

Points: 1.00

Unit 2 plant conditions:

- OPCON 4
- Preparations are being made to flood the main steam lines per GP-6.1, 'Shutdown Operations'
- RPV level is +90"
- All appropriate steps in GP-6.1 have been performed

HV-051-2F008 Shutdown Cooling outboard supply receives an inadvertent isolation signal and cannot be reopened

WHICH of the following is the MINIMUM reactor level that will ensure adequate core circulation exists, per GP-6.1?

- A. Upset Range level indicates +61"
- B. Shutdown Range level indicates +79"
- C. Shutdown Range level indicates + 61"
- D. Wide Range level indicates +61"

Answer: C

Answer Explanation

Shutdown Range level indicates +61 inches is correct: Per caution in GP-6.1, RPV level must be maintained greater than 60 inches on Shutdown Range or greater than 78 inches on Upset Range for sufficient natural circulation in the event of a loss of forced circulation.

Upset level indication at 61 inches is incorrect: Does not meet the minimum RPV level of 78 inches in GP-6.1.

Wide Range level indication at 61 inches is incorrect: Wide Range level is not referenced in GP-6.1.

Shutdown range +79 is incorrect not the minimum required level.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 39 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	4
Difficulty:	2.00
System ID:	1454413
User-Defined ID:	Q# 39 MODIFIED
Lesson Plan Objective:	LOT0051.11 RHR
Topic:	Natural Circ following loss of SDC
RO:	3.5
SRO:	3.6
KA#:	295001.AK1.01

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data			
	Level	RO		
	Tier	1		
	Group	1		
	KA # and Rating	295001 AK1.01 3.5/3.6		
	KA Statement	Knowledge of the operational implications of the following concepts as they apply to PARTIAL OR COMPLETE LOSS OF FORCED CORE FLOW CIRCULATION :Natural circulation		
	Cognitive level	lower		
	Safety Function	1&4		
	10 CFR 55	41.9 & 41.10		
	Technical Reference with Revision No:	GP-6.1	Rev #:	32
	Justification for Non SRO CFR Link:	NA		
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank 710695		
	Question Source: (i.e. New, Bank, Modified)	bank Modified		
	Low KA Justification (if required):	na		
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank		
	Supplied Ref (If appropriate): (i.e. ABN-##)			
	none			
	LORT			
	PRA: (i.e. Yes or No or #)			
	LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments				

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

40

ID: 1433148

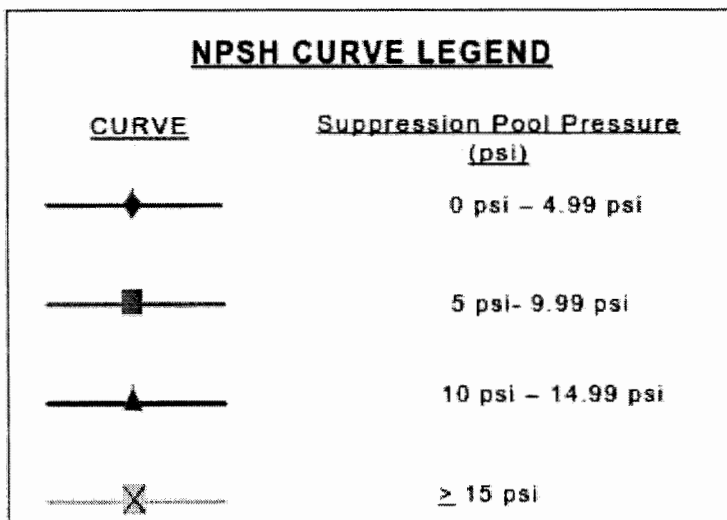
Points: 1.00

Plant conditions are as follows:

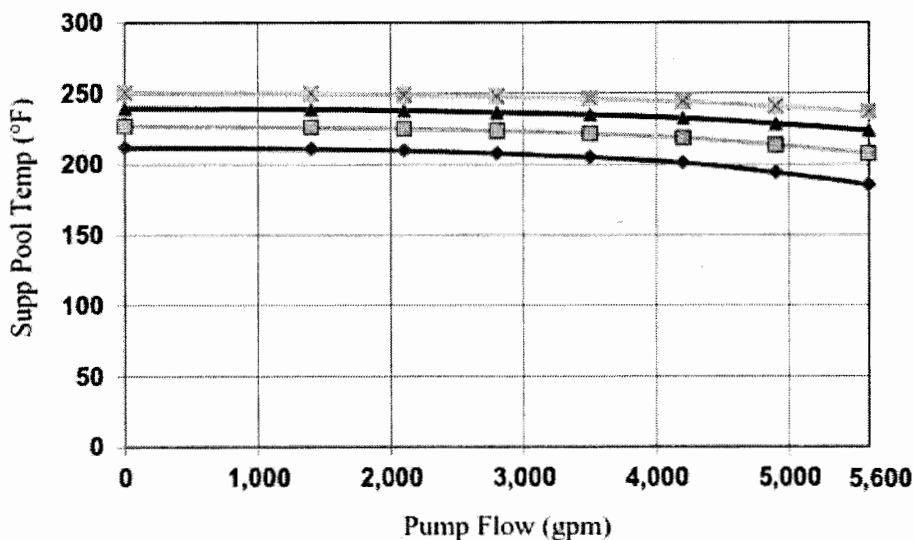
- Suppression Pool temperature is 200° F
- Drywell pressure is 8.0 psig
- Suppression Pool pressure is 3.0 psig
- CST level is 1 foot

Given the following graphs;

Which of the following lists the system(s), and flow rates if any, that are able to inject without violating NPSH limits?



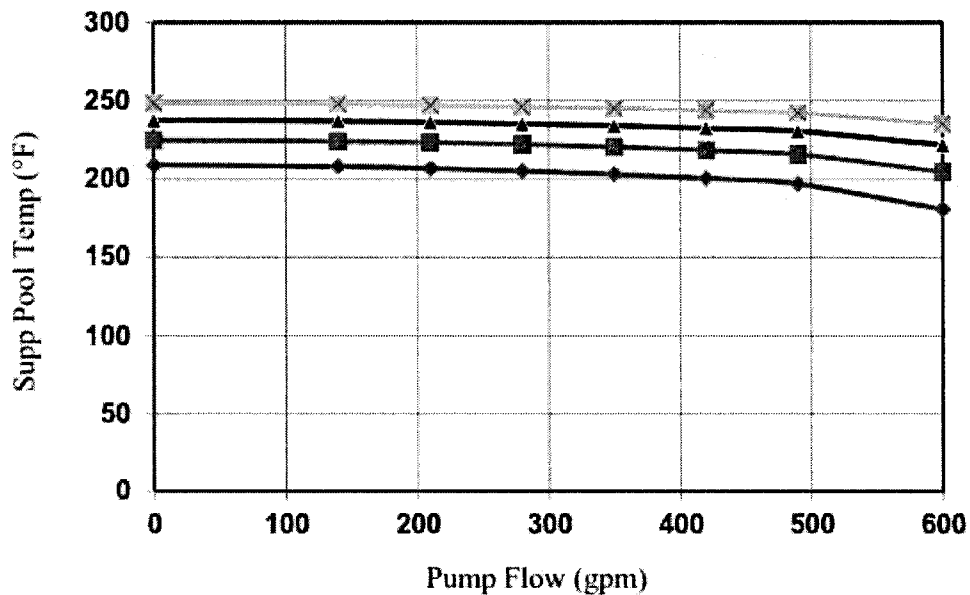
HPCI NPSH LIMIT



EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

RCIC NPSH LIMIT



- A. Both HPCI at 3500 GPM and RCIC at 500 GPM
- B. Neither HPCI at 3500 GPM or RCIC at 500 GPM
- C. RCIC at 500 GPM **ONLY**
- D. HPCI at 3500 GPM **ONLY**

Answer: D

Answer Explanation

- A Incorrect plausible to the examinee who uses drywell pressure
- B Incorrect plausible to the examinee who cannot determine safe side of NPSH graph and who uses drywell pressure not pool pressure
- C Incorrect plausible to the examinee who uses drywell pressure for the RCIC graph or cannot determine safe side of graph
- D Correct only HPCI at 3500 is on the safe side of graph

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 40 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	4
Difficulty:	3.00
System ID:	1433148
User-Defined ID:	Q# 40 NEW
Lesson Plan Objective:	LOT0340.14F
Topic:	NPSH
RO:	3.0
SRO:	3.4
KA#:	295026 EK1.01

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	1		
Group	1		
KA # and Rating	295026 EK1.001 3.0/3.4		
KA Statement	Suppression Pool High Water Temperature Knowledge of the operational implications of the following concepts as they apply to SUPPRESSION POOL HIGH WATER TEMPERATURE :Pump NPSH		
Cognitive level	higher		
Safety Function	5		
10 CFR 55	41.8,41.9,41.10		
Technical Reference with Revision No:	T-102	Re v #:	25
Justification for Non SRO CFR Link:	N/A		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	New		
Question Source: (i.e. New, Bank, Modified)	New		
Low KA Justification (if required):	N/A		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	N/A		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	None		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

41

ID: 1650585

Points: 1.00

Unit 1 plant conditions are as follows:

- Unit has been shutdown due to major fuel damage
- An off-site release is in progress

WHICH ONE of the following annunciators indicate that a release is in progress that will result in the exposure of a member of the public in an Unrestricted Area exceeding limits?

- A. North Stack Hi-Hi Radiation 003 RAD E-5
- B. North Stack Hi Rad 003 RAD E-2
- C. Unit 1 South Stack Hi Radiation 003 RAD F-2
- D. 1 REAC ENCL Refuel Flr Vent Exhaust Hi Radiation 109 RAD E-3

Answer: A

Answer Explanation

HI-HI alarms indicate that the site is releasing in excess of ODCM limits and a member of the general public standing in an Unrestricted Area (at site boundary) would exceed legal limit (10CFR20)

003 RAD E-1 North Stack HI-HI Rad HI-Setpoint $3.45\text{e-}5$ uCi/cc for Noble Gas

This would correspond to a UE ie greater than $2.2\text{E}04$ uCi/cc

From the ODCM:

2.2 GASEOUS EFFLUENT MONITOR SETPOINT DETERMINATION

Control 3.1.2 requires that an alarm setpoint be established for the noble gas effluent monitoring channels (RY26-075A(B), RY26-185A(B), RY26-285A(B), and RY26-076) to ensure that the release rate of radioactive materials does not exceed the limits of Control 3.2.2.1.a, which corresponds to a dose rate at the SITE BOUNDARY of 500 mrem/yr to the total body or 3000 mrem/yr to the skin

A Correct

B incorrect plausible to examinee who believes North stack HI alarm will result in the exposure of a member of the public in an Unrestricted Area exceeding limits and that the HiHI will result in escalation of E-plan

C incorrect plausible to examinee who believes South stack HI alarm will result in the exposure of a member of the public in an Unrestricted Area exceeding limits and that the HiHI will result in escalation of E- plan

D plausible to the examinee who does not recall the reactor hvac radiation alarm setpoints

A correct 003 RAD E-1 North Stack HI-HI Rad HI-Setpoint $3.45\text{e-}5$ uCi/cc for Noble Gas

B incorrect

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 41 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	2
Difficulty:	2.20
System ID:	1650585
User-Defined ID:	Q# 41 BANK
Lesson Plan Objective:	LOT0720.03A
Topic:	Stack monitor
RO:	3.9
SRO:	4.2
KA#:	295038 EK2.04

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data		
Level	RO	
Tier	1	
Group	1	
KA # and Rating	295038 EK2.04 3.9/4.2	
KA Statement	High Off-Site Release Rate Knowledge of the operational implications of the following concepts as they apply to HIGH OFF-SITE RELEASE RATE : Stack-gas monitoring system: Plant-Specific	
Cognitive level	lower	
Safety Function	9	
10 CFR 55	41.7	
Technical Reference with Revision No:	ARC -MCR-003	Rev #:
Justification for Non SRO CFR Link:	n/a	
Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank 562030	
Question Source: (i.e. New, Bank, Modified)	bank 562030	
Low KA Justification (if required):	n/a	
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank 562030	
ILT		
Supplied Ref (If appropriate): (i.e. ABN-##)	none	
LORT		
PRA: (i.e. Yes or No or #)		
LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments		

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

42

ID: 1454789

Points: 1.00

Unit 1 is operating at 100% power with the following:

- '1B' Core Spray Pump is operating in Full Flow Test

A reactor coolant leak occurs.

At t=0 seconds:

- RPV water level reaches -133"
- RPV pressure reaches 465 psig
- Drywell pressure reaches 3.0psig

At t=12 seconds:

- None of the above parameters has changed.

WHICH ONE of the following describes the status of:

- (1) '1B' Core Spray Pump, and
(2) HV-052-1F015B, CORE SPRAY LOOP B TEST BYPASS PCIV?

- A. (1) Tripped and restarted
(2) Closed and CANNOT be re-opened
- B. (1) Never tripped and is still running
(2) Closed and CAN be re-opened
- C. (1) Tripped and is NOT running
(2) Closed and CANNOT be re-opened
- D. (1) Never tripped and is still running
(2) Open

Answer: C

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

'C' is correct. The Core Spray initiation signal has been reached (high Drywell Pressure (Low RPV level -129 inches). As such, the 1B CS Pump trips (LOCA shed) and will re-sequence back on, but not until $t=15$ seconds (with offsite power available). Therefore, at $t=12$ seconds, the pump remains tripped. However, the Test Bypass valve auto-closed on the LOCA signal and will not re-open so long as the signal is present.

'A' is wrong. Plausible to the examinee who confuses the re-sequence time for the 'B'/'D' CS Pumps (i.e., $t=15$ sec, with offsite power available) with the re-sequence time for the 'A'/'C' CS Pumps (i.e., $t=10$ seconds, with offsite power available).

'B' is wrong. Plausible to the examinee who does not recognize that an initiation signal exists (thus, the pump did not LOCA shed), but who believes that the transient condition would result in closure of the Test Bypass valve.

'D' is wrong. Plausible to the examinee who does not recognize that an initiation signal exists; therefore, the pump is still running and the Test Bypass valve is still open.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 42 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1454789
User-Defined ID:	Q# 42 BANK
Lesson Plan Objective:	LGSOPS0052.07
Topic:	Core Spray Response to Coolant Leak When operating in Full Flow Test
RO:	4.2
SRO:	4.3
KA#:	295031 EK2.03

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data			
	Level	RO		
	Tier	1		
	Group	1		
	KA # and Rating	295031 EK2.03 4.2/4.3		
	KA Statement	Reactor Low Water Level WATER LEVEL Knowledge of the interrelations between REACTOR LOW WATER LEVEL and the following: Low pressure core spray		
	Safety Function	2		
	Cognitive level	higher		
	10 CFR 55	41.7		
	Technical Reference with Revision No:	E21-1040 sht1	Rev #:	5 0
	Justification for Non SRO CFR Link:	N/A		
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank 895494		
	Question Source: (i.e. New, Bank, Modified)	bank		
	Low KA Justification (if required):	N/A		
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank		
	ILT			
	Supplied Ref (if appropriate): (i.e. ABN-##)	None		
	LORT			
	PRA: (i.e. Yes or No or #)	No		
	LORT Question Section: (i.e. A-Systems or B-Procedures)	A		
Comments				
833342 lost n random selection coin toss				

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

43

ID: 1433212

Points: 1.00

Given the following:

- The Fire Brigade is fighting a fire in the warehouse.
- The Motor Driven Fire Pump started and immediately tripped on spurious overcurrent.
- The Diesel Driven Fire Pump is running and supplying the fire header with pressure at 97 psig.
- The overcurrent trip of the Motor Driven Fire Pump breaker is reset.

Which of the following describes the Motor Driven and Diesel Driven fire pump response?

- A. The Motor Driven Fire Pump starts and the Diesel Driven Fire Pump continues to run.
- B. The Motor Driven Fire Pump starts and the Diesel Driven Fire Pump stops immediately.
- C. The Motor Driven Fire Pump remains in standby and the Diesel Driven Fire Pump continues to run.
- D. The Motor Driven Fire Pump starts and the Diesel Driven Fire Pump stops after 5 minute time delay at 100 psig header pressure.

Answer: A

Answer Explanation

- A Correct per ARC-MCR-005 A-1 Motor driven fire pump starts at 100 psig lowering there is no auto shutdown of the diesel driven fire pump
- B Incorrect Plausible to the examinee who believe there is a lead lag arrangement similar to the condensate transfer system
- C Incorrect Plausible to the examinee who does not recall the 100 psi start set point for the Motor Driven Fire Pump
- D Incorrect Plausible to the examinee who believe there is a lead lag arrangement similar to the condensate transfer system

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 43 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1433212
User-Defined ID:	Q# 43 MODIFIED
Lesson Plan Objective:	LGSOPS0022.5A
Topic:	Fire pp operation
RO:	2.5
SRO:	2.6
KA#:	60000 AK2.04

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	1		
Group	1		
KA # and Rating	60000 AK2.04 2.5/2.6		
KA Statement	Plant Fire On Site Knowledge of the interrelations between PLANT FIRE ON SITE and the following: Breakers / relays / and disconnects		
Cognitive level	lower		
Safety Function	8		
10 CFR 55	41.7		
Technical Reference with Revision No:	ARC-MCR-005 A-1 ARC-MCR-005 B-2	Rev #:	0 1 0 7
Justification for Non SRO CFR Link:	NA		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	modified South Texas project bank		
Question Source: (i.e. New, Bank, Modified)	Modified South Texas project bank		
Low KA Justification (if required):	N/A		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	Modified		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	None		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

44

ID: 1454411

Points: 1.00

Unit 1 is at 13% power

- Drywell pressure rose to 3 psig
- A side scram lights are lit
- B side scram lights are extinguished
- The second RPV level lowering has just been completed per T-117
- RPV level is being maintained between -186" and -161"
- No floor actions for the second lowering have been taken

Which one of the following will allow insertion of rods to terminate the ATWS

- A. Close the 46-1F034 CRD charging water header supply valve and reset Rod Drive Control System (RDCS)
- B. Bypass the RWM and reset RDCS
- C. Close the 46-1F034 CRD charging water header supply valve and bypass the RWM
- D. Bypass the Rod Worth Minimizer (RWM) ONLY

Answer: B

Answer Explanation

- A Incorrect Close the 46-1F034 CRD charging water header supply valve is not required for an electrical ATWS
- B Correct Bypassing the RWM is required since it is enforcing and rods will be inserted directly to position 00 and not to bank position. since level is below -129 inches RDCS will lose power on the LOCA signal and need to be reset.
- C Incorrect Close the 46-1F034 CRD charging water header supply valve is not required for an electrical ATWS
- D Incorrect plausible to examinee who either does not recognize that a LOCA signal is present or that RDCS will need to be reset after the 4 KV bus is reset

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 44 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	3.00
System ID:	1454411
User-Defined ID:	Q# 44 NEW
Lesson Plan Objective:	LGSOPS2003.03
Topic:	ATWS RMCS
RO:	3.8
SRO:	3.9
KA#:	295037 EK2.11

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data		
Level	RO	
Tier	1	
Group	1	
KA # and Rating	295037 EK2.11	
KA Statement	Knowledge of the interrelations between SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN and the following: RMCS: Plant-Specific.	
Cognitive level	higher	
Safety Function	1	
10 CFR 55	41.7	
Technical Reference with Revision No:		Rev #:
Justification for Non SRO CFR Link:	N/A	
Question History: (i.e. LGS NRC-05, OYS CERT-04)	new	
Question Source: (i.e. New, Bank, Modified)	new	
Low KA Justification (if required):	N/A	
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new	
ILT		
Supplied Ref (If appropriate): (i.e. ABN-##)	none	
LORT		
PRA: (i.e. Yes or No or #)		
LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments		

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

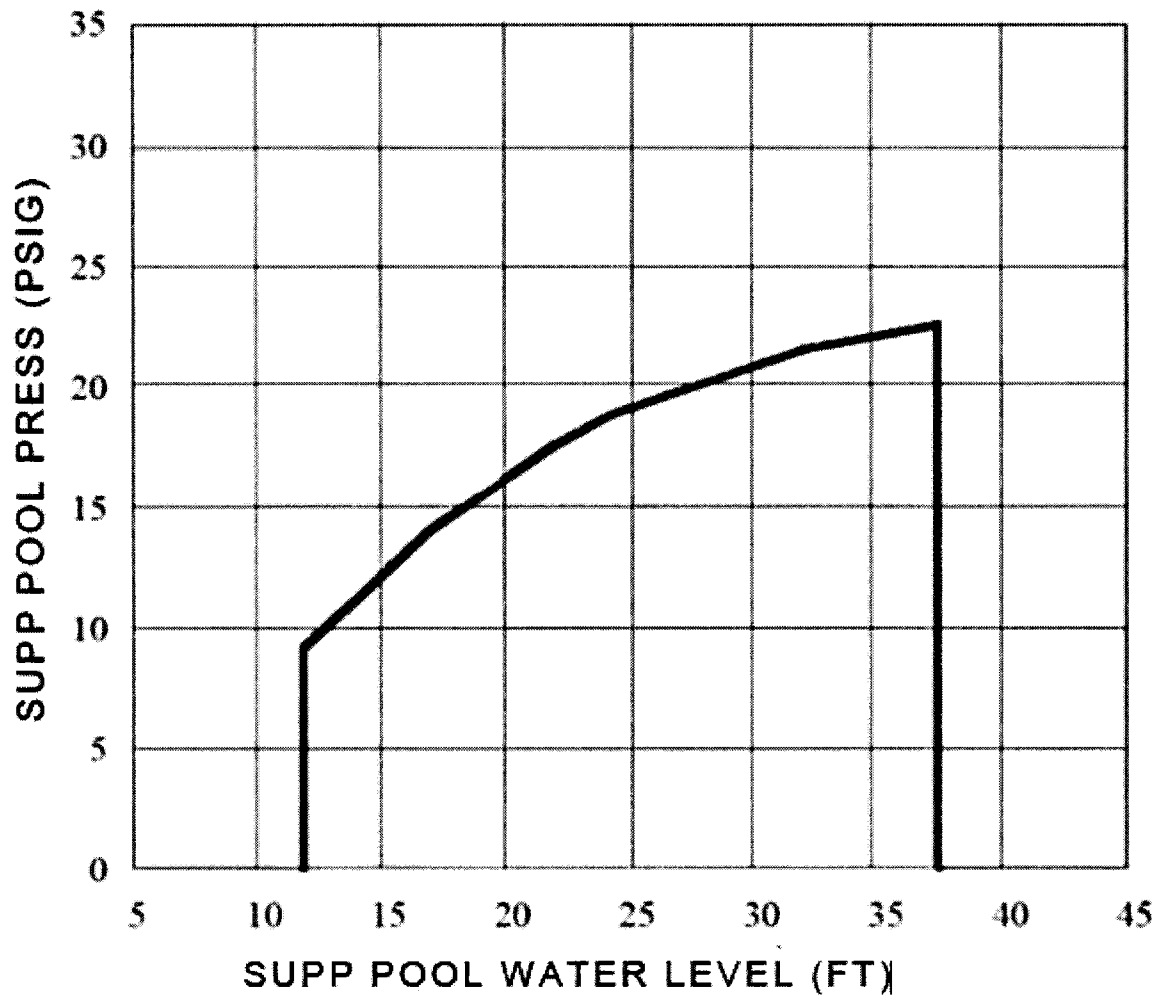
45

ID: 1433350

Points: 1.00

Unit 1 a Large drywell leak occurs.

- Suppression pool pressure is 20 psig up slow
- Suppression pool level is 15 feet steady



EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

WHICH of the following describes the action to be taken and the reason for performing this action?

Action	Reason
A. Rapidly depressurize per T-101	Reduce Drywell pressure and temperature through the combined effects of evaporative and convective cooling
B. Emergency blowdown per T-112	Reduce Drywell pressure and temperature through the combined effects of evaporative and convective cooling
C. Emergency blowdown per T-112	Ensure that the pressure suppression function of the primary containment is maintained
D. Rapidly depressurize per T-101	Ensure that the pressure suppression function of the primary containment is maintained

Answer: C

Answer Explanation

Refer to T-102, specifically, the PC/P (Primary Containment Pressure) leg. Only when operators determine that the SAFE side of the Pressure Suppression Pressure (PSP) Curve, PC/P-3, cannot be maintained does Step PC/P-11 direct operators to perform a T-112 Emergency Blowdown. The T-102 Bases for Step PC/P-11 describes the PSP purpose as "to assure the pressure suppression function of primary containment is maintained." Rapidly depressurize per T-101 is incorrect, plausible to the examinee who plots the graph incorrectly and believes they are on the safe side of PC/P-3 but approaching the unsafe side. Reduce Drywell pressure and temperature through the combined effects of evaporative and convective cooling is incorrect but plausible to the examinee who confuses the drywell spray basis with the depressurization basis.

.From the stem A LOCA is in progress causing Drywell pressure to rise, this will cause pool pressure to rise following drywell pressure at some at some slightly lower pressure based on pool level (Downcomer submergence)

A	Incorrect Rapidly depressurize per T-101	Reduce Drywell pressure and temperature through the combined effects of evaporative and convective cooling
B	Incorrect Emergency blowdown per T-112	Reduce Drywell pressure and temperature through the combined effects of evaporative and convective cooling
C	Correct Emergency blowdown per T-112	Ensure that the pressure suppression function of the primary containment is maintained
D	Incorrect Rapidly depressurize per T-101	Ensure that the pressure suppression function of the primary containment is maintained

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 45 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	4
Difficulty:	2.50
System ID:	1433350
User-Defined ID:	Q# 45 NEW
Lesson Plan Objective:	LLOT1560.4
Topic:	Recall reason for Emergency Blowdown based on PSP
RO:	3.7
SRO:	4.1
KA#:	295024 EK3.04

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data		
Level	RO	
Tier	1	
Group	1	
KA # and Rating	295024 EK3.04 (3.7/4.1)	
KA Statement	295024 High Drywell Pressure Knowledge of the reasons for the following responses as they apply to HIGH DRYWELL PRESSURE: EK3.04 †Emergency depressurization	
Cognitive level	higher	
Safety Function	5	
10 CFR 55	41.5, 41.10	
Technical Reference with Revision No:	T-101 T-101 bases T-102 T-102 bases	Rev #:
Justification for Non SRO CFR Link:	N/A	
Question History: (i.e. LGS NRC-05, OYS CERT-04)	NEW	
Question Source: (i.e. New, Bank, Modified)	NEW	
Low KA Justification (if required):	N/A	
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	N/A	
ILT		
Supplied Ref (If appropriate): (i.e. ABN-##)	None	
LORT		
PRA: (i.e. Yes or No or #)		
LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments		

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

46

ID: 1649449

Points: 1.00

Unit 2 is in OPCON 3 when a LOCA occurs.

Suppression Pool pressure is 4 psig

Shutdown cooling inboard suction valve HV-51-2F009 cannot be opened

The CRS directs performance of S41.7.B Use Of SRV's and Suppression Pool Cooling As An Alternate Shutdown Cooling Method.

Which of the following describes the minimum reactor pressure required to ensure sufficient flow rate and the suction source for injection after raising RPV level ≥ 150 inches?

	<u>Minimum Reactor Pressure</u>	<u>Systems Allowed For Injection</u>
A.	50 psig	Suppression Pool ONLY
B.	54 psig	Suppression Pool ONLY
C.	50 psig	Suppression Pool and CST
D.	54 psig	Suppression Pool and CST

Answer: B

Answer Explanation

- A Incorrect plausible to examinee who recalls the 50 psi limit for SRV to open but does not recall that the limit is 50 psi above pool pressure
- B Correct reactor pressure must be 50 psig > than pool pressure and after level is raised injection with cond. transfer and CRD is secured.
- C Incorrect plausible to examinee who recalls the 50 psi limit for SRV to open but does not recall that the limit is 50 psi above pool pressure and or does not recognize that after level is raised injection with cond. transfer and CRD is secured
- D Incorrect after level is raised injection with cond. transfer and CRD is secured

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 46 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.50
System ID:	1649449
User-Defined ID:	Q# 46 NEW
Lesson Plan Objective:	LOT1550.03 (ON-120)
Topic:	alt SDC
RO:	3.6
SRO:	3.8
KA#:	295021 AK3.05

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	1		
Group	1		
KA # and Rating	295021 AK3.05 3.6/3.8		
KA Statement	Loss of Shutdown Cooling Knowledge of the reasons for the following responses as they apply to LOSS OF SHUTDOWN COOLING : Establishing alternate heat removal flow paths		
Cognitive level	lower		
Safety Function	4		
10 CFR 55	41.5		
Technical Reference with Revision No:	S.41.7.B	Rev #:	8
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
Question Source: (i.e. New, Bank, Modified)	new		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

47

ID: 1649473

Points: 1.00

Unit 1 plant conditions are as follows:

- RPV level is being controlled from the Remote Shutdown Panel (RSP) per SE-1
- RPV level is + 50 inches up slow
- RCIC flow is zero gpm at 2400 rpm
- RPV pressure is 950 psig, down slow

WHICH ONE of the following identifies a **required** action and the reason it is necessary?

	<u>ACTION</u>	<u>REASON</u>
A.	Trip HPCI immediately	Prevent excessive RPV cooldown due to uncontrolled steam usage
B.	Trip HPCI if level exceeds +54 inches	Prevent excessive RPV cooldown due to uncontrolled steam usage
C.	Trip HPCI immediately	Prevent reactor overfill due to fire induced spurious initiation
D.	Trip HPCI if level exceeds +54 inches	Prevent reactor overfill due to fire induced spurious initiation

Answer: D

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

NOTE

1. Reactor level rise without explanation may be caused by a spurious, fire caused HPCI initiation. Step 4.3.2 is a PROMPT Action from the fire safe shutdown analysis, to be completed within 4 minutes, to stop HPCI injection

AND prevent reactor overfill.

2. HPCI Emergency Shutdown Key (HPCI SHUTDOWN KEY H2191) is already installed in HS-56-*62 in Remote Shutdown Panel (RSP) *0-C201

SE-1 step 4.3.2

IF Reactor level is rising above +54 inches

AND continues to rise after RCIC flow is reduced,

THEN using HPCI Emergency Shutdown Key H2191

PLACE HS-56-*62, "HPCI EMERG S/D SWITCH," to "OFF" at *0C201, to trip HPCI.

- D correct per step 4.3.2 do not trip HPCI until level is > +54 rising with no injection. HPCI would normally run to maintain level between -39 and +54 HPCI is tripped to prevent vessel overfill
- A Incorrect plausible to examinee who believe that HPCI must always be tripped at the RSP as a 4 minute immediate action and / or believe the basis is to limit cooldown.
- B Incorrect plausible to examinee who does not recall basis for tripping HPCI but remembers that injection through core spray will cause pressure reduction (will not exceed cooldown rate)
- C Incorrect for the reasons stated above

K/A does not differentiate between main turb and HPCI/RCIC at LGS MSIVs are closed during MCR abandonment there is no procedural basis or UFSAR information on separating gen. from grid unable to write a question on main turb for this K/A

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 47 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	2
Difficulty:	2.00
System ID:	1649473
User-Defined ID:	Q# 47 MODIFIED
Lesson Plan Objective:	SE-1 TRAINING
Topic:	SE-1 HPCI Shutdown Requirement
RO:	3.7
SRO:	3.8
KA#:	295016 AK3.02

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	1		
Group	1		
KA # and Rating	295016 AK3.02		
KA Statement	Control Room Abandonment Knowledge of the reasons for the following responses as they apply to CONTROL ROOM ABANDONMENT : Turbine trip		
Cognitive level	low		
Safety Function	7		
10 CFR 55	41.5		
Technical Reference with Revision No:	SE-1	Rev #:	7 3
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	586875 modified		
Question Source: (i.e. New, Bank, Modified)	586875 modified		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	586875 modified		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
LORT			
PRA: (i.e. Yes or No or #)	y		
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

48

ID: 1454791

Points: 1.00

Unit 2 plant conditions are as follows:

- Startup in progress with Reactor Pressure at 380 psig
- Normal Electrical lineup

A small coolant leak results in Drywell pressure rising to 2 psig and all automatic actions occur as designed.

WHICH ONE of the following identifies the source of power to Safeguard and Non-Safeguard DC loads one (1) minute later?

(No operator action has been taken.)

	<u>SAFEGUARD DC SOURCE</u>	<u>NON-SAFEGUARD DC SOURCE</u>
A.	Batteries	Batteries
B.	Batteries	Battery Chargers
C.	Battery Chargers	Batteries
D.	Battery Chargers	Battery Chargers

Answer: C

Answer Explanation

BATTERY CHARGERS - SAFEGUARD DC, BATTERIES - NON-SAFEGUARD DC is correct. All Battery Chargers are powered from Safeguard AC Power. With the provided conditions, a LOCA signal will occur. This will result in the tripping of all Non-Safeguard loads powered from Safeguard Buses. Two of the Non-Safeguard Battery Chargers will shunt trip (2BC01 and 2BC02) and one (2BC) is powered from D224-G-D MCC which will trip on a LOCA and must be manually reset in the MCR. All of the Divisional Battery Chargers will be re-energized automatically when the respective 480 VAC Load Center automatically re-closes 3 seconds following the LOCA signal.

BATTERIES - SAFEGUARD DC, BATTERIES - NON-SAFEGUARD DC is incorrect. This would be correct immediately following the LOCA as the 480 VAC Load Center will trip on the LOCA signal which will de-energize all of the battery chargers. However, 3 seconds later the Load Center Breaker will auto re-close and re-energize the Safeguard Battery Chargers. The Non-Safeguard Battery Chargers will shunt trip and must be manually reset. Until they are reset, Non-Safeguard DC loads will be supplied from batteries.

BATTERIES - SAFEGUARD DC, BATTERIES - NON-SAFEGUARD DC is incorrect. A common mistake is that the Non-Safeguard Battery Chargers are powered from Non-Safeguard AC which means they would be unaffected by a LOCA signal.

BATTERY CHARGERS - SAFEGUARD DC, BATTERY CHARGERS - NON-SAFEGUARD DC is incorrect. A common mistake is that the Non-Safeguard Battery Chargers are not shunt tripped.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 48 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	5
Difficulty:	2.00
System ID:	1454791
User-Defined ID:	Q # 48 BANK
Lesson Plan Objective:	LGSOPS0095 - 7
Topic:	Effect of LOCA signal on Battery Chargers
RO:	3.6
SRO:	3.7
KA#:	295003 AA1.04

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data			
	Level	RO		
	Tier	1		
	Group	1		
	KA # and Rating	295003 AA1.04 3.6/3.7		
	KA Statement	Partial or Complete Loss of A.C. Power Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF A.C. POWER : D.C. electrical distribution system		
	Cognitive level	higher		
	Safety Function	6		
	10 CFR 55	41.7		
	Technical Reference with Revision No:	E-33 SE-10-1	Rev #:	45 6
	Justification for Non SRO CFR Link:	n/a		
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	Bank 833366		
	Question Source: (i.e. New, Bank, Modified)	Bank 833366		
	Low KA Justification (if required):	n/a		
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	minor rev to match KA		
	ILT			
	Supplied Ref (If appropriate): (i.e. ABN-##)	none		
	LORT			
	PRA: (i.e. Yes or No or #)	Y		
	LORT Question Section: (i.e. A-Systems or B-Procedures)	A		
	Comments			
	K6. Knowledge of the effect that a loss or malfunction of the following will have on the D.C. ELECTRICAL DISTRIBUTION : (CFR: 41.7 / 45.7) K6.01 A.C. electrical distribution 3.2 3.5			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

49

ID: 1455250

Points: 1.00

Plant conditions are as follows:

- 0A MCR Chiller in service
- 1A DW Chiller in service
- 2B DW Chiller in service
- D12 D/G running for its monthly surveillance test
- 0B ESW is running, an EO has just closed 11-1013 UNIT 1 SW TO LOOP B ESW and 11-2013 UNIT 2 SW TO LOOP B ESW per the D12 surveillance test.
- 0B ESW pump trips

WHICH ONE of the following groups of equipment lose cooling water?

- A. 1A Drywell Chiller, Unit 1 HPCI, and Unit 1 RCIC
- B. 2A Drywell Chiller, Unit 2 HPCI, and Unit 1 RCIC
- C. Unit 2 HPCI, and Unit 2 RCIC
- D. 0A MCR Chiller, Unit 1 HPCI, and Unit 1 RCIC

Answer: C

Answer Explanation

Reference SIM-12 drawing or P&ID 11 sheet 2 and 3 with no flow in B ESW loop and the 11-1013 closed flow is lost to the 0B MCR chiller unit 2 HPCI and unit 2 RCIC. The lineup for sw to HPCI and RCIC is as follows 11-1010 unit 1 SW to unit 1 A ESW provides a flow path for SW to unit 1 HPCI and RCIC. 11-2013 unit 2 SW to unit 2 B ESW provides flow to unit 2 HPCI and RCIC

'C' is correct: Unit 2 HPCI, and Unit 2 RCIC

'B' is wrong: plausible to the examinee who doesn't recall the chillers cooled by ESW

'C' is wrong: (plausible to the examinee who doesn't recall the chillers cooled by ESW or that unit 2 HPCI sw is from the 11-2013.

'D' is wrong: Plausible to the examinee who reverses the 11-1010 and 11-2013 loads .

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 49 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	4
Difficulty:	2.50
System ID:	1455250
User-Defined ID:	Q# 49 MODIFIED
Lesson Plan Objective:	LGSOPS0011.7A
Topic:	Recognize Service Water/ESW shared loads lost
RO:	3.3
SRO:	3.4
KA#:	295018 AA1.02

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data			
	Level	RO		
	Tier	1		
	Group	1		
	KA # and Rating	295018 AA1.02 3.3/3.4		
	KA Statement	Partial or Complete Loss of Component Cooling Water Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF COMPONENT COOLING WATER : System loads		
	Cognitive level	higher		
	Safety Function	8		
	10 CFR 55	41.7		
	Technical Reference with Revision No:	Sim-m-0012	Rev #:	12
	Justification for Non SRO CFR Link:	n/a		
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	Modified 1150001		
	Question Source: (i.e. New, Bank, Modified)	Modified 1150001		
	Low KA Justification (if required):	n/a		
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	Modified 1150001		
	ILT			
	Supplied Ref (If appropriate): (i.e. ABN-##)	none		
	LORT			
	PRA: (i.e. Yes or No or #)			
	LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments				

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

50

ID: 1455199

Points: 1.00

Plant conditions are as follows:

- Both Units are in their normal/preferred electrical lineup

A grid disturbance causes a trip of the 10 Station Aux Bus Supply Breaker (105).

20 seconds after the trip of the 105 breaker, the PRO reviews the 4KV breaker alignment and reports the following:

- D13 Bus is de-energized
- D13 D/G is running unloaded
- All other 4 KV buses are energized

WHICH ONE of the following identifies the likely cause of the D13 Safeguard Bus remaining de-energized?

- A. D13 D/G Lockout
- B. D13 Bus Lockout
- C. 20 Station Aux Bus Lockout
- D. 101 Safeguard Transformer Lockout

Answer: B

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Initially, D13 is powered from the 101 Safeguard Transformer through the 101-D13 breaker. When the 10 Station Aux Bus Supply Breaker (105) trips, the 101 Safeguard Transformer is de-energized, causing the 101-D13 breaker to trip on 101 Transformer Undervoltage (<70%). One (1) second later, the 201-D13 breaker should auto-close to re-energize the D13 bus. Similarly, at 0.5 seconds after the dead-bus condition on D13, the D13 D/G will get an auto-start signal. However, if the 201-D13 breaker did close, the D13 DG Output breaker will not attempt to auto-close when all of its other closing permissives are satisfied. The stem conditions indicating that the D13 bus is still de-energized at T=20 seconds from the 105 breaker trip means that neither the 201-D13 breaker nor the D13 D/G Output breaker have closed in on the bus.

'B' is correct. A D13 Bus Lockout will prevent both the 201-D13 and D13 D/G Output breakers from closing in on the bus (see ARC-MCR-121, A1).

'A' is wrong because it suggests that a D13 D/G Lockout would not only prevent the D13 D/G Output breaker from closing (which it will), but also prevent the 201-D13 feeder breaker from closing (which it WON'T). Plausible to the examinee who either mis-understands the breakers that are affected by a lockout, or who fails to review the D13 D/G Lockout ARC (ARC-MCR-121, C1).

'C' is wrong. Although a 20 Station Aux Bus Lockout will prevent the 201-D13 breaker from closing (because the 201 Transformer voltage is < 70%), it will NOT prevent closure of the D13 D/G Output breaker. Additionally, the fact that NONE of the Unit 1 DGs is running loaded (as indicated in the stem) means that the 201 Safeguard Transformer is still powering the D12 and D14 Safeguard Buses (the normal lineup). Plausible to the examinee who mis-understands the breakers that are affected by a lockout, or who fails to review the ARC (see the similar ARC for a 10 Station Aux Bus Lockout, ARC-MCR-008, A3).

'D' is wrong. See ARC-MCR-120, F1. Only the 101 Safeguard Transformer Supply Breaker (from the 10 Station Aux Bus) receives a direct trip from this kind of lockout. This lockout will not prevent closure of the 201-D13 feeder breaker, or of the D13 D/G Output breaker. Plausible to the examinee who either mis-understands the breakers that are affected by a lockout, or who fails to review the 101 Transformer Lockout ARC (ARC-MCR-120, F1).

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 50 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1455199
User-Defined ID:	Q# 50 BANK
Lesson Plan Objective:	LGSOPS0092A.4A
Topic:	Determining Cause of a De-energized 4 KV Safeguard Bus
RO:	3.7
SRO:	3.9
KA#:	295003 AK2.03

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	1	
	Group	1	
	KA # and Rating	700000 AA1.05	
	KA Statement	Generator Voltage and Electric Grid Disturbances Ability to operate and/or monitor the following as they apply to GENERATOR VOLTAGE AND ELECTRIC GRID DISTURBANCES: Engineered safety features	
	Cognitive level	higher	
	Safety Function	6	
	10 CFR 55	41.5	
	Technical Reference with Revision No:	E-0001 ARC-MCR-121, A1 ARC-MCR-121, C1 ARC-MCR-008, A3 ARC-MCR-120, F1	Rev #:
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	Bank 894256	
	Question Source: (i.e. New, Bank, Modified)	Bank 894256	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	Bank 894256	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-#)	none	
	LORT		
	PRA: (i.e. Yes or No or #)		
	LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments	295003 AK2.03		

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

51

ID: 1649810

Points: 1.00

Unit 1 plant conditions are as follows:

- OPCON 5 with fuel handling in-progress per FH-105, Core Component Movement – Core Transfer
- The SRO on the refueling platform reports that a fuel bundle is being lowered into the core

While the bundle is being lowered, the RO reports that SRM "1B" count rate has risen from 230 cps to 475 cps.

WHICH ONE of the following describes the ability to continue lowering the bundle, and whether entry into ON-120, "Fuel Handling Problems" is required?

	<u>Ability to Continue Lowering the Bundle into the Core</u>	<u>Entry into ON-120, "Fuel Handling Problems"</u>
A.	Bundle may not be lowered until count rate stabilizes	Not Required
B.	Bundle may not be lowered until count rate stabilizes	Required
C.	Continued lowering of the bundle is permitted	Not Required
D.	Continued lowering of the bundle is permitted	Required

Answer: A

Answer Explanation

- A Correct Since SRM count rate doubled once, per FH-105 step 3.7.4 lowering of the bundle must stop until count rate stabilizes at a value of less than 2 doublings, and no spiking or indication of SRM inoperability exists, then lowering the bundle may be continued.
- B Incorrect ON-120 entry is only required if SRM count rate doubles twice (i.e. one doubling would be from 230 to 460, a second doubling would be from 460 to 920) plausible to examinee who confuses FH-105 action with ON-120 entry
- C Incorrect Plausible to examine who does not recall FH-105 requirements
- D Incorrect Plausible to examine who does not recall FH-105 requirements or the attachment 1 actions of ON-120

- Since SRM count rate doubled once, per FH-105 step 3.7.4 lowering of the bundle must stop until count rate stabilizes at a value of less than 2 doublings, and no spiking or indication of SRM inoperability exists, then lowering the bundle may be continued. ON-120 entry is only required if SRM count rate doubles twice (i.e. one doubling would be from 230 to 460, a second doubling would be from 460 to 920)

FH-105, ON-120

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 51 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	0
Difficulty:	2.00
System ID:	1649810
User-Defined ID:	Q# 51 BANK
Lesson Plan Objective:	LLOT0760.10
Topic:	OPCON 5 with fuel handling in-progress per FH-105, Core Componen
RO:	3.4
SRO:	4.1
KA#:	295023 AA2.04

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	1		
Group	1		
KA # and Rating	295023 AA2.04 3.4/4.1		
KA Statement	Refueling Accidents Ability to determine and/or interpret the following as they apply to REFUELING ACCIDENTS : † Occurrence of fuel handling accident		
Cognitive level	Lower		
Safety Function	8		
10 CFR 55	41.10		
Technical Reference with Revision No:	FH-105 ON-120	Rev #:	4 8 2 7
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	Bank 562362		
Question Source: (i.e. New, Bank, Modified)	Bank 562362		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	Bank 562362		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

52

ID: 1455248

Points: 1.00

WHICH ONE of the following describes the basis for performing an Emergency Blowdown when Drywell temperature cannot be restored and maintained below 340°F?

- A. Maintain ADS SRV availability
- B. Prevent RPV level instrument reference leg boiling
- C. Maintain downcomer vacuum breaker availability
- D. Drywell Spray using fire water will be unavailable

Answer: A

Answer Explanation

T-102, Subsequent steps in the drywell temperature (DW/T) control flowpath direct actions to rapidly shutdown the reactor and to emergency depressurize the RPV. These actions are appropriate, however, only if it has been determined that drywell temperature cannot be maintained below 340°F (i.e., the maximum temperature at which ADS is qualified and drywell design temperature). Step DW/T-10 ensures this condition has been met before allowing emergency RPV depressurization.

When it has been determined that drywell temperature cannot be maintained below 340°F, operators are directed to continue at Step DW/T-11.

A correct for the above reason

B incorrect. Plausible to the examinee who realizes that hi temperature in the DW may effect level indication

C Incorrect. Plausible to the examinee who recalls the solenoid operation of these valves, but does not recall that solenoids are for testing only

D incorrect. Plausible to the examinee who uses steam tables assumes saturated conditions and calculates 340 degrees will be about 130 psig. a steam leak in the drywell would be an isenthalpic process so without reactor pressure this calculation can not be assumed.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 52 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.40
System ID:	1455248
User-Defined ID:	Q# 52 BANK 2015 NRC
Lesson Plan Objective:	LGSOPS1560.05
Topic:	Basis for an Emergency Blowdown when Drywell temperature reaches 340 deg
RO:	4.0
SRO:	4.1
KA#:	295028 EA2.01

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	1		
Group	1		
KA # and Rating	295028 EA2.01 4.0/4.1		
KA Statement	High Drywell Temperature Ability to determine and/or interpret the following as they apply to HIGH DRYWELL TEMPERATURE : Drywell temperature		
Cognitive level	lower		
Safety Function	5		
10 CFR 55	41.10		
Technical Reference with Revision No:	T-102 bases	Rev #:	2 5
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	Bank 560429 2015 NRC test		
Question Source: (i.e. New, Bank, Modified)	Bank 560429		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	Bank 560429		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

560429

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

53

ID: 1601451

Points: 1.00

Unit 1 is in OPCON 1.

The PRO is preparing to synchronize the main generator to the grid.

DEHC is operating in "Speed Control Mode" with the main turbine at 1800 rpm.

If (1) speed sensors fail low the main turbine will respond by (2)

- A. (1) 2 out of 3 speed sensors
(2) CVs and IVs close
- B. (1) 2 out of 3 speed sensors
(2) Turbine Trip
- C. (1) 1 out of 2 twice speed sensors
(2) CVs and IVs close
- D. (1) 1 out of 2 twice speed sensors
(2) Turbine Trip

Answer: B

Answer Explanation	
B	Correct turbine trip logic for over speed or loss of speed signal is 2 out of 3 logic. loss of speed signal will cause a turbine trip
A	Incorrect but plausible to examinee who recalls that in speed control mode <ul style="list-style-type: none">• At > 100% rated speed, the CVs start to close,<ul style="list-style-type: none">a) From 101% to 103%, all the IVs closeb) At > 103%, CVs and IVs are closed and believes that a loss of speed signal will act the same as over speed in speed control mode
C	incorrect plausible to examinee who believes overspeed trip logic is the same as high level trip logic
D	incorrect plausible to examinee who believes overspeed trip logic is the same as high level trip logic and believes loss of speed signal will act the same as overspeed in speed control mode as described in "A"

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 53 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1601451
User-Defined ID:	Q# 53 NEW
Lesson Plan Objective:	LGSOPSOO31B.01D
Topic:	overspeed trip logic
RO:	3.1
SRO:	3.1
KA#:	295005 AA2.03

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data		
Level	RO	
Tier	1	
Group	1	
KA # and Rating	295005 AA2.03 3.1/3.1	
KA Statement	Main Turbine Generator Trip Ability to determine and/or interpret the following as they apply to MAIN TURBINE GENERATOR TRIP : Turbine valve position	
Cognitive level	lower	
Safety Function	3	
10 CFR 55	41.5	
Technical Reference with Revision No:	LGSOPS001B	Rev #: <input type="text"/>
Justification for Non SRO CFR Link:	n/a	
Question History: (i.e. LGS NRC-05, OYS CERT-04)	new	
Question Source: (i.e. New, Bank, Modified)	new	
Low KA Justification (if required):	n/a	
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new6	
ILT		
Supplied Ref (If appropriate): (i.e. ABN-##)	none	
LORT		
PRA: (i.e. Yes or No or #)	<input type="text"/>	
LORT Question Section: (i.e, A-Systems or B-Procedures)	<input type="text"/>	
Comments	<input type="text"/>	

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

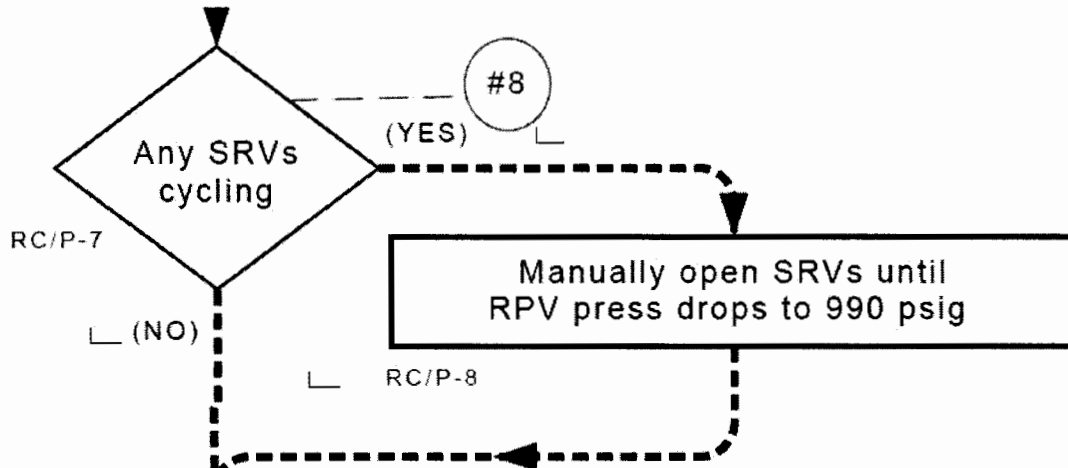
54

ID: 1649516

Points: 1.00

SRVs are automatically cycling open and closed due to high reactor pressure.

WHICH ONE of the following describes the reason SRVs are manually opened per RC/P-8?



- A. Prevent excessive inventory loss
- B. Ensure SLC injects at rated flow rate
- C. Minimize the potential of an SRV sticking open
- D. Minimize potential for a stuck open Downcomer Vacuum Breaker

Answer: C

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

LGS TRIP Step RC/P-7 is a decision diamond that has operators evaluate whether or not any of the SRVs are cycling.

"SRV cycling" is defined as multiple, closely sequenced SRV actuations where the SRV opens as RPV pressure exceeds the respective safety lift setpoint and closes as RPV pressure drops below the respective reset setpoint. SRV cycling is undesirable and warrants prompt manual action for the following reasons:

- It exerts significant dynamic loads upon the RPV, the SRV tail pipes and supporting structures, and the primary containment.
- Shrink and swell associated with SRV actuations cause RPV level fluctuations that complicate RPV level control actions.
- Under failure-to-scram conditions, the consequent RPV level and RPV pressure oscillations can result in significant reactor power transients.
- **The potential for a stuck open SRV is increased.**

The frequency at which SRV actuations are judged to constitute "cycling" is dependent on the effect of the actuations upon reactor power, RPV level, and RPV pressure, the effectiveness of automatic control systems, the practicability of manual control, and the availability of personnel for performance of manual control functions.

RC/P-8 Manually open SRVs until RPV press drops to 990 psig

DISCUSSION

LGS TRIP Step RC/P-8 is entered as the result of a "YES" response to Step RC/P-7, indicating that one or more SRVs are cycling. SRV cycling can be terminated by reducing RPV pressure to below the lowest SRV safety lift setpoint. Step RC/P-8 directs actions to reduce RPV pressure to the RPV pressure that corresponds to the point at which all main turbine bypass valves will be fully open (990 psig), a value much lower than the lowest SRV safety lift setpoint.

A Incorrect plausible to the examinee who recalls that 990 psi will keep max amount of steam to bypass valves, however this is the reason for not going below 990 not why pressure is reduced by manually opening SRV's

B Incorrect plausible to examinee who does not recall SLC is a positive displacement pump and that discharge pressure will not effect pump flow rate

C Correct

D Incorrect plausible to the examinee who does not evaluate how long it will take for the steam in the downcomer to condense to the point of opening the downcomer vacuum breaker. with the same 1 or 2 SRVs cycling on pressure there will not be enough time for steam to condense to the point of causing vacuum breaks rapidly cycling for potential to stick or break.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 54 Info																																																																																							
Question Type:	Multiple Choice																																																																																						
Status:	Active																																																																																						
Always select on test?	No																																																																																						
Authorized for practice?	No																																																																																						
Points:	1.00																																																																																						
Time to Complete:	3																																																																																						
Difficulty:	2.00																																																																																						
System ID:	1649516																																																																																						
User-Defined ID:	Q# 54 MODIFIED																																																																																						
Lesson Plan Objective:	LGSOPS1560.5																																																																																						
Topic:	T-101 - Recall Basis for Step RC/P-7																																																																																						
RO:	3.3																																																																																						
SRO:	4.0																																																																																						
KA#:	295025 2.4.18																																																																																						
Comments:	<table border="1"> <thead> <tr> <th colspan="4">General Data</th> </tr> </thead> <tbody> <tr> <td>Level</td> <td colspan="3">RO</td> </tr> <tr> <td>Tier</td> <td colspan="3">1</td> </tr> <tr> <td>Group</td> <td colspan="3">1</td> </tr> <tr> <td>KA # and Rating</td> <td colspan="3">295025 2.4.18 3.3/4.0</td> </tr> <tr> <td>KA Statement</td> <td colspan="3">High Reactor Pressure Knowledge of the specific bases for EOPs</td> </tr> <tr> <td>Cognitive level</td> <td colspan="3">lower</td> </tr> <tr> <td>Safety Function</td> <td colspan="3">3</td> </tr> <tr> <td>10 CFR 55</td> <td colspan="3">41.10</td> </tr> <tr> <td>Technical Reference with Revision No:</td> <td>T-101</td> <td>Rev #:</td> <td>2 2</td> </tr> <tr> <td>Justification for Non SRO CFR Link:</td> <td colspan="3">n/a</td> </tr> <tr> <td>Question History: (i.e. LGS NRC-05, OYS CERT-04)</td> <td colspan="3">560722 bank modified</td> </tr> <tr> <td>Question Source: (i.e. New, Bank, Modified)</td> <td colspan="3">560722 bank modified</td> </tr> <tr> <td>Low KA Justification (if required):</td> <td colspan="3">n/a</td> </tr> <tr> <td>Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)</td> <td colspan="3">560722 bank modified</td> </tr> <tr> <th colspan="4">ILT</th> </tr> <tr> <td>Supplied Ref (If appropriate): (i.e. ABN-##)</td> <td colspan="3">none</td> </tr> <tr> <th colspan="4">LORT</th> </tr> <tr> <td>PRA: (i.e. Yes or No or #)</td> <td colspan="3"></td> </tr> <tr> <td>LORT Question Section: (i.e. A-Systems or B-Procedures)</td> <td colspan="3"></td> </tr> <tr> <td>Comments</td> <td colspan="3"></td> </tr> </tbody> </table>			General Data				Level	RO			Tier	1			Group	1			KA # and Rating	295025 2.4.18 3.3/4.0			KA Statement	High Reactor Pressure Knowledge of the specific bases for EOPs			Cognitive level	lower			Safety Function	3			10 CFR 55	41.10			Technical Reference with Revision No:	T-101	Rev #:	2 2	Justification for Non SRO CFR Link:	n/a			Question History: (i.e. LGS NRC-05, OYS CERT-04)	560722 bank modified			Question Source: (i.e. New, Bank, Modified)	560722 bank modified			Low KA Justification (if required):	n/a			Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	560722 bank modified			ILT				Supplied Ref (If appropriate): (i.e. ABN-##)	none			LORT				PRA: (i.e. Yes or No or #)				LORT Question Section: (i.e. A-Systems or B-Procedures)				Comments			
General Data																																																																																							
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LORT Question Section: (i.e. A-Systems or B-Procedures)																																																																																							
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

55

ID: 1649556

Points: 1.00

Unit 1 is operating at 100% power when the following occurs

- Alarm 115-G5 1B-1D RHR Pump Room Flood has alarmed
- An EO reports several inches of water on the floor in the 1B-1D RHR pump room
- The EO reports the leak is on the RHR suction pipe **between** the RHR suction valve and the RHR pump.
- Suppression pool level is 21 feet 10 inches down slow

Given the following procedures

- 1 ON-110 Loss of Primary Containment
- 2 T-102 Primary containment control
- 3 T-103 Secondary Containment control

Which of the procedures listed above must be entered at this time?

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

Answer: A

Answer Explanation

- A Correct symptom for on-110 loss of primary containment include observation of a primary containment breach. T-103 entry includes Room flooding alarm condition for areas in Table SCC-1 which include RHR pump rooms. T-102 entry is not required until suppression pool level drops below 22 feet
- B Incorrect plausible to examinee who recalls TRM note 35 for PCIV (TRM page 3/4 6-43a) that RHR suction valves are below normal pool level and have a water seal. this allows for relief from some testing, examinee may infer that containment is not lost until water seal is gone. examinee may also mix hi pool level 24'3" with low level of 22' T-102 entry requirements and believe 22'3" is the low level entry
- C Incorrect examinee may mix hi pool level 24'3" with low level of 22' T-102 entry requirements and believe 22'3" is the low level entry for T-102
- D Incorrect examinee may mix hi pool level 24'3" with low level of 22' T-102 entry requirements and believe 22'3" is the low level entry

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 55 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	3.50
System ID:	1649556
User-Defined ID:	Q# 55 NEW
Lesson Plan Objective:	LGSOPS1560.04
Topic:	low pool level AOP/EOP entry
RO:	4.5
SRO:	4.7
KA#:	295030 2.4.4

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	1		
Group	1		
KA # and Rating	295030 2.4.4 4.5/4.7		
KA Statement	Low Suppression Pool Water Level Ability to recognize abnormal indications for system operating parameters that are entry-level conditions for emergency and abnormal operating procedures.		
Cognitive level	lower		
Safety Function	5		
10 CFR 55	41.10		
Technical Reference with Revision No:	ON-110 T-102 T-103	Rev #:	6 2 5 2 3
Justification for Non SRO CFR Link:	N/A		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
Question Source: (i.e. New, Bank, Modified)2.4.4	new		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

56

ID: 1649606

Points: 1.00

Unit 2 is starting up following an outage with reactor power at 85% when a momentary malfunction of DEHC results in the following:

- A pressure transient and before operators perform any actions EHC restores RPV pressure to 1025 psig
- The following alarms were received on Panel 207 REACTOR
 - Reactor Hi Pressure
 - Reactor Hi Pressure Trip
- Both RPS trip systems stayed energized
- Operators verify reactor pressure returned to 1025 psig
- An Equipment operator sent to the Aux Equipment Room reports the status of the Reactor Pressure Trip Units
 - 2N678A - Not Tripped
 - 2N678B - Not Tripped
 - 2N678C - Tripped
 - 2N678D - Not Tripped
- A review of MCR instrumentation and PMS show the highest recorded Reactor Pressure to be 1090 psig.

WHICH ONE of the following identifies the required action for the operators to complete?

- A. Perform a GP-4 Shutdown
- B. Insert a manual half SCRAM on TRIP system "A"
- C. Insert a manual half SCRAM on TRIP system "B"
- D. Manually SCRAM Unit 2

Answer: B

Answer Explanation

With a spike in reactor pressure to 1090 it is possible that one and only one of the Reactor pressure trip unit would actuate.

Requires the candidate to understand that with Reactor Hi Pressure Trip in alarm and both systems of RPS energized that entry into OT-117 is required. Both a GP-4 shutdown and a manually SCRAM of unit are feasible distractors based on the candidates knowledge of OT-117. Section 2.1 would require a full SCRAM and section 3.1 would require a GP-4 shutdown. Section 3.2, failure to half SCRAM would require a manual half SCRAM on the affected side. The candidate is required to recognized that the C trip unit would require the A trip system

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 56 Info																																																																																							
Question Type:	Multiple Choice																																																																																						
Status:	Active																																																																																						
Always select on test?	No																																																																																						
Authorized for practice?	No																																																																																						
Points:	1.00																																																																																						
Time to Complete:	4																																																																																						
Difficulty:	3.00																																																																																						
System ID:	1649606																																																																																						
User-Defined ID:	Q# 56 NEW																																																																																						
Lesson Plan Objective:	LGSOPS1540.3																																																																																						
Topic:	SCRAM Emergency Procedures																																																																																						
RO:	4.2																																																																																						
SRO:	4.2																																																																																						
KA#:	295006 2.4.46																																																																																						
Comments:	<table border="1"> <thead> <tr> <th colspan="4">General Data</th> </tr> </thead> <tbody> <tr> <td>Level</td> <td colspan="3">RO</td> </tr> <tr> <td>Tier</td> <td colspan="3">1</td> </tr> <tr> <td>Group</td> <td colspan="3">1</td> </tr> <tr> <td>KA # and Rating</td> <td colspan="3">295006 2.4.46 4.2/4.2</td> </tr> <tr> <td>KA Statement</td> <td colspan="3">SCRAM Emergency Procedures / Plan: Ability to verify that the alarms are consistent with the plant conditions.</td> </tr> <tr> <td>Cognitive level</td> <td colspan="3">High</td> </tr> <tr> <td>Safety Function</td> <td colspan="3">1</td> </tr> <tr> <td>10 CFR 55</td> <td colspan="3">41.10</td> </tr> <tr> <td>Technical Reference with Revision No:</td> <td>OT-117 ARC-MCR-107 G1</td> <td>Rev #:</td> <td>1 1 0</td> </tr> <tr> <td>Justification for Non SRO CFR Link:</td> <td colspan="3">N/A</td> </tr> <tr> <td>Question History: (i.e. LGS NRC-05, OYS CERT-04)</td> <td colspan="3">New</td> </tr> <tr> <td>Question Source: (i.e. New, Bank, Modified)</td> <td colspan="3">New</td> </tr> <tr> <td>Low KA Justification (if required):</td> <td colspan="3">N/A</td> </tr> <tr> <td>Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)</td> <td colspan="3">New</td> </tr> <tr> <th colspan="4">ILT</th> </tr> <tr> <td>Supplied Ref (If appropriate): (i.e. ABN-##)</td> <td colspan="3">None</td> </tr> <tr> <th colspan="4">LORT</th> </tr> <tr> <td>PRA: (i.e. Yes or No or #)</td> <td colspan="3"></td> </tr> <tr> <td>LORT Question Section: (i.e. A-Systems or B-Procedures)</td> <td colspan="3"></td> </tr> <tr> <td>Comments</td> <td colspan="3"></td> </tr> </tbody> </table>			General Data				Level	RO			Tier	1			Group	1			KA # and Rating	295006 2.4.46 4.2/4.2			KA Statement	SCRAM Emergency Procedures / Plan: Ability to verify that the alarms are consistent with the plant conditions.			Cognitive level	High			Safety Function	1			10 CFR 55	41.10			Technical Reference with Revision No:	OT-117 ARC-MCR-107 G1	Rev #:	1 1 0	Justification for Non SRO CFR Link:	N/A			Question History: (i.e. LGS NRC-05, OYS CERT-04)	New			Question Source: (i.e. New, Bank, Modified)	New			Low KA Justification (if required):	N/A			Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	New			ILT				Supplied Ref (If appropriate): (i.e. ABN-##)	None			LORT				PRA: (i.e. Yes or No or #)				LORT Question Section: (i.e. A-Systems or B-Procedures)				Comments			
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

57

ID: 1601473

Points: 1.00

Unit 1 plant conditions:

- Div 4 DC is lost
- Operators enter E-1FD, 'Loss of Div 4 125 VDC Bus 1FD'

WHICH ONE of the following identifies the type of manual isolation of the MCR directed by E-1FD, and the reason why?

- A. Radiation Isolation, to ensure outside air is isolated to the MCR
- B. Chlorine Isolation, to ensure outside air is isolated to the MCR
- C. Chlorine Isolation, to maintain positive MCR pressure
- D. Radiation Isolation, to maintain positive MCR pressure

Answer: B

Answer Explanation

B is correct with a loss of power to the isolation logic for one of two in series outside isolation dampers there is no assurance that if some other loss of power incident were to happen that it will ensure that a full chlorine isolation will occur during an actual chlorine accident. Therefore, E-1DA directs that, upon loss of a division of DC, a chlorine isolation be performed to ensure outside air is isolated to the MCR.

A incorrect plausible to the examinee who does not recall which isolation is directed from E-1FD and does not recall the difference between chlorine isolation and radiation isolation suction paths

C incorrect plausible to the examinee who believes chlorine isolation keeps the MCR positive to keep Chlorine out

D Incorrect plausible to the examinee who believes a radiation isolation is directed from E-1FD

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 57 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1601473
User-Defined ID:	Q# 57 BANK
Lesson Plan Objective:	LGSOPS0078.04
Topic:	Recall Reason for MCR Manual Chloring Isolation on loss of Div 4 DC
RO:	3.4 (3.5)
SRO:	3.8 (3.8)
KA#:	263000 K3.03 (290003 K3.01)

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data			
	Level	RO		
	Tier	1		
	Group	1		
	KA # and Rating	295004 2.4.49 4.6/4.4		
	KA Statement	Partial or Complete Loss of D.C. Power Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.		
	Cognitive level	lower		
	Safety Function			
	10 CFR 55	41.10		
	Technical Reference with Revision No:	LGSOPS0078	Rev #:	3
	Justification for Non SRO CFR Link:	N/A		
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	Bank 560683		
	Question Source: (i.e. New, Bank, Modified)	Bank 560683		
	Low KA Justification (if required):	N/A		
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	Bank 560683		
	ILT			
	Supplied Ref (If appropriate): (i.e. ABN-##)	none		
	LORT			
	PRA: (i.e. Yes or No or #)			
	LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments				
560683				

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

58

ID: 1455234

Points: 1.00

Unit 1 is operating at 100% power

- Service air is connected to the 1A instrument air header
- INSTRUMENT AIR HEADER A PRESSURE LO annunciator is in alarm
- INSTRUMENT AIR HEADER B PRESSURE LO annunciator is in alarm
- PV-015-167 Service Air Header Pressure Control Valve has isolated
- Service air header pressure has equalized with 1A instrument air header

Which of the following describes the A and B air header pressures that caused PV-015-167 Service Air Header Pressure Control Valve to isolate and how the Service Air Compressor is loaded?

	1A and 1B instrument air header pressures	Service air compressor loading
A.	Both headers < 70 psig	Only the Lead side loaded
B.	At least one header is < 70 psig	Lead and Lag sides loaded
C.	At least one header is < 70 psig	Only the Lead side loaded
D.	Both headers < 70 psig	Lead and Lag sides loaded

Answer: D

Answer Explanation

Both air headers low pressure alarm (85psig)
PV-05-167 closes when both headers are < 70 psig.
Service air com lead side load at 97 psig lag at 94

A is incorrect plausible to the examinee who does not recall the loading sequence of the service air compressor

B is incorrect plausible to the examinee who does not recall the requirement for BOTH air headers to be <70 psig for the PV-05-167 to close

C incorrect but plausible for the reasons stated above

D correct

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 58 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	4
Difficulty:	3.00
System ID:	1455234
User-Defined ID:	Q# 58 NEW
Lesson Plan Objective:	LOT-1550 ON-119 OBJ 3
Topic:	backup to ins airf air
RO:	3.3
SRO:	3.4
KA#:	295019

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data			
	Level	RO		
	Tier	1		
	Group	1		
	KA # and Rating	295019 AK3.01 3.3/3.4		
	KA Statement	Partial or Complete Loss of Instrument Air Knowledge of the reasons for the following responses as they apply to PARTIAL OR COMPLETE LOSS OF INSTRUMENT AIR : Backup air system supply: Plant-Specific		
	Cognitive level	lower		
	Safety Function	8		
	10 CFR 55	41.5		
	Technical Reference with Revision No:	M-0015 sht 4	Rev #:	4 0
	Justification for Non SRO CFR Link:	n/a		
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
	Question Source: (i.e. New, Bank, Modified)	new		
	Low KA Justification (if required):	n/a		
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		
	ILT			
	Supplied Ref (If appropriate): (i.e. ABN-##)	none		
	LORT			
	PRA: (i.e. Yes or No or #)			
	LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments				

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

59

ID: 1455127

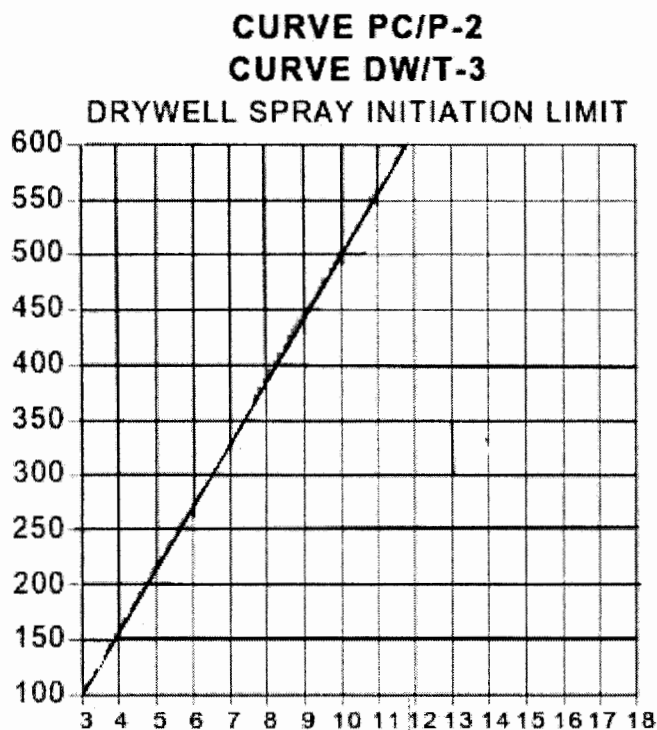
Points: 1.00

Plant conditions are as follows:

- Reactor pressure is 450 psig
- Drywell pressure is 8 psig
- Drywell temperature is 275 degrees

Given the following graph

Which of the following identifies whether the Drywell conditions are Safe or Unsafe and what the safe side of the graph is protecting from?



Safe / Unsafe	Remaining on safe side protects from
A. Unsafe	Containment Failure
B. Unsafe	Level instrument inaccuracy
C. Safe	Containment failure
D. Safe	Level instrument inaccuracy

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Answer: C

Answer Explanation

Examinee must calculate that Drywell temperature and Pressure combination given are below the safe/unsafe line on the graph. Then the candidate must determine that below line is safe. the examinee must then determine that the graph in question is the DW spray initiation limit and not the reference leg saturation limit curve and what the reason for these curves are

- A Incorrect plausible to examinee who does not recall safe side of graph
- B Incorrect plausible to examinee who does not recall safe side of graph and confuses this graph with the ref leg saturation curve
- C Correct safe side of graph is below the line and remaining on safe side protects against containment failure
- D Incorrect plausible to examinee who confuses this graph with the ref leg saturation curve

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 59 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	4
Difficulty:	3.00
System ID:	1455127
User-Defined ID:	Q# 59 NEW
Lesson Plan Objective:	LGSOPS1560.04
Topic:	DW temp pressure effects
RO:	3.3
SRO:	3.5
KA#:	295012 AK1.01

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data			
	Level	RO		
	Tier	1		
	Group	2		
	KA # and Rating	295012 AK1.01 3.3/3.5		
	KA Statement	High Drywell Temperature Knowledge of the operational implications of the following concepts as they apply to HIGH DRYWELL TEMPERATURE : Pressure/temperature relationship		
	Cognitive level	higher		
	Safety Function	5		
	10 CFR 55	41.9, 41.10		
	Technical Reference with Revision No:	T-102 bases	Rev #:	2 5
	Justification for Non SRO CFR Link:	n/a		
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
	Question Source: (i.e. New, Bank, Modified)	new		
	Low KA Justification (if required):	n/a		
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		
	ILT			
	Supplied Ref (If appropriate): (i.e. ABN-##)	none		
	LORT			
	PRA: (i.e. Yes or No or #)			
	LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments				

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

60

ID: 1588533

Points: 1.00

Unit 2 is operating at 50 percent power.

A Reactor Recirc Pump trips.

Which of the following is correct regarding the initial indicated reactor level response, and the major reason for the reactor power reduction from the pump trip?

	<u>Indicated level response</u>	<u>Reason for power reduction</u>
A.	Rises	Change in void content
B.	Rises	Change in moderator temperature
C.	Lowers	Change in void content
D.	Lowers	Change in moderator temperature

Answer: A

Answer Explanation

- A A correct indicated level will rise. Due to increased void production in the core flow from the downcomer to the core will reduce causing level in the downcomer to rise. the void coefficient will be the major factor in the power change
- B Incorrect plausible to the examinee who believes reduced recirc flow will cause feedwater temperature to rise
- C Incorrect plausible to the examinee who does not recall that indicated level is read in the down comer not inside the shroud
- D Incorrect plausible to the examinee who does not recall that indicated level is read in the down comer not inside the shroud and believes reduced recirc flow will cause feedwater temperature to rise

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 60 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	3.00
System ID:	1588533
User-Defined ID:	Q# 60 MODIFIED
Lesson Plan Objective:	LGSOPS0 43A
Topic:	RR pp trip void effect
RO:	3.2
SRO:	3.2
KA#:	295014 AK2.04

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

<< General Data			
Level	RO		
Tier	1		
Group	2		
KA # and Rating	295014 AK2.04 3.2/3.3		
KA Statement	Inadvertent Reactivity Addition Knowledge of the interrelations between INADVERTENT REACTIVITY ADDITION and the following: Void concentration		
Cognitive level	higher		
Safety Function	1		
10 CFR 55	41.7		
Technical Reference with Revision No:	OT-11 0	Rev #:	
Justification for Non SRO CFR Link:	na		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	seusquehanna Q 46 2013 exam modified		
Question Source: (i.e. New, Bank, Modified)	seusquehanna Q 46 2013 exam modified		
Low KA Justification (if required):			
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	seusquehanna Q 46 2013 exam modified		
< ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
< LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

61

ID: 1601489

Points: 1.00

Unit 1 has experienced a core damage event with elevated Off-site release rates. For the CREFAS system which correctly completes the following two statements?

(1) At an outside air intake radiation level of ____ (1) ____ CREFAS will automatically initiate a radiation isolation

(2) The purpose of the CREFAS Radiation isolation is to provide adequate radiation protection to permit access and occupancy of the Control Room under accident conditions without personnel receiving radiation exposures in excess of ____ (2) ____ for the duration of the accident.

	(1)	(2)
A.	0.5 mR/hr	5 REM TEDE
B.	0.5 mR/hr	25 REM CDE Thyroid
C.	1 X 10 ⁻⁵ µCi/cc	5 REM TEDE
D.	1 X 10 ⁻⁵ µCi/cc	25 REM CDE Thyroid

Answer: C

Answer Explanation

The isolation set point for Main Control Room Normal Fresh Air Supply Radiation Monitor is 1X10⁻⁵ micro curies/cc (Tech Spec Table 3.3.7.1-1)

The purpose of the CREFAS Radiation isolation is to limit the Control Room radiation exposure to personnel to 5 REM TEDE or less. Tech Spec Bases page B3/4 7-1a.

- A Wrong - Plausible to the student that mistakenly recalls the CREFAS CL2 isolation setpoint of 0.5 PPM in place of the Radiation isolation set point
- B Wrong - Plausible to the student that mistakenly recalls the CREFAS CL2 isolation setpoint of 0.5 PPM in place of the Radiation isolation set point and plausible to the student that remembers that all Radiological Effluent Thyroid limits are 5X above the TEDE limits found in the EALs and selects the Thyroid Limit that would be 5X larger than the correct 5 REM TEDE limit
- C Correct for the above reasons
- D Wrong - Plausible to the student that remembers that all Radiological Effluent Thyroid limits are 5X above the TEDE limits found in the EALs and selects the Thyroid Limit that would be 5X larger than the correct 5 REM TEDE limit

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 61 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1601489
User-Defined ID:	Q# 61 NEW
Lesson Plan Objective:	LGSOPS0078.11
Topic:	Off-site Release Rate - Response of plant ventilation
RO:	3.3
SRO:	3.5
KA#:	APE 295017 AK3.02

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	RO	
	Tier	1	
	Group	2	
	KA # and Rating	295017 AK3.02 RO 3.3 SRO 3.5	
	KA Statement	APE: 295017 High Off-Site Release Rate AK3. Knowledge of the reasons for the following responses as they apply to HIGH OFF-SITE RELEASE RATE : AK3.02 Plant ventilation.	
	Cognitive level	Low	
	Safety Function	9 Radioactivity Release	
	10 CFR 55	41.5	
	Technical Reference with Revision No:	EP-AA-1008 Addendum 3 Unit 1 Tech Specs Table 3.3.7.1-1	Rev #: 2
	Justification for Non SRO CFR Link:	N/A	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	New	
	Question Source: (i.e. New, Bank, Modified)	New	
	Low KA Justification (if required):	N/A	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	None	
	LORT		
PRA: (i.e. Yes or No or #)	Yes		
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

62

ID: 1588469

Points: 1.00

Unit 1 is operating at 25% power, with the following:

- The '1A' RPV Narrow Range (NR) Level Transmitter that inputs to the 'A' NR level indicator on 10C603 is failed upscale

Five minutes later, the following occurs:

- The '1B' RPV Narrow Range (NR) Level Transmitter that inputs to the 'B' NR level indicator on 10C603 is failed upscale

WHICH ONE of the following describes the plant response?

- A. Reactor scrams due to a loss of Feedwater
- B. Reactor scrams due to a Main Turbine trip; RFPs are available after the scram
- C. Reactor remains operating
- D. Reactor scrams due to a Main Turbine trip; RFPs are not available after the scram

Answer: C

Answer Explanation

The 4 RPV LTs that input to DFWLC for the high level turbine trip logic at setup different than RPS trip logic the DFWLC trip logic is A or B and C or D. RPS trip logic is A or C and B or D with A and B level transmitters for DFWLC failing upscale the main turbine and RFPT will not trip on high level. additionally these transmitters are different than the RPS level transmitters

'C' is correct for the above reasons. **Reactor remains operating**

'A' is wrong. **Reactor scrams due to a loss of Feedwater** Plausible to the examinee who does not recall the LT coincidence needed to produce the turbine trip function.

'B' is wrong. **Reactor scrams due to a Main Turbine trip; RFPs are available after the scram** Plausible to the weaker examinee who not only incorrectly concludes several points: 1) that a Main Turbine trip at 25% power produces a scram; 2) that these two LTs work together to produce the needed turbine trip logic; and 3) that the RFPTs are available, post-scram (i.e., that the RFPTs will not have tripped on the LT failures).

'D' is wrong. **Reactor scrams due to a Main Turbine trip; RFPs are not available after the scram** Plausible for reasons similar to choices 'B' and 'C'.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 62 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.50
System ID:	1588469
User-Defined ID:	Q# 62 BANK
Lesson Plan Objective:	LLOT0540.14D
Topic:	Plant Response to RPV LT Upscale Failures
RO:	3.5
SRO:	3.5
KA#:	295008 AA1.08

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:				
	General Data			
	Level	RO		
	Tier	1		
	Group	2		
	KA # and Rating	295008 AA1.08 3.5/3.5		
	KA Statement	High Reactor Water Level Ability to operate and/or monitor the following as they apply to HIGH REACTOR WATER LEVEL : Feedwater system		
	Cognitive level	lower		
	Safety Function	2		
	10 CFR 55	41.7		
	Technical Reference with Revision No:	M-0042 sheet 2	Rev #:	3 4
	Justification for Non SRO CFR Link:	N/A		
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank 908160		
	Question Source: (i.e. New, Bank, Modified)	bank 908160		
	Low KA Justification (if required):	n/a		
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank 908160		
	ILT			
	Supplied Ref (If appropriate): (i.e. ABN-#)	none		
	LORT			
	PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e, A-Systems or B-Procedures)				
Comments				

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

63

ID: 1601450

Points: 1.00

Unit 2 plant conditions are as follows:

- Reactor power is 37%
- Both CRD pumps are tripped and cannot be started

15 minutes later, 23 HCU Accumulator Trouble annunciators are alarming

A GP-4 Shutdown is performed

WHICH ONE of the following describes the plant response?

- A. 23 rods will not insert
- B. All rods will insert with normal scram times
- C. All rods will insert with scram times greater than the Tech Spec allowable scram times for all rods
- D. All rods will insert with scram times greater than the Tech Spec allowable scram times for 23 rods

Answer: B

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Answer: All rods will insert with normal scram times

Per ON-107, During a reactor scram, the charging header provides the initial motive force to insert the rod. Then the scram accumulator pressure accelerates the drive and reactor pressure is used in the rod insertion process but is not required. For example, a rod scrammed at 900 psig reactor pressure and zero accumulator nitrogen pressure would result in an insignificant increase in scram time. Twenty minutes is allowed to restore a tripped CRD pump if more than 1 scram accumulator is inoperable and reactor pressure is equal to or greater than 900 psig since reactor pressure is adequate to insert all control rods with or without inoperative scram accumulators. When this condition occurs below 900 psig reactor pressure, the mode switch is to be placed in shutdown as required by Technical Specifications. The insertion and disarming of control rods when more than one accumulator is inoperable is performed to comply with Technical Specifications.

Distractors:

23 rods will not insert – all rods will insert

All rods will insert with significant longer scram times – all rods will insert, scram times will not significantly increase

All rods will insert, however, 23 rods will have significant longer scram times – see explanation

Examinee must recognize at 37% power reactor is at rated pressure

- A Wrong - Plausible if the student mis-applies the extremely reduced reactor pressure impact on the control rod scram ability to the 23 Control Rods with reduced Scram Accumulator Pressures (i.e. - at extremely reduced RPV pressure CRD differential pressure is insufficient to insert the control rod.)
- B Correct - as described above
- C Wrong - Plausible if the student mis-applies the reduced reactor pressure impact on the control rod scram ability to all core Control Rods (i.e. - at reduced RPV pressure rod scram times will be lengthened commensurate with the reduction in RPV pressure)
- D Wrong - Plausible if the student mis-applies the reduced reactor pressure impact on the control rod scram ability to the 23 Control Rods with reduced Scram Accumulator Pressures (i.e. - at reduced RPV pressure rod scram times will be lengthened commensurate with the reduction in RPV pressure)

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 63 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	3.50
System ID:	1601450
User-Defined ID:	Q #63 - BANK
Lesson Plan Objective:	LGSOPS1550.2
Topic:	ON-107, Both CRD pumps are tripped and cannot be started and 23 HCU Accumulators
RO:	3.3
SRO:	3.4
KA#:	295022 AA2.02

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data				
	Level	RO			
	Tier	1			
	Group	2			
	KA # and Rating	295022 AA2.02 RO 3.3 SRO 3.4			
	KA Statement	APE: 295022 Loss of CRD Pumps AA2. Ability to determine and/or interpret the following as they apply to LOSS OF CRD PUMPS : AA2.02 CRD system status			
	Cognitive level	Low			
	Safety Function	1 - Reactivity Control			
	10 CFR 55	41.10			
	Technical Reference with Revision No:	ON-107	<table border="1"> <tr> <td>Rev #:</td> <td>1 8</td> </tr> </table>	Rev #:	1 8
	Rev #:	1 8			
	Justification for Non SRO CFR Link:	N/A			
	Question History: (i.e. LGS NRC-05, OYS CERT-04)				
	Question Source: (i.e. New, Bank, Modified)	Bank			
	Low KA Justification (if required):				
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)				
	ILT				
	Supplied Ref (If appropriate): (i.e. ABN-##)	None			
	LORT				
	PRA: (i.e. Yes or No or #)				
LORT Question Section: (i.e. A-Systems or B-Procedures)					
Comments					

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

64

ID: 1442869

Points: 1.00

Unit 1 is operating at 100% power with the following conditions;

SJAE DISCH TO RECOMBINER LO FLOW annunciator alarms

Which of the following identifies where this parameter can be monitored and what is an expected Steam Jet Air Ejector (SJAE) response if actual flow is 9100 Lbm/hr ?

	<u>Location to monitor parameter</u>	<u>SJAE response</u>
A.	10C-652 Condenser panel	First Stage Air Ejector "AIR" valves will close
B.	10C-652 Condenser panel	Second Stage Air Ejector "STEAM" valve will close
C.	10C-673 OFF GAS panel	First Stage Air Ejector "AIR" valves will close
D.	10C-673 OFF GAS panel	Second Stage Air Ejector "STEAM" valve will close

Answer: C

Answer Explanation

- | | |
|---|---|
| A | Incorrect plausible to examinee who recalls that SJAE valves control stations and SJAE 2nd stage suction and discharge pressure indication are on 10C-652 and incorrectly believes that SJAE steam flow is also here |
| B | Incorrect plausible to examinee who recalls that SJAE valves control stations and SJAE 2nd stage suction and discharge pressure indication are on 10C-652 and incorrectly believes that SJAE steam flow is also here and incorrectly recalls which valve closes on low flow |
| C | Correct SJAE air and steam flow recorder FR-69-115 is located on 10C-673 and 1st stage air valves will close causing a loss of condenser vacuum |
| D | incorrect plausible to examinee who does not recall which SJAE valves close on low flow |

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 64 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	3.00
System ID:	1442869
User-Defined ID:	Q# 64 NEW
Lesson Plan Objective:	LGSOPS0069.7A
Topic:	Low vac
RO:	4.6
SRO:	4.3
KA#:	295002 2.1.31

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	1		
Group	2		
KA # and Rating	295002 2.1.31 4.6/4.3		
KA Statement	Loss of Main Condenser Vacuum 2.1.31 Ability to locate control room switches, controls, and indications, and to determine that they correctly reflect the desired plant lineup.		
Cognitive level	higher		
Safety Function	3		
10 CFR 55	41.10		
Technical Reference with Revision No:	OT-116	Rev #:	3 8
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
Question Source: (i.e. New, Bank, Modified)	new		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

65

ID: 1588470

Points: 1.00

Initial Unit 2 plant conditions are as follows:

- Reactor power is 100%
- A group VIIIA isolation occurred due to a blown fuse
- The fuse has been replaced
- Instrument Air is backing up Instrument Gas through SV-059-228B
- Drywell pressure is 1.0 psig DOWN SLOW
- Drywell venting is in progress through HV-057-211 and HV-057-217
- Primary Containment Oxygen concentration is 3.5% UP SLOW

No other Operator actions are taken and Drywell pressure stabilizes at 0.8 psig and then begins to rise slowly.

The Containment Leak Detector is reading 88 cpm and steady.

WHICH ONE of the following describes the required actions for these conditions?

- A. Isolate instrument air to instrument gas and restart instrument gas
- B. Secure venting the Drywell per OT-101, High Drywell Pressure
- C. Raise rate of venting per OT-101, High Drywell Pressure
- D. Begin inerting the Drywell per T-228, Inerting/Purging Primary Containment

Answer: A

Answer Explanation

A Correct, rising DW pressure with rising DW O₂ and instrument air backing up instrument gas is indicative of a leak in the instrument gas system. Isolating instrument air to gas is directed by OT-101 since the VIIIA isolation can be reset instrument gas should be restarted per OT-101

B Incorrect, secure venting is required if DW rad level is rising along with DW pressure plausible to

C Incorrect raising vent rate cannot be done since both valves are fully open. plausible to examinee who confuses venting with purging.

D Incorrect inerting is directed from T-102 no entry for T-102 exists

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 65 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1588470
User-Defined ID:	Q# 65 MODIFIED
Lesson Plan Objective:	LLOT2006.1
Topic:	OT-101, Drywell venting is in progress due to high drywell pressure
RO:	3.8
SRO:	3.9
KA#:	295010 AA2.02

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data			
	Level	RO		
	Tier	1		
	Group	2		
	KA # and Rating	295010 AA2.02 3.8/3.9		
	KA Statement	High Drywell Pressure Ability to determine and/or interpret the following as they apply to HIGH DRYWELL PRESSURE : Drywell pressure		
	Cognitive level	Higher		
	Safety Function	5		
	10 CFR 55	41.10		
	Technical Reference with Revision No:	OT-101	Rev #:	3 7
	Justification for Non SRO CFR Link:	n/a		
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	562341 modified		
	Question Source: (i.e. New, Bank, Modified)	562341 modified		
	Low KA Justification (if required):	n/a		
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	562341 modified		
	ILT			
	Supplied Ref (If appropriate): (i.e. ABN-##)	none		
	LORT			
	PRA: (i.e. Yes or No or #)			
	LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments				

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

66

ID: 1601437

Points: 1.00

Unit 1 was at 100% power when a reactor scram occurred.

Current plant conditions are as follows:

- RPS is de-energized
- Reactor Power is 31% and steady
- Reactor Level is 35" and steady

You are the Reactor Operator Performing S46.7.A, Control Rod Drive Hydraulic System Operation Following Reactor Scram." You are coordinating the Equipment Operator activities in the field.

Given the following two CRD system valves:

- 046-1F034, "CRD Charging Water header Supply Valve"
- 046-1F060, "CRD Water Pressure Control Station Inlet Valve"

- (1) Which valve do you direct to be closed, and
(2) what is the basis for closing the selected valve?

	<u>Valve directed to be closed</u>	<u>Basis for closing the selected valve</u>
A.	046-1F034	Aid in restoration of sufficient differential pressure to allow individual control rod insertion
B.	046-1F034	Stop input into Scram Discharge Volume to allow rod insertion using T-217
C.	046-1F060	Aid in restoration of sufficient differential pressure to allow individual control rod insertion
D.	046-1F060	Stop input into Scram Discharge Volume to allow rod insertion using T-217

Answer: A

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

From the stem it can be identified that Unit 1 is in a Hydraulic ATWS (RPS De-Energized with power at 31% and steady). When a A scram occurs, the open scram valve on the under piston line of the HCU creates a flow path for the Charging Water to the RPV. With this flow path established differential pressure on the drive water system lowers. In this situation the operator is to implemented S46.7.A section 4.3. In this section the Reactor Operator is to direct the Equipment to close 46-1F034 then adjust Drive Water Pressure with the pressure control valve to allow single rod insertion.

- A Correct - for the above reasons
- B Wrong - Plausible to the student who believes that closing 46-1F034 will stop all inputs to the Scram Discharge Volume, this is not correct, resetting the scram is the process for stopping inputs to the SDV.
- C Wrong - Plausible to the student who confuses steps in S46.7.A, Closing 46-1F060 would be correct if performing section 4.2 of the procedure for eliminating CRD flow into the RPV.
- D Wrong - Plausible to the student who confuses steps in S46.7.A, Closing 46-1F060 would be correct if performing section 4.2 of the procedure for eliminating CRD flow into the RPV. Also plausible to the student who believes that closing 46-1F034 will stop all inputs to the Scram Discharge Volume, this is not correct, resetting the scram is the process for stopping inputs to the SDV.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 66 Info																																																																																							
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Status:	Active																																																																																						
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Points:	1.00																																																																																						
Time to Complete:	3																																																																																						
Difficulty:	2.00																																																																																						
System ID:	1601437																																																																																						
User-Defined ID:	Q #66 NEW																																																																																						
Lesson Plan Objective:	LGSOPS0046.10C																																																																																						
Topic:	Coordinate personnel activities outside the Control Room																																																																																						
RO:	3.4																																																																																						
SRO:	4.1																																																																																						
KA#:	2.1.8																																																																																						
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

67

ID: 1600748

Points: 1.00

Unit 1 is at 100% power when a rising trend in RWCU Non-Regenerative Heat Exchanger outlet temperature is identified.

Current Non-Regenerative Heat Exchanger outlet temperature is 128 ° F

Temperature is rising at 2 ° F/min

If temperature trend continues unchanged, in how many minutes will a RWCU isolation occur?
What is Affect on reactor coolant chemistry if the isolation FAILS to occur?

	<u>Minutes until RWCU Isolation</u>	<u>Affect on reactor coolant chemistry</u>
A.	3.5	PH rises
B.	3.5	Conductivity rises
C.	6	PH rises
D.	6	Conductivity rises

Answer: D

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

The RWCU system is operated using S44.0.A, "OPERATING RWCU TO MEET PLANT CONDITIONS" (among other procedures). Within this procedure one of the system Precautions is:

3.7 RWCU system will isolate at 140°F at outlet of Non-regenerative Heat Exchanger.

DBD 3.2.5.1

Basis - Non-Regenerative Heat Exchanger Outlet Temperature

The limit on the Non-Regen HX outlet temperature is required to protect the filtering and ion exchange medium (resin) used in the F/Ds. Excessive temperatures can cause the resin to disintegrate and dissolve in the reactor water, compounding contamination and radiation problems. The controlling parameter value of 140F is established by the system specification {6.1.2.1}.

ON-116

2.3 **IF** Reactor Water Conductivity is greater than 1.0 umho/cm with main steam line (MSL) radiation high

AND Reactor Water pH low (Resin or other organic intrusion is suspected),
THEN PERFORM the following:

2.3.1 **IF** MSL radiation rises to 1.5 x normal full power background,

THEN ENTER ON-102

AND EXECUTE concurrently.

2.3.2 **DETERMINE** RWCU Demin that could be passing resin by identifying demin with high effluent conductivity (suspect demin recently placed in service).

- A Wrong - Plausible to the student who either recalls the isolation set point incorrectly or performs the calculation incorrectly, also plausible to the student who incorrectly recalls (reverses) the Affect on conductivity and PH
- B Wrong - Plausible to the student who either recalls the isolation set point incorrectly or performs the calculation incorrectly.
- C Wrong - plausible to the student who incorrectly recalls (reverses) the Affect on conductivity and PH
- D Correct for the above reasons - Isolation occurs at 140 F. At a rate of rise of 2 degrees/minutes the isolation will occur after 6 minutes (rise of 12 degrees F). and conductivity rises and PH lowers

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 67 Info																																																																																							
Question Type:	Multiple Choice																																																																																						
Status:	Active																																																																																						
Always select on test?	No																																																																																						
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Difficulty:	3.00																																																																																						
System ID:	1600748																																																																																						
User-Defined ID:	Q #67 NEW																																																																																						
Lesson Plan Objective:	LGSOPS0044.05 (RWCU)																																																																																						
Topic:	RWCU - Expain and apply all system limits and precautions																																																																																						
RO:	3.8																																																																																						
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

68

ID: 1588537

Points: 1.00

The Control Room Supervisor has directed you to perform stroke time testing of a valve required by Technical Specifications for post-maintenance testing to restore operability. The valve is a MOV with seal-in control logic and a spring return to center control switch.

The control switch must be turned to the desired position ____ (1) ____.

To time this valve OPEN, the RO will START the stopwatch when the ____ (2) ____.

- A. (1) momentarily
(2) red position indication light FIRST illuminates
- B. (1) momentarily
(2) control Switch is placed to OPEN
- C. (1) for a count of three (3)
(2) red position indication light FIRST illuminates
- D. (1) for a count of three (3)
(2) control Switch is placed to OPEN

Answer: D

Answer Explanation

From ST-6-107-200-0 IST VALVE STROKE SURVEILLANCE LOG step 3.3:

3.3 Stroke time is defined as the time from the initiation of the actuation signal until full closed indication OR full open indication is observed.

And OP-AA-103-105, LIMITORQUE MOTOR-OPERATED AND CHAINWHEEL OPERATED VALVE OPERATIONS step 4.2.2.3:

3. When remotely operating a MOV with seal-in control logic and a spring return to center control switch, the control switch must be turned to the desired position and held for a count of three (3) to ensure there is adequate time for the seal-in contacts to make-up.

- A Wrong - plausible to the student who fails to recall that the control switch must be held for a count of 3 to ensure adequate time for the seal-in contacts to make-up and to the student who mistakenly believes that the stopwatch is started when the red (open) position indication light first illuminates.
- B Wrong - plausible to the student who fails to recall that the control switch must be held for a count of 3 to ensure adequate time for the seal-in contacts to make-up
- C Wrong - plausible to the student who mistakenly believes that the stopwatch is started when the red (open) position indication light first illuminates.
- D Correct for the above reasons

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 68 Info																																																																																							
Question Type:	Multiple Choice																																																																																						
Status:	Active																																																																																						
Always select on test?	No																																																																																						
Authorized for practice?	No																																																																																						
Points:	1.00																																																																																						
Time to Complete:	3																																																																																						
Difficulty:	3.00																																																																																						
System ID:	1588537																																																																																						
User-Defined ID:	Q# 68 - MODIFIED																																																																																						
Lesson Plan Objective:	LGSOPS2010 27.C-CONDUCT OF OPS																																																																																						
Topic:	Valve Stroke - Post Maintenance Testing																																																																																						
RO:	2.9																																																																																						
SRO:																																																																																							
KA#:	2.2.21																																																																																						
Comments:	<table border="1"> <thead> <tr> <th colspan="4">General Data</th> </tr> </thead> <tbody> <tr> <td>Level</td> <td colspan="3">RO</td> </tr> <tr> <td>Tier</td> <td colspan="3">3</td> </tr> <tr> <td>Group</td> <td colspan="3">N/A</td> </tr> <tr> <td>KA # and Rating</td> <td colspan="3">2.2.21 RO 2.9</td> </tr> <tr> <td>KA Statement</td> <td colspan="3">Knowledge of pre- and post-maintenance operability requirements.</td> </tr> <tr> <td>Cognitive level</td> <td colspan="3">lower</td> </tr> <tr> <td>Safety Function</td> <td colspan="3">N/A</td> </tr> <tr> <td>10 CFR 55</td> <td colspan="3">41.10</td> </tr> <tr> <td>Technical Reference with Revision No:</td> <td>OP-AA-103-105 OP-LG-108-101-1004</td> <td>Rev #:</td> <td>5 7</td> </tr> <tr> <td>Justification for Non SRO CFR Link:</td> <td colspan="3">N/A</td> </tr> <tr> <td>Question History: (i.e. LGS NRC-05, OYS CERT-04)</td> <td colspan="3">Modified from Clinton ILT 14-1 Exam #69. (Vision ID 1097944)</td> </tr> <tr> <td>Question Source: (i.e. New, Bank, Modified)</td> <td colspan="3">Modified from Clinton ILT 14-1 Exam #69. (Vision ID 1097944)</td> </tr> <tr> <td>Low KA Justification (if required):</td> <td colspan="3">N/A</td> </tr> <tr> <td>Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)</td> <td colspan="3">Created new first half of question to replace when to stop the stopwatch</td> </tr> <tr> <th colspan="4">ILT</th> </tr> <tr> <td>Supplied Ref (If appropriate): (i.e. ABN-##)</td> <td colspan="3">None</td> </tr> <tr> <th colspan="4">LORT</th> </tr> <tr> <td>PRA: (i.e. Yes or No or #)</td> <td colspan="3"></td> </tr> <tr> <td>LORT Question Section: (i.e. A-Systems or B-Procedures)</td> <td colspan="3"></td> </tr> <tr> <td>Comments</td> <td colspan="3"></td> </tr> </tbody> </table>			General Data				Level	RO			Tier	3			Group	N/A			KA # and Rating	2.2.21 RO 2.9			KA Statement	Knowledge of pre- and post-maintenance operability requirements.			Cognitive level	lower			Safety Function	N/A			10 CFR 55	41.10			Technical Reference with Revision No:	OP-AA-103-105 OP-LG-108-101-1004	Rev #:	5 7	Justification for Non SRO CFR Link:	N/A			Question History: (i.e. LGS NRC-05, OYS CERT-04)	Modified from Clinton ILT 14-1 Exam #69. (Vision ID 1097944)			Question Source: (i.e. New, Bank, Modified)	Modified from Clinton ILT 14-1 Exam #69. (Vision ID 1097944)			Low KA Justification (if required):	N/A			Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	Created new first half of question to replace when to stop the stopwatch			ILT				Supplied Ref (If appropriate): (i.e. ABN-##)	None			LORT				PRA: (i.e. Yes or No or #)				LORT Question Section: (i.e. A-Systems or B-Procedures)				Comments			
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Comments																																																																																							

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

69

ID: 1574760

Points: 1.00

Both Units are operating at 100% power.

Maintenance has been performed on several air lock door seals.

The following Post Maintenance Testing was performed with the resultant established SGTS flow rates at -.25 inches of water.

<u>Test</u>	<u>SGTS flow rate</u>
ST-6-076-310-1 SGTS REACTOR ENCLOSURE SECONDARY CONTAINMENT INTEGRITY TEST	2,250 CFM
ST-6-076-310-0 SGTS REFUEL AREA SECONDARY CONTAINMENT INTEGRITY TEST	820 CFM

Which of the following identifies the status of the Unit 1 Reactor Enclosure and Refueling Area Secondary Containment for the above conditions?

Unit 1 Reactor Enclosure Secondary Containment

Refueling Area Secondary Containment

- | | | |
|----|------------|------------|
| A. | OPERABLE | OPERABLE |
| B. | OPERABLE | INOPERABLE |
| C. | INOPERABLE | OPERABLE |
| D. | INOPERABLE | INOPERABLE |

Answer: B

Answer Explanation

The Maintenance of Secondary Containment door seals impacts the operability of the Secondary Containment. From the Stem the student identifies that a "Drawdown test" was performed on the Refuel Floor and the Unit 1 Secondary Containment. For the Reactor Enclosure the resultant flow of 2,250 CFM is within the surveillance requirement of 4.6.5.1.1.c.2 (Less than or equal to 2,500 CFM). For the Refueling Area Secondary Containment the resultant flow of 820 CFM is NOT within the surveillance requirement of 4.6.5.1.2.(Less than or equal to 764 CFM). Based on the above information the Unit 1 Reactor Enclosure Secondary Containment is OPERABLE and the Refueling Floor Secondary Containment is INOPERABLE.

- A Wrong - Plausible if the student recalls the incorrect Surveillance acceptance criteria for the Refueling Area Secondary Containment
- B Correct as described above
- C Wrong - Plausible if the student recalls the incorrect Surveillance acceptance criteria for the Refueling Area Secondary Containment and the Reactor Enclosure Secondary Containment
- D Wrong - Plausible if the student recalls the incorrect Surveillance acceptance criteria for the Reactor Enclosure Secondary Containment

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 69 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	4
Difficulty:	2.00
System ID:	1574760
User-Defined ID:	Q# 69 NEW
Lesson Plan Objective:	LGSOPS0076B.9
Topic:	Secondary Containment Operability
RO:	3.2
SRO:	3.8
KA#:	G2.2.36

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	3		
Group	N/A		
KA # and Rating	2.2.36 RO 3.1 SRO 4.2		
KA Statement	Ability to analyze the effect of maintenance activities, such as degraded power sources, on the status of limiting conditions for operations.		
Cognitive level	low		
Safety Function	N/A		
10 CFR 55	41.10		
Technical Reference with Revision No:	Tech Spec 3.6.5.2.1 Tech Spec 3.6.5.2.2 ST-6-076-310-0 ST-6-076-310-1	Rev #:	2 3 1 7
Justification for Non SRO CFR Link:	N/A		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	New		
Question Source: (i.e. New, Bank, Modified)	New		
Low KA Justification (if required):	N/A		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)			
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	None		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

70

ID: 1455760

Points: 1.00

You have been authorized and briefed to enter a radiation area that has no physical barrier (e.g., door); instead, its entrance has a barricade and flashing red light.

WHICH ONE of the following identifies the posted radiation dose rate in this area?

- A. Greater than 80 mR/hr at 30 cm
- B. Greater than or equal to 3000 mR/hr at 1 meter
- C. Greater than or equal to 800 mR/hr at 30 cm; less than 500 Rad/hr at 1 meter
- D. Greater than or equal to 500 Rad/hr at 1 meter

Answer: C

Answer Explanation

Per RP-AA-460, section 4.4.1.2 NOTE...a barricade and flashing red light can be used (in lieu of a physical barrier) only for a LHRA. Per section 4.4, the posted radiation dose rate (considering the more-conservative Exelon admin limit) for an LHRA is "greater than or equal to 800 mR/hr at 30 cm; less than 500 Rad/hr at 1 meter."

A Incorrect Plausible to the examinee who recalls 80 Mr insted of 800

B incorrect Plausible to the examinee who does not recall the 1 meter limit

C correct the posted radiation dose rate (considering the more-conservative Exelon admin limit) for an LHRA is "greater than or equal to 800 mR/hr at 30 cm; less than 500 Rad/hr at 1 meter."

D incorrect plausible to the examinee who reverses the 1 meter rad requirement

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 70 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1455760
User-Defined ID:	Q# 70 BANK
Lesson Plan Objective:	LLOT1760.10
Topic:	Identify activities requiring drywell upper elevation access controls
RO:	3.4
SRO:	3.8
KA#:	2.3.13

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data			
	Level	RO		
	Tier	3		
	Group			
	KA # and Rating	2.3.13 3.4/3.8		
	KA Statement	Knowledge of radiological safety procedures pertaining to licensed operator duties, such as response to radiation monitor alarms, containment entry requirements, fuel handling responsibilities, access to locked high-radiation areas, aligning filters, etc.		
	Cognitive level	lower		
	Safety Function			
	10 CFR 55	41.12		
	Technical Reference with Revision No:	RP-AA-460	Rev #:	2 9
	Justification for Non SRO CFR Link:			
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	986547 bank		
	Question Source: (i.e. New, Bank, Modified)	986547 bank		
	Low KA Justification (if required):			
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	986547 bank		
	ILT			
	Supplied Ref (If appropriate): (i.e. ABN-##)	none		
	LORT			
	PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e, A-Systems or B-Procedures)				
Comments				

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

71

ID: 1455767

Points: 1.00

An EO is required to enter an area in the Main Condenser Bay:

- General area radiation level is 3 Rem/hr
- The entry is necessary, but NON-emergent

The EO's radiation history:

- 1760 mRem cumulative exposure for the current year (TEDE)
- 19 Rem lifetime exposure to this date (TEDE)
- NRC Form 4 completed and on file
- No dose extensions have been obtained

The work activity will take 45 minutes to complete.

WHICH ONE of the following radiation exposure limits, if any, will be exceeded?

- A. None
- B. Administrative Dose Control Level, ONLY
- C. Administrative Dose Control Level and NRC Exposure Limit, ONLY
- D. Administrative Dose Control Level, NRC Exposure Limit, and Emergency Exposure Limit

Answer: B

Answer Explanation

Calculating the EO's expected dose for this 45-minute activity:

$$\begin{aligned} 3 \text{ Rem} &= 3000 \text{ mRem} \\ 3000 \text{ mRem} \times .75 &= 2250 \text{ mRem} \end{aligned}$$

Added to his current dose:

$$2250 \text{ mRem} + 1760 \text{ mRem} = 4010 \text{ mRem TEDE}$$

4010 mRem **exceeds the** 2000 mRem TEDE **Admin Dose Control Level** of RP-AA-203, section 4.1.2.

4010 mRem does NOT exceed the 5000 mRem NRC Exposure Limit of section 4.1.1, Table 1.

Not does the 4010 mRem (4.01 Rem) exceed the 10,000 mRem (10 rem)...for protecting station property...Emergency Exposure Limit of section 4.5.3, Table 2.

ANSWER: Admin Dose Control Level, only

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 71 Info																																																																																							
Question Type:	Multiple Choice																																																																																						
Status:	Active																																																																																						
Always select on test?	No																																																																																						
Authorized for practice?	No																																																																																						
Points:	1.00																																																																																						
Time to Complete:	4																																																																																						
Difficulty:	2.50																																																																																						
System ID:	1455767																																																																																						
User-Defined ID:	Q# 71 BANK																																																																																						
Lesson Plan Objective:	LLOT1760.5																																																																																						
Topic:	Determine if any Dose Limits will be exceeded																																																																																						
RO:	3.2																																																																																						
SRO:	3.7																																																																																						
KA#:	2.3.4																																																																																						
Comments:	<table border="1"> <thead> <tr> <th colspan="4">General Data</th> </tr> </thead> <tbody> <tr> <td>Level</td> <td colspan="3">RO</td> </tr> <tr> <td>Tier</td> <td colspan="3">3</td> </tr> <tr> <td>Group</td> <td colspan="3"></td> </tr> <tr> <td>KA # and Rating</td> <td colspan="3">2.3.4 3.2/3.7</td> </tr> <tr> <td>KA Statement</td> <td colspan="3">Knowledge of radiation exposure limits under normal or emergency conditions.</td> </tr> <tr> <td>Cognitive level</td> <td colspan="3">higher</td> </tr> <tr> <td>Safety Function</td> <td colspan="3"></td> </tr> <tr> <td>10 CFR 55</td> <td colspan="3">41.12</td> </tr> <tr> <td>Technical Reference with Revision No:</td> <td>RP-AA-203</td> <td>Rev #:</td> <td>3</td> </tr> <tr> <td>Justification for Non SRO CFR Link:</td> <td colspan="3">n/a</td> </tr> <tr> <td>Question History: (i.e. LGS NRC-05, OYS CERT-04)</td> <td colspan="3">bank 591143</td> </tr> <tr> <td>Question Source: (i.e. New, Bank, Modified)</td> <td colspan="3">bank 591143</td> </tr> <tr> <td>Low KA Justification (if required):</td> <td colspan="3">n/a</td> </tr> <tr> <td>Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)</td> <td colspan="3">bank 591143</td> </tr> <tr> <th colspan="4">ILT</th> </tr> <tr> <td>Supplied Ref (If appropriate): (i.e. ABN-#)</td> <td colspan="3">none</td> </tr> <tr> <th colspan="4">LORT</th> </tr> <tr> <td>PRA: (i.e. Yes or No or #)</td> <td colspan="3"></td> </tr> <tr> <td>LORT Question Section: (i.e. A-Systems or B-Procedures)</td> <td colspan="3"></td> </tr> <tr> <td>Comments</td> <td colspan="3"></td> </tr> </tbody> </table>			General Data				Level	RO			Tier	3			Group				KA # and Rating	2.3.4 3.2/3.7			KA Statement	Knowledge of radiation exposure limits under normal or emergency conditions.			Cognitive level	higher			Safety Function				10 CFR 55	41.12			Technical Reference with Revision No:	RP-AA-203	Rev #:	3	Justification for Non SRO CFR Link:	n/a			Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank 591143			Question Source: (i.e. New, Bank, Modified)	bank 591143			Low KA Justification (if required):	n/a			Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank 591143			ILT				Supplied Ref (If appropriate): (i.e. ABN-#)	none			LORT				PRA: (i.e. Yes or No or #)				LORT Question Section: (i.e. A-Systems or B-Procedures)				Comments			
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

72

ID: 1649570

Points: 1.00

Plant conditions:

- Unit 1 is in OPCON 1
- Unit 2 is in OPCON 2 with GP-2, STARTUP in progress

A valid OBE EXCEEDED alarm is received and is confirmed by the U.S. Geological Survey.

WHICH ONE of the following is a required operator action?

- A. Manually scram both reactors
- B. Perform GP-4 Rapid Plant Shutdown on Unit 1
Manually scram Unit 2 reactor
- C. Perform GP-4 Rapid Plant Shutdown on both Units
- D. Perform GP-3 Normal Plant Shutdown on both Units

Answer: A

Answer Explanation

Per SE-5 (Earthquake), Steps 4.2 and 4.5. The "valid" comment in the stem translates to "evidence of the seismic event" (mentioned in Step 4.5). Though Step 4.5 is not an "Immediate Operator Action" initial license candidates are expected to recall manual scram/GP-4 Rapid Shutdown actions, no matter where they exist in procedure.

'A' is correct: Manually scram both reactors. Correct for the reasons described above.

'B' is wrong: Perform GP-4 Rapid Plant Shutdown on Unit 1; Manually scram Unit 2 reactor. Very plausible to the examinee who considers that, whenever practical, LGS procedures direct us to perform a GP-4 Rapid Plant Shutdown (i.e., running Recirc Pumps to minimum speed and transferring house loads to the startup buses before scrambling the reactor) in order to minimize the plant transient. The fact that Unit 2 is only in OPCON 2 during a startup, the idea of simply scrambling the reactor (i.e., without concern for the severity of a plant transient) makes this answer choice all the more distracting.

'C' is wrong: Perform GP-4 Rapid Plant Shutdown on both Units. Plausible for reasons similar to that for choice 'B'; except, here, the examinee considers it more prudent to minimize the plant transient for both Units. This examinee has neglected to consider that with Unit 2 in OPCON 2, its house loads are still on the startup buses and its Total Core Flow is well below 60% (i.e., the target flow for the reduction in Recirc directed by GP-4).

'D' is wrong: Perform GP-3 Normal Plant Shutdown on both Units. Plausible to the examinee who does not recognize the significance of an OBE earthquake and/or confuses it with an SSE earthquake. As such, the examinee is compelled to believe that an orderly plant shutdown of both Units is sufficient to mitigate the effects of the OBE.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 72 Info																																																																																							
Question Type:	Multiple Choice																																																																																						
Status:	Active																																																																																						
Always select on test?	No																																																																																						
Authorized for practice?	No																																																																																						
Points:	1.00																																																																																						
Time to Complete:	3																																																																																						
Difficulty:	2.00																																																																																						
System ID:	1649570																																																																																						
User-Defined ID:	Q# 72 BANK 2015 NRC																																																																																						
Lesson Plan Objective:	LGSOPS2000.2																																																																																						
Topic:	SE-5 - Recall Requirements for Manual Scram																																																																																						
RO:	4.0																																																																																						
SRO:	4.2																																																																																						
KA#:	2.4.11																																																																																						
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

73

ID: 1455732

Points: 1.00

The CRS has directed performance of T-260 REACTOR PRESSURE VESSEL DEPRESSURIZATION/VENTING on UNIT 2.

- The MSIV's are currently closed but are pneumatically functional
- The Main condenser is available
- Reactor pressure is 990 psig
- Main Steam Line pressure is 400 psig down slow

Step 4.1 RPV DEPRESSURIZATION/VENTING USING MAIN STEAM LINES is being performed

Given the following valves.

1. Barrier block valves HV-41-242 and HV-41-243
2. Barrier vent valves HV-41-240 and HV-41-241

From the above list, which valves, if required to be operated, will be operated by an equipment operator and where will the reactor steam be vented to?

	<u>Actions performed by an Equipment Operator</u>	<u>Reactor Steam will be directed to</u>
A.	2 ONLY	Main Condenser
B.	1 ONLY	Reactor Enclosure
C.	1 and 2	Main Condenser
D.	1 and 2	Reactor Enclosure

Answer: C

Answer Explanation

Although valves are operated locally reactor enclosure or AER room there are position indicating lights in the MCR.

Section 4.2 using steam line drain vents to reactor enclosure

- A Incorrect both 1 and 2 are remote actions
- B Incorrect both 1 and 2 are remote actions and steam is directed to the main condenser
- C Correct both actions are performed locally and steam is directed to the main condenser
- D Incorrect steam is directed to the main condenser

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

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User-Defined ID:	Q# 73 NEW																																																																																						
Lesson Plan Objective:	LGSOPS2003.3																																																																																						
Topic:	EO actions																																																																																						
RO:	3.8																																																																																						
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

74

ID: 1455708

Points: 1.00

WHICH ONE of the following requires a Unit 2 Tech Spec LCO Action that is 1-hour or less?

- A. RWCU inboard PCIV HV-44-2F001 breaker trips and cannot be reset.
- B. Operating at 100% power when 2B Recirc Pump trips
- C. Operating at 20% power when one control rod is determined to be stuck and is declared inoperable
- D. OPGON 1 when D22 DG fails its monthly surveillance and is declared inoperable

Answer: C

Answer Explanation

U/2 TS 3.1.3.1.a.1 (for a stuck rod) is a "within 1 hour" action.

U/2 TS 3.6.3.a is a 4 hour" action.

U/2 TS 3.4.1.1.a (one recirc loop not in service) is a "within 4 hours" action.

U/2 TS 3.8.1.1.a (one DG inoperable) is a "within 24 hours" action for demonstrating operability of the remaining AC sources (SR 4.8.1.1.1.a). However, Action 'e' also applies...requiring the same SR 4.8.1.1.1.a to be performed "within 2 hours".

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 74 Info																																																																	
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User-Defined ID:	Q# 74 BANK																																																																
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Topic:	Tech Specs - Recognize condition requiring 1-hour TS Action																																																																
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

75

ID: 1455175

Points: 1.00

A major earthquake has caused a SCRAM on both Units.

The earthquake has resulted in the breach of a wall in the Unit 1 Spent Fuel Pool (SFP).

Unit 1 SFP level is lowering, with the following:

- Operators are not able to mitigate the SFP level problem using S53.0 normal makeup / response to low level in fuel storage pool or reactor well
- An EO on 352 elevation estimate the leakage rate is 800 gpm

Operators enter TSG-4.1, 'Operational Contingency Guidelines.'

WHICH ONE of the following:

- (1) identifies which method for cooling the SFP should be used **FIRST** ("Makeup" or "Spray"), and
- (2) identifies if "Locally" or "External" source for that method?

A. (1) Makeup
(2) Locally

B. (1) Makeup
(2) External

C. (1) Spray
(2) Locally

D. (1) Spray
(2) External

Answer: C

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

This question tests the examinee's ability to use the Alternate (B.5.b) Strategies of TSG-4.1. Key points in the stem are: an estimated SFP leakage rate of 800 gpm, and the fact that the refuel floor is still accessible.

The examinee need only review Section I (SFP Cooling & Makeup), specifically, including its flowchart ("Generalized Decision Process for SFP Makeup versus Spray").

Following the decision points on this flowchart...i.e., **SFP Area Accessible? (YES); SFP Leakage Excessive (YES;** see Note 3 at the bottom of the page...anything greater than 500 gpm is excessive). As such, the **FIRST** method to be used is...**"Deploy Spray Locally"**

'C' is correct for the above reasons. **(1) Spray (2) Locally**

'A' is wrong. **(1) Makeup (2) Locally** In the case of the Makeup method, "locally" is actually referred to as "Internal" in the TSG. Plausible to the examinee who cannot effectively use the flowchart.

'B' is wrong. **(1) Makeup (2) External** Plausible for the same reason as choice 'A'.

'D' is wrong. **(1) Spray (2) External** Plausible for the same reason as choices 'A' and 'B'.

EXAMINATION ANSWER KEY

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System ID:	1455175																																																																																						
User-Defined ID:	Q# 75 BANK																																																																																						
Lesson Plan Objective:	LGSOPS2004.01																																																																																						
Topic:	Selecting B.5.b Strategy per TSG-4.1																																																																																						
RO:	3.9																																																																																						
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Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	bank 895221																																																																																						
ILT																																																																																							
Supplied Ref (If appropriate): (i.e. ABN-##)	TSG-4.1																																																																																						
LORT																																																																																							
PRA: (i.e. Yes or No or #)																																																																																							
LORT Question Section: (i.e. A-Systems or B-Procedures)																																																																																							
Comments																																																																																							

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

76

ID: 1650711

Points: 1.00

Unit 1 is operating at 100% power when the following MCR alarm is received:

- 118 IS UNIT 1 ISO PHASE BUS COOLER TROUBLE

An EO has been dispatched to the local ISO PHASE bus cooling panel.

T= 2 minutes

- An EO reports the following
 - Both ISO PHASE fan are tripped and will not start
- ISO PHASE Bus temperature is 102 degrees C up slow
- Operators enter ON-101, Loss of Isolated Phase Bus Cooling.

T= 13 minutes

- Generator amps are lowered to 20,000 amps
- Gen Mvars are 60 MVARs
- ISO PHASE Bus temperature is 107 degrees C up slow

WHICH of the following action(s) is required?

- A. Perform a GP-4 shutdown
- B. Trip the main turbine
- C. Reduce vars to 0, if temp remains above 105 degrees C trip the main turbine
- D. Reduce vars to 0, if temp remains above 105 degrees C perform a GP-4 shutdown

Answer: A

Answer Explanation

Justification:

- A. **correct** : per ON-101 step 2.7 if > 25% power (20,000 amps = approximately 60% pwr) and > 105 degrees C perform a GP-4
- B. **Incorrect but plausible**: to examinee who believe 20,00 amps is <25% power
- C. **Incorrect but plausible** to examinee who believe 20,00 amps is <25% power and that they are allowed to reduce vars even though amps are less than 20,000 before taking action
- I D. **Incorrect but plausible** to the examinee who believe they are allowed to reduce vars even though amps are less than 20,000 before taking action

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 76 Info																															
Question Type:	Multiple Choice																														
Status:	Active																														
Always select on test?	No																														
Authorized for practice?	No																														
Points:	1.00																														
Time to Complete:	3																														
Difficulty:	3.00																														
System ID:	1650711																														
User-Defined ID:	Q# 76 NEW																														
Lesson Plan Objective:	LOT0180.6P																														
Topic:	Increase in RECW temp																														
RO:	3.3																														
SRO:	3.4																														
KA#:	295018 AA2.01																														
Comments:	<table border="1"> <thead> <tr> <th colspan="2">General Data</th> </tr> </thead> <tbody> <tr> <td>Level</td> <td>SRO</td> </tr> <tr> <td>Tier</td> <td>1</td> </tr> <tr> <td>Group</td> <td>1</td> </tr> <tr> <td>KA # and Rating</td> <td>295018 AA2.01 3.3/3.4</td> </tr> <tr> <td>KA Statement</td> <td>Partial or Complete Loss of Component Cooling Water. Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF COMPONENT COOLING WATER : Component temperatures</td> </tr> <tr> <td>Cognitive level</td> <td>Higher</td> </tr> <tr> <td>Safety function</td> <td>8</td> </tr> <tr> <td>10 CFR 55</td> <td>43.5</td> </tr> <tr> <td></td> <td>Rev #:</td> </tr> <tr> <td>Justification for Non SRO CFR Link:</td> <td>n/a</td> </tr> <tr> <td>Question History: (i.e. LGS NRC-05, OYS CERT-04)</td> <td>new</td> </tr> <tr> <td>Question Source: (i.e. New, Bank, Modified)</td> <td>new</td> </tr> <tr> <td>Low KA Justification (if required):</td> <td>NA</td> </tr> <tr> <td>Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)</td> <td>new</td> </tr> </tbody> </table>	General Data		Level	SRO	Tier	1	Group	1	KA # and Rating	295018 AA2.01 3.3/3.4	KA Statement	Partial or Complete Loss of Component Cooling Water. Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF COMPONENT COOLING WATER : Component temperatures	Cognitive level	Higher	Safety function	8	10 CFR 55	43.5		Rev #:	Justification for Non SRO CFR Link:	n/a	Question History: (i.e. LGS NRC-05, OYS CERT-04)	new	Question Source: (i.e. New, Bank, Modified)	new	Low KA Justification (if required):	NA	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new
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10 CFR 55	43.5																														
	Rev #:																														
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Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new																														

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

77

ID: 1453889

Points: 1.00

SRO

Unit 2 is operating at 100% power

A loss of EHC caused reactor pressure to spike to 1180 psig.

5 minutes later, Unit 2 plant conditions are as follows:

- All SCRAM actions are complete
- All APRMs are reading between 5 and 7 percent power
- All squib continuity lights are lit
- Suppression Pool temperature is 92 degrees F and rising slowly

Given

- T-213 INDIVIDUAL CONTROL ROD SCRAM/SOLENOID DE-ENERGIZATION
- T-215 DE-ENERGIZATION OF SCRAM SOLENOIDS
- T-216 MANUAL ISOLATION AND VENT OF SCRAM AIR HEADER
- T-217 RPS/ARI RESET AND BACKUP METHOD OF DRAINING SCRAM DISCHARGE VOLUME
- T-218 CONTROL ROD INSERTION BY WITHDRAW LINE VENTING
- T-219 MAXIMIZING CRD COOLING WATER HEADER FLOW DURING ATWS CONDITIONS

Which of the following lists the procedure to be used to insert rods, and if SBLC injection is required

Procedures to insert rods

SBLC injection required

- | | | |
|----|--|-----|
| A. | Perform T-213, T-215, T-216, and T-219 | Yes |
| B. | Perform T-213, T-215, T-216, and T-219 | No |
| C. | Perform T-217 and T-218 | No |
| D. | Perform T-217 and T-218 | Yes |

Answer: D

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

- << Incorrect examinee must determine that a SCRAM setpoint was exceeded and based on power level either RPS or ARI inserted most rods as such the SCRAM air headed is depressurized air header depressurized per T-101 RC/Q13 T-217 and T-218 are directed plausible to the examinee who does not interpret the stem as a hydraulic ATWS and either does not recall the values for note 16 reactor shutdown (IRM below range 6) or miss applies step RC/Q4
- A Incorrect examinee must determine that a SCRAM setpoint was exceeded and either RPS or ARI inserted most rods as such the SCRAM air headed is depressurized air header depressurized per T-101 RC/Q13 T-217 and T-218 are directed plausible to the examinee who does not interpret the stem as a hydraulic ATWS
- B Incorrect plausible to examinee who either does not recall the values for note 16 reactor shutdown (IRM below range 6) or miss applies step RC/Q4
- C Correct examinee must determine that a SCRAM setpoint was exceeded and based on power level either RPS or ARI inserted most rods as such the SCRAM air headed is depressurized air header depressurized per T-101 RC/Q13 T-217 and T-218 are directed and poll temperature is rising indicating a steam input to pool as such SLC is required prior to pool exceeding 110 degrees
- D

Insert control rods using one <u>OR</u> more of the following:	
Scram valves Open	Scram valves Closed
<ul style="list-style-type: none">• Vent/drain scram discharge volume (T-217)• Withdraw line vent (T-218)	<ul style="list-style-type: none">• Scram solenoids (T-215)• Air header (T-216)• Maximize CRD cooling water flow (T-219)• Individual rod scrams (T-213)

RC/Q-13

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 77 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	2
Difficulty:	3.00
System ID:	1453889
User-Defined ID:	Q# 77 NEW
Lesson Plan Objective:	LGSOPS1560.06
Topic:	SRO Rod position
RO:	4.2
SRO:	4.3
KA#:	295037 EA2.05

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

<<<<General Data			
Level	SRO		
Tier	1		
Group	1		
KA # and Rating	295037 EA2.05 4.2/4.3		
KA Statement	Ability to determine and/or interpret the following as they apply to SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN : Control rod position		
Cognitive level	higher		
Safety Function	1		
10 CFR 55	43.5		
Technical Reference with Revision No:	T-101	Rev #:	22
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
Question Source: (i.e. New, Bank, Modified)	new		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

78

ID: 1433288

Points: 1.00

SRO

The following annunciator was received in the MCR: 006-I-2-L CONT EL 254 PB WEST.

- The fire was in the static inverter room in the MCR annunciator fuse panel
- As a result of the fire MCR annunciator panel 107 REACTOR has lost power
- The CRS has entered ON-122 for the loss of annunciators

Which of the following identifies an additional procedure the CRS is required to enter and the basis for entering this procedure?

	<u>Additional Procedure entered</u>	<u>Basis for entering this procedure</u>
A.	T-101	Ensure T-290 information is available if needed
B.	T-101	Ensure ON-119 information is available if needed
C.	T-103	Ensure T-290 information is available if needed
D.	T-103	Ensure ON-119 information is available if needed

Answer: C

Answer Explanation	
A	Incorrect plausible to the examinee who recognizes annunciator panel 107 REACTOR as having SCRAM alarms along with reactor hi/lo level alarm and believes T-101 should be entered
B	Incorrect plausible to the examinee who recognizes annunciator panel 107 REACTOR as having SCRAM alarms along with reactor hi/lo level alarm and believes T-101 should be entered and recalls loss of air may cause condensate pump or reactor feed pump min flow to fail open and should enter ON-119
C	Correct since the annunciator panel that lost power has T-103 entry condition (DIV 1-4 steam leak detection) ON-122 will direct entry to T-103 for performance of T-290
D	Incorrect plausible to the examinee who recalls T-103 entry is required but incorrectly believes that since ON-119 directs ensuring SBTG starts if reactor hvac is lost, that ON-119 is the basis for entering T-103.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 78 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	4
Difficulty:	4.00
System ID:	1433288
User-Defined ID:	Q# 78 NEW
Lesson Plan Objective:	LOT1550.03
Topic:	SRO Fire protection
RO:	3.1
SRO:	3.6
KA#:	600000 AA2.17

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	SRO		
Tier	1		
Group	1		
KA # and Rating	600000 AA2.17 301/3.6		
KA Statement	Plant Fire on site Ability to determine and interpret the following as they apply to PLANT FIRE ON SITE: AA2.17 Systems that may be affected by the fire		
Cognitive level	higher		
Safety Function	8		
10 CFR 55	43.5		
Technical Reference with Revision No:	T-103 ON-122	Rev #:	2 3 2 0
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
Question Source: (i.e. New, Bank, Modified)	new		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	n/a		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)			
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

79

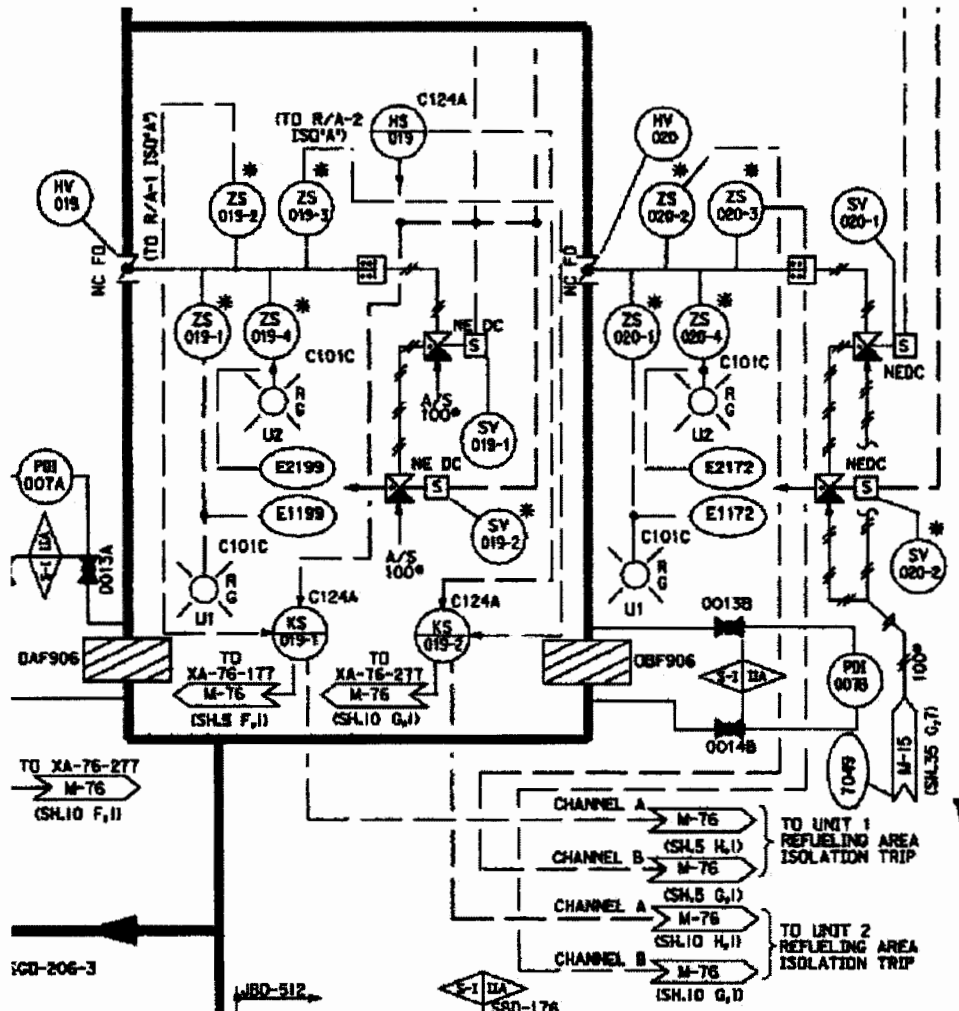
ID: 1454790

Points: 1.00

SRO

Unit 1 is in OPCIION 1

- Secondary containment is established on the refuel floor
- Irradiated fuel is being moved in the spent fuel pool
- The pressure regulator for HV-076-19 Refuel area SGTs air supply valve has a small air leak
- While the FIN team is investigating the pressure regulator becomes detached from the air line.
- The Fin team closes HV-076-19 (AS) to stop the leak.
- After the air isolation valve is closed the FIN team reports the status to the MCR.
- The RO reports that neither SBT fan is running



Given the above information, which SBT subsystems(s) is/are INOP, and What T.S. action is required?

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

INOP subsystem(s)	T.S action
-------------------	------------

- | | | |
|----|--------------|--|
| A. | Only A | Restore subsystem within 7 days,
NOT required to suspend handling of irradiated
fuel |
| B. | Both A and B | Begin a shutdown within 1 hour, AND
suspend handling of irradiated fuel |
| C. | Only A | Restore subsystem within 14 days, AND
suspend handling of irradiated fuel |
| D. | Both A and B | Restore subsystem within 2 hours, AND
suspend handling of irradiated fuel |

Answer: A

Answer Explanation

- A Correct Loss of air will cause HV-076-019 to fail open this should start A SBGT only. failure to start makes A SBGT INOP this is a 7 day LCO
- B Incorrect plausible to the examinee who does not recall or cannot determine from information provided that one valve opening does not start both trains of SBGT. T.S action would be correct if both trains were INOP
- C Incorrect A train only is correct however the T.S action is incorrect plausible to examinee who confuses SBGT T.S with CREFAS T.S
- D Incorrect only a is INOP and T.S is for one train INOP

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 79 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	4
Difficulty:	3.00
System ID:	1454790
User-Defined ID:	Q# 79 NEW
Lesson Plan Objective:	LOT0200.13
Topic:	SRO SBGT
RO:	3.1
SRO:	4.2
KA#:	295019 2.2.36

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data		
Level	SRO	
Tier	1	
Group	1	
KA # and Rating	295019 2.2.36 3.1/4.2	
KA Statement	Partial or Complete Loss of Instrument Air Ability to analyze the effect of maintenance activities, such as degraded power sources, on the status of limiting conditions for operations.	
Cognitive level	higher	
Safety Function	8	
10 CFR 55	43.2	
Technical Reference with Revision No:	M-0076 sht 5	Rev #:
Justification for Non SRO CFR Link:	N/A	
Question History: (i.e. LGS NRC-05, OYS CERT-04)	new	
Question Source: (i.e. New, Bank, Modified)	new	
Low KA Justification (if required):	n/a	
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new	
ILT		
Supplied Ref (If appropriate): (i.e. ABN-##)	none	
LORT		
PRA: (i.e. Yes or No or #)		
LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments		

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

80

ID: 1454228

Points: 1.00

SRO

Plant conditions are as follows;

- Reactor power is 38% down slow
- The RO is inserting control rods
- Reactor level is -65 inches steady per step LQ-19 of T-117
- All steps up to and including LQ-19 of T-117 are complete
- Reactor pressure is 980 psig steady
- Turbine vibration is 17 mils rising on multiple probes
- After the main turbine is tripped vibrations continue to rise rapidly and main condenser vacuum breakers are opened

Which of the choices below describe the EOP mitigation strategy related to long term Level and pressure control after the turbine trip ?

Level control

- A. Reactor Feed Pumps per S06.1.D
- B. RCIC per T-270 ONLY
- C. HPCI per T-251 and RCIC per T-270
- D. Condensate Pumps per S06.1.D

Answer: C

Answer Explanation

- A Incorrect vacuum breakers are opened this will cause a trip of the RFP on low vacuum.
- B Incorrect although RCIC will be injecting it is not sufficient to maintain level also HPCI can be used for after T-270 is complete and the SRO moves to step LQ-119 which will allow HPCI through feedwater only per T-251
- C Correct post turbine trip vacuum breakers are opened so RFP not available and cond is not available due to ATWS and pressure being maintained 990-1096 HPCI is available for level control through feedwater per T-251 and RCIC is allowed to inject per T-270
- D Incorrect although cond. pps are available with an ATWS in progress reactor pressure will not be lowered per stop sign in T-101RCP-18

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 80 Info																																																																																							
Question Type:	Multiple Choice																																																																																						
Status:	Active																																																																																						
Always select on test?	No																																																																																						
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Points:	1.00																																																																																						
Time to Complete:	3																																																																																						
Difficulty:	3.00																																																																																						
System ID:	1454228																																																																																						
User-Defined ID:	Q# 80 NEW																																																																																						
Lesson Plan Objective:	LGSOPS1560.06																																																																																						
Topic:	SRO ATWS turb trip																																																																																						
RO:	3.7																																																																																						
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Question History: (i.e. LGS NRC-05, OYS CERT-04)	new																																																																																						
Question Source: (i.e. New, Bank, Modified)	new																																																																																						
Low KA Justification (if required):	n/a																																																																																						
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new																																																																																						
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

81

ID: 1433008

Points: 1.00

SRO

A LOCA occurred on unit 1

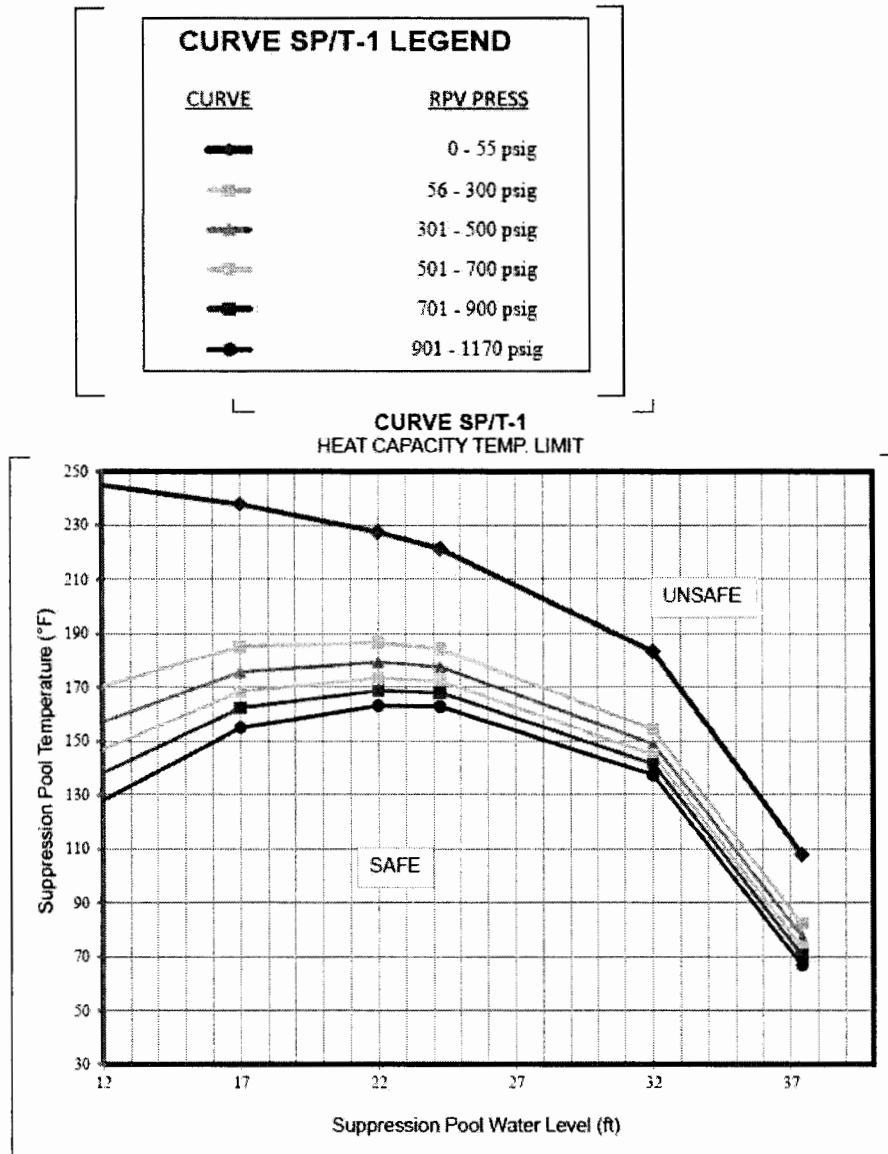
Plant conditions are as follows:

- All control rods fully inserted
- Reactor water level is - 10 inches steady
- Reactor pressure is 960 psig steady
- Suppression pool water level is 15 feet steady
- Suppression pool water temperature on SPOTMOS TI-41-101 A & B is 135° F up slow
- B RHR is in suppression pool cooling
- B RHR suction temperature is 149° F

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Given the following information:



Which of the following (1) is required to be directed by the CRS and (2) The reason for this action?

- A. (1) Depressurize the reactor to <900 psig per T-102
(2) Suppression pool temperature is approaching HCTL Limit
- B. (1) Emergency Blowdown IAW T-112
(2) HCTL is being exceeded
- C. (1) Depressurize the reactor to 750 psig per T-102
(2) HCTL is being exceeded
- D. (1) Emergency Blowdown IAW T-112
(2) Suppression pool temperature is approaching HCTL Limit

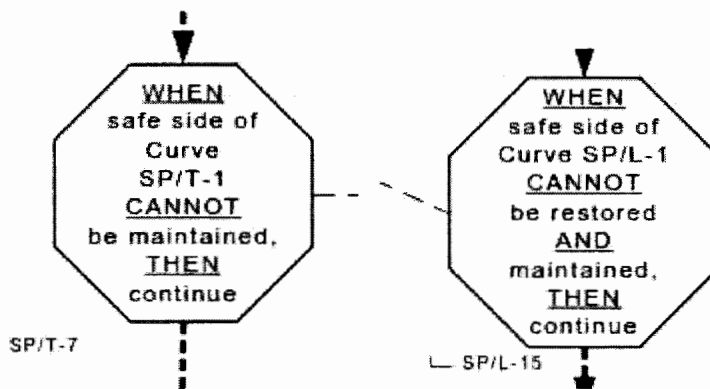
EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Answer: B

Answer Explanation

- A Incorrect**
 (1) Depressurize the reactor to 750 psig per T-102
 (2) Suppression pool temperature is approaching HCTL Limit
 HTCL is being exceeded, a blowdown is required per SP/T-7 of T-102 This action and reason are plausible to the examinee who does not recall T-102 note 2 which makes the TI-41-101A&B not usable
- B Correct**
 HTCL is being exceeded so a blowdown is required per T-112 from step SP/T-8 of T-102
- C Incorrect**
 (1) Depressurize the reactor to 750 psig per T-102
 (2) HCTL is being exceeded
 Plausible to the examinee who confuses step SP/T-7 (cannot be maintained) with steps like SP/L-15 (cannot be Restored and Maintained)
- D Incorrect**
 (1) Emergency Blowdown IAW T-112
 (2) Suppression pool temperature is approaching HCTL Limit
 Plausible to the Examinee who does not recognize that HCTL has already been exceeded and believe a blowdown is warranted prior to exceeding HCTL



#2
 SPOTMOS probes located at Supp Pool
 level of 17.8 ft. RHR suction temp
 with RHR operating below 17.8 ft is
 valid Supp Pool temp.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 81 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	3.00
System ID:	1433008
User-Defined ID:	Q# 81 NEW
Lesson Plan Objective:	LGSOPS1506.6
Topic:	SRO Pool temp
RO:	4.2
SRO:	4.2
KA#:	295026 2.4.47

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	SRO		
Tier	1		
Group	1		
KA # and Rating	295026 2.4.47 4.2/4.2		
KA Statement	Suppression Pool High Water Temperature 2.4.47 Ability to diagnose and recognize trends in an accurate and timely manner utilizing the appropriate control room reference material.		
Cognitive level	higher		
Safety Function	5		
10 CFR 55	43.5		
Technical Reference with Revision No:	T-102	Rev #:	2 5
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
Question Source: (i.e. New, Bank, Modified)	new		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	n/a		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	none		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

82

ID: 1454368

Points: 1.00

SRO

The PJM has declared **Maximum Emergency Generation ALERT**

The Load dispatcher has requested **Maximum** MWe from LGS

Unit 2 is operating with the following conditions:

- Main Generator volts: 22.9 KV
- Main Generator MW: 1243 MWe
- Main Generator VAR: 210 MVARs lagging
- Hydrogen pressure: 75 psig

The grid disturbance results in grid voltage lowering to a stable lower value.
The Main Generator voltage regulator responds as designed

Which of the following describes the action the CRS will be required to direct to both meet the Load Dispatcher request and stabilize the plant, and the basis for the action?

	<u>The action the CRS will direct</u>	<u>The basis for this action</u>
A.	Reduce power per GP-5	overheating the Main Generator stator windings
B.	Reduce power per GP-5	exceeding the Generator Under Excitation Limit
C.	Reduce vars per S32.10.C	overheating the Main Generator stator windings
D.	Reduce vars per S32.10.C	exceeding the Generator Under Excitation Limit

Answer: C

Answer Explanation

The examinee must understand that lowering grid voltage will cause vars to rise. excessive vars will lead to machine overheating. while lowering power will reduce vars it will not both comply with the LD request for max MWE and stabilize the plant.

- A Incorrect will not maintain max MWe
- B Incorrect will not maintain max MWe and under excitation would be correct if voltage was rising resulting in lowering VARS on the main generator (i.e., move down on the Generator Capability Curve).
- C correct reducing vars will reduce heat from the stator The given conditions (lowering grid voltage) will cause the generator automatic voltage regulator to attempt to raise grid voltage, causing the generator to pick up additional VARS (i.e., move up on the Generator Capability Curve). Without operator action, this would result in exceeding the generator capability curve
- D This would be true if grid voltage was rising, resulting in lowering VARS on the main generator (i.e., move down on the Generator Capability Curve).

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 82 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	3.00
System ID:	1454368
User-Defined ID:	Q# 82 NEW
Lesson Plan Objective:	LGSOPS0032.10
Topic:	SRO
RO:	3.6
SRO:	3.8
KA#:	70000 A2.10

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data		
Level	SRO	
Tier	1	
Group	1	
KA # and Rating	APE: 700000 A2.10 3.6/3.8	
KA Statement	Ability to determine and/or interpret the following as they apply to GENERATOR VOLTAGE AND ELECTRIC GRID DISTURBANCES:AA2.10 Generator overheating and the required actions	
Cognitive level	higher	
Safety Function	8	
10 CFR 55	43.5	
Technical Reference with Revision No:	S32.10C	Rev #:
Justification for Non SRO CFR Link:	n/a	
Question History: (i.e. LGS NRC-05, OYS CERT-04)	new	
Question Source: (i.e. New, Bank, Modified)	new	
Low KA Justification (if required):	n/a	
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new	
ILT		
Supplied Ref (If appropriate): (i.e. ABN-##)	none	
LORT		
PRA: (i.e. Yes or No or #)		
LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments		

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

83

ID: 1455099

Points: 1.00

SRO

Unit 1 was operating at 100% power when the following occurred

- Reactor SCRAM on HI Drywell pressure
- Drywell is currently at 12 psig
- Drywell Hydrogen concentration is 1.5%

T-102 step PC/G-5 directs assessing core damage

Which of the following describes one of the instruments to use to determine core damage and the required action to take **if** core damage is evident?

	Instrument to use	Required Action
A.	Post LOCA rad monitor	Continue in T-101 and T-102
B.	Post LOCA rad monitor	Enter SAMPS
C.	Containment leak detector	Continue in T-101 and T-102
D.	Containment leak detector	Enter SAMPS

Answer: B

Answer Explanation

- A Incorrect Samps are required to be entered if core damage is occurring. TRIP note 19 reminds the SRO of indications of core damage. one of these indications is rising containment radiation. examinee must recognize that containment leak detector is isolated plausible to the examinee who does not recall note 19 indications of core damage or the need to exit TRIPS and enter samps if core damage is occurring
- B Correct post LOCA rad monitor is functional containment leak detector is isolated and SAMPS are entered if core damage
- C Incorrect containment detector isolates at 1.68 psig drywell pressure and Samps are required to be entered if core damage is occurring. TRIP note 19 reminds the SRO of indications of core damage. one of these indications is rising containment radiation.
- D Incorrect containment leak detector isolates at 1.68 psig drywell pressure. Plausible to the examinee who does not recall that the containment leak detector isolates at 1.68 psig drywell pressure

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 83 Info																																																																																							
Question Type:	Multiple Choice																																																																																						
Status:	Active																																																																																						
Always select on test?	No																																																																																						
Authorized for practice?	No																																																																																						
Points:	1.00																																																																																						
Time to Complete:	3																																																																																						
Difficulty:	2.00																																																																																						
System ID:	1455099																																																																																						
User-Defined ID:	Q# 83 NEW																																																																																						
Lesson Plan Objective:	LGSOPS1560.6																																																																																						
Topic:	SRO DW press and rad monitoring																																																																																						
RO:	3.3																																																																																						
SRO:	3.6																																																																																						
KA#:	295010 AA2.03																																																																																						
Comments:	<table border="1"> <thead> <tr> <th colspan="4">General Data</th> </tr> </thead> <tbody> <tr> <td>Level</td> <td colspan="3">SRO</td> </tr> <tr> <td>Tier</td> <td colspan="3">1</td> </tr> <tr> <td>Group</td> <td colspan="3">2</td> </tr> <tr> <td>KA # and Rating</td> <td colspan="3">295010 AA2.03 3.3/3.6</td> </tr> <tr> <td>KA Statement</td> <td colspan="3">High Drywell Pressure Ability to determine and/or interpret the following as they apply to HIGH DRYWELL PRESSURE : Drywell radiation levels</td> </tr> <tr> <td>Cognitive level</td> <td colspan="3">lower</td> </tr> <tr> <td>Safety Function</td> <td colspan="3">5</td> </tr> <tr> <td>10 CFR 55</td> <td colspan="3">43.5</td> </tr> <tr> <td>Technical Reference with Revision No:</td> <td>T-102</td> <td>Rev #:</td> <td></td> </tr> <tr> <td>Justification for Non SRO CFR Link:</td> <td colspan="3">N/A</td> </tr> <tr> <td>Question History: (i.e. LGS NRC-05, OYS CERT-04)</td> <td colspan="3">new</td> </tr> <tr> <td>Question Source: (i.e. New, Bank, Modified)</td> <td colspan="3">new</td> </tr> <tr> <td>Low KA Justification (if required):</td> <td colspan="3">n/a</td> </tr> <tr> <td>Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)</td> <td colspan="3">new</td> </tr> <tr> <th colspan="4">ILT</th> </tr> <tr> <td>Supplied Ref (If appropriate): (i.e. ABN-##)</td> <td colspan="3">none</td> </tr> <tr> <th colspan="4">LORT</th> </tr> <tr> <td>PRA: (i.e. Yes or No or #)</td> <td colspan="3"></td> </tr> <tr> <td>LORT Question Section: (i.e. A-Systems or B-Procedures)</td> <td colspan="3"></td> </tr> <tr> <td>Comments</td> <td colspan="3"></td> </tr> </tbody> </table>			General Data				Level	SRO			Tier	1			Group	2			KA # and Rating	295010 AA2.03 3.3/3.6			KA Statement	High Drywell Pressure Ability to determine and/or interpret the following as they apply to HIGH DRYWELL PRESSURE : Drywell radiation levels			Cognitive level	lower			Safety Function	5			10 CFR 55	43.5			Technical Reference with Revision No:	T-102	Rev #:		Justification for Non SRO CFR Link:	N/A			Question History: (i.e. LGS NRC-05, OYS CERT-04)	new			Question Source: (i.e. New, Bank, Modified)	new			Low KA Justification (if required):	n/a			Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new			ILT				Supplied Ref (If appropriate): (i.e. ABN-##)	none			LORT				PRA: (i.e. Yes or No or #)				LORT Question Section: (i.e. A-Systems or B-Procedures)				Comments			
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

84

ID: 1455896

Points: 1.00

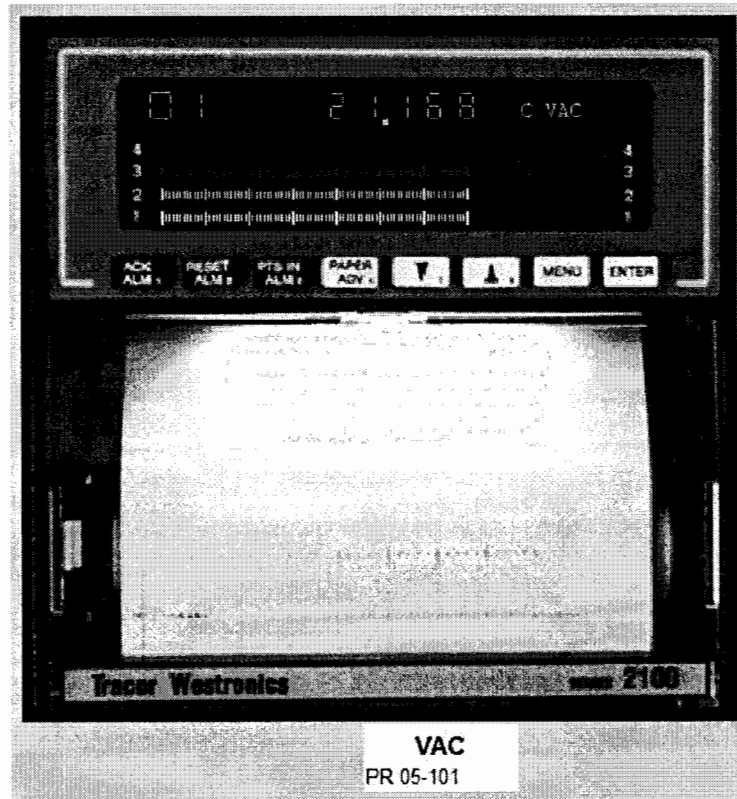
SRO

Unit 1 was is at 100% power when a large condenser vacuum leak developed.

Power has been reduced to 70% with condenser vacuum continuing to lower.

Off gas flow has risen from 20 SCFM to 75 SCFM

Current condenser vacuum is as indicated below.



Based on the given plant conditions WHICH ONE of the following identifies the OT-116 "Loss of Condenser Vacuum" Immediate action required to be directed and follow up procedure to direct?

	<u>Immediate Action required</u>	<u>Follow up procedure to direct</u>
A.	Manually TRIP Main Turbine	MA-AA-716-050-1000, Condenser Air In-leakage Testing Guide And Limits
B.	Manually TRIP Main Turbine	ON-103 Control of sustained combustion in the off gas system
C.	Perform a GP-4 "Rapid Plant Shutdown" followed by Manual TRIP of the Main Turbine	MA-AA-716-050-1000, Condenser Air In-leakage Testing Guide And Limits
D.	Perform a GP-4 "Rapid Plant Shutdown" followed by Manual TRIP of the Main Turbine	ON-103 Control of sustained combustion in the off gas system

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Answer: A

Answer Explanation

From the stem of the question the student identifies that all 3 condenser vacuum values are about the same (bar graphs) and that the C condenser value is reading less than 21.5" Hg (the C condenser is the Low Pressure Condenser and normally has the best (highest value) vacuum. Based on this information the Main Turbine should have tripped on Low Vacuum (set point of 21.5" Hg) OT-116 Attachment 1 step 1:

1. **IF** condenser vacuum reaches 21.5" Hg Vac. as confirmed by Control Room instrumentation,
THEN manually **TRIP** Main Turbine.

Additionally, the Bases of OT-116 states

6.1 If Condenser vacuum drops to the Main Turbine trip setpoint, the operator is directed to manually trip the turbine. This action is specified to ensure Main Turbine operation is suspended for Condenser vacuum conditions less than the automatic trip setpoint value. This will minimize the potential for Condenser/Turbine exhaust hood over pressurization and resultant rupture of the diaphragms on each Condenser shell. It should be noted that a Main Turbine trip at Reactor powers above the Turbine Trip Scram bypass setpoint (nominal 29.5% rated thermal power) will result in a Reactor scram. This protective action is expected and should not limit the operator's actions in tripping the Main Turbine.

This acknowledges that the priority is to trip the turbine and that a reactor scram should be expected if power is above 29.5%.

- A Correct as described above MA-AA-716-050-1000 is directed from OT-116 as a follow up action
- B Wrong - Plausible if the student confuses the bases for breaking condenser vacuum on loss of sealing steam with the bases for tripping the Main Turbine on low condenser vacuum. From the stem off gas flow increases from 20 to 75 SCFM, symptoms for ON-103 Control of sustained combustion in the off gas system include a sudden change in off gas system flows, although this is one symptom and ON-103 is directed from OT-116 if indications of combustion exist in the off gas system the SRO must determine that the increase in flow is the result of a leak and not combustion
- C Wrong - Plausible if the student does not recognize that condenser vacuum is below the Turbine trip setpoint (21.5" Hg) and applies normal step OT-116 step 3.4 actions to perform a GP-4 shutdown.
- D Wrong - Plausible if the student does not recognize that condenser vacuum is below the Turbine trip setpoint (21.5" Hg) and applies normal step OT-116 step 3.4 actions to perform a GP-4 shutdown and if the student confuses the bases for breaking condenser vacuum on loss of sealing steam with the bases for tripping the Main Turbine on low condenser vacuum. From the stem off gas flow increases from 20 to 75 SCFM, symptoms for ON-103 Control of sustained combustion in the off gas system include a sudden change in off gas system flows, although this is one symptom and ON-103 is directed from OT-116 if indications of combustion exist in the off gas system the SRO must determine that the increase in flow is the result of a leak and not combustion

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 84 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	4.00
System ID:	1455896
User-Defined ID:	Q# 84 NEW
Lesson Plan Objective:	LGSOPS1540.5 (OT-116)
Topic:	SRO- Loss of Condenser VAC
RO:	
SRO:	4.4
KA#:	295002 2.4.49

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	SRO		
Tier	1		
Group	2		
KA # and Rating	295002 2.4.49 SRO 4.4		
KA Statement	APE: 295002 Loss of Main Condenser Vacuum 2.4.49 Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.		
Cognitive level	High		
Safety Function	3 - Reactor Pressure Control		
10 CFR 55	43.5		
Technical Reference with Revision No:	OT-116	Rev #:	3 8
Justification for Non SRO CFR Link:	N/A		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	New		
Question Source: (i.e. New, Bank, Modified)	New		
Low KA Justification (if required):			
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)			
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	None		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

85

ID: 1455121

Points: 1.00

SRO

An emergency has been declared due to a steam leak in the Unit 2 Reactor Enclosure. The following alarms are in:

- SOUTH STACK HI RAD
- SOUTH STACK HI HI RAD

Unit 2 reactor enclosure HVAC rad monitors read as follows

- Unit 2 RE Exhaust Rad
 - RRSH-26-2R605A = 1.5 mR/hr
 - RRSH-26-2R605B = 1.4 mR/hr
 - RRSH-26-2R605C = 1.3 mR/hr
 - RRSH-26-2R605D = 1.5 mR/hr

All available methods to isolate the leak have been attempted without success.

The following MCR radiological effluents indications exist:

- WIDE RANGE MONITOR RE26076-4 = 2.224E+02 $\mu\text{Ci/Sec}$
- WIDE RANGE MONITOR RE26076-2 = 1.136E-06 $\mu\text{Ci/cc}$
- NORTH STACK VENT RE26075A-1 = 2.992E-10 $\mu\text{Ci/cc}$
- NORTH STACK VENT RE26075B-1 = 2.927E-10 $\mu\text{Ci/cc}$
- SOUTH STACK VENT RE26285A-3 = 4.584E-04 $\mu\text{Ci/cc}$
- SOUTH STACK VENT RE26285B-3 = 4.182E-04 $\mu\text{Ci/cc}$

Table R1 – Effluent Monitor Thresholds				
	General Emergency	Site Area Emergency	Alert	Unusual Event
North Stack	1.92 E+08 $\mu\text{Ci/sec}$	1.92 E+07 $\mu\text{Ci/sec}$	1.92 E+06 $\mu\text{Ci/sec}$	2.20 E+04 $\mu\text{Ci/sec}$
	(WR Monitor: RIX-26-076-4)			
South Stack	2.71 E-01 $\mu\text{Ci/cc}$	2.71 E-02 $\mu\text{Ci/cc}$	2.71 E-03 $\mu\text{Ci/cc}$	3.09 E-05 $\mu\text{Ci/cc}$
	(Unit 1: RY26-185A-3 / RY26-185B-3 or Unit 2 RY26-285A-3 / RY26-285B-3)			

WHICH ONE of the following identifies the **CURRENT** source of the offsite release and the required procedure action?

- A. North Stack
Perform ST-6-104-880-0, Gaseous Effluent Dose Rate Determination
- B. North Stack
Enter and execute T-104 Radiological Release
- C. South Stack
Enter and execute T-104 Radiological Release
- D. South Stack
Perform ST-6-104-880-0, Gaseous Effluent Dose Rate Determination

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Answer: A

Answer Explanation		
	ANSWER	North Stack, Perform ST-6-104-880-0, Gaseous Effluent Dose Rate Determination: Correct. With Reactor Enclosure Exhaust Rad greater than 1.35 mR/hr, a Secondary Containment Isolation will occur and the release will continue through Standby Gas which discharges through the North Stack. With SOUTH STACK HI HI RAD in alarm, the ARC directs performance of ST-6-104-880-0. The Unit 2 South Stack Noble Gas channel is below the ALERT threshold of table R-1, therefore meeting T-104 entry is not required.
	DISTRACTOR	North Stack, Enter and execute T-104 Radiological Release: Incorrect, Release point correct but the ALERT limit has not been exceeded for entry into T-104. Plausible to the examinee who does not recall the T-104 entry (alert rad level)
	DISTRACTOR	South Stack, Enter and execute T-104 Radiological Release: Incorrect, the release rates are below any of the EAL thresholds and T-104 entry is not required since no ALERT thresholds have been met for release rates. Also, the South Stack release will stop following a Secondary Containment isolation signal. Plausible to the examinee who does not recognize that the unit 2 reactor hvac has isolated and does not recall the T-104 entry (alert rad level)
	DISTRACTOR	South Stack, Perform ST-6-104-880-0, Gaseous Effluent Dose Rate Determination: Incorrect, the South Stack release will stop following a Secondary Containment isolation signal. Plausible to the examinee who does not recognize that the unit 2 reactor hvac has isolated

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 85 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	4
Difficulty:	2.50
System ID:	1455121
User-Defined ID:	Q# 85 BANK
Lesson Plan Objective:	LLOT1790.4
Topic:	(SRO) Assess Rad Effleunt EAL Table to determine release point and required action
RO:	3.6
SRO:	4.3
KA#:	295017 AA2.04

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	SRO		
Tier	1		
Group	2		
KA # and Rating	295017 AA2.04 3.6/4.3		
KA Statement	High Off-Site Release Rate Ability to determine and/or interpret the following as they apply to HIGH OFF-SITE RELEASE RATE : †Source of off-site release		
Cognitive level	higher		
Safety Function	9		
10 CFR 55	43.5		
Technical Reference with Revision No:	T-104 EP-AA-1008 addendu 3	Re v #:	13 2
Justification for Non SRO CFR Link:	n/a		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	2012 Cert Exam 1006662 2010 NRC exam		
Question Source: (i.e. New, Bank, Modified)	2012 Cert Exam 1006662 2010 NRC exam		
Low KA Justification (if required):	n/a		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	2012 Cert Exam 1006662 2010 NRC exam		
ILT			
Supplied Ref (If appropriate): (i.e. ABN-#)	None		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments	also 295038EA2.04 4.1/4.5		

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

86

ID: 1659209

Points: 1.00

Unit 1 is operating at 100% power when the following occurs;

T=10:00

- the following alarms come in
 - Unit 1 SERVICE WATER HI RADIATION alarm 109-A1
 - Unit 1 SERVICE WATER HI HI RADIATION alarm 109-A2
 - Unit 1 REAC ENCL COOLING WATER HI RADIATION alarm 109 B1

T= 10:15

- Chemistry reports the service water alarms are valid with the following readings
 - 6 times normal full power background (NFPB)

T= 11:17

- Chemistry reports the following service water rad monitor readings
 - 6.2 times normal full power background (NFPB)
- Chemistry reports that an analysis of the effluent shows a dose of 3 mrem TEDE for 60 minutes of exposure

Which of the following describes the actions to be directed to reduce the radioactive input to service water, and the required EAL declaration if any?

- RECW reactor enclosure cooling water
- RWCU reactor water cleanup

	Action to isolate	EAL declaration
A.	Isolate the in-service RWCU regen heat exchanger	Unusual Event
B.	Isolate the in-service RWCU regen heat exchanger	Alert
C.	Isolate the in-service RECW heat exchanger	Unusual Event
D.	Isolate the in-service RECW heat exchanger	ALERT

Answer: C

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

A incorrect although RWCU is the most probable cause for RECW hi rad, the regen HTX is not cooled by RECW and there are other possibilities (RWCU pp, recirc seal) plausible to the examinee who confuses RWCU regen and non-regen heat exchangers and believe isolating RWCU will reduce the radioactive input to RECW

B Incorrect although RWCU is the most probable cause for RECW hi rad, the regen HTX is not cooled by RECW and there are other possibilities (RWCU pp, recirc seal) plausible to the examinee who confuses RWCU regen and non-regen heat exchangers and believe isolating RWCU will reduce the radioactive input to RECW
ALERT is not reached until 10 mRem TEDE

C correct candidate determine SW hi rad is a result of the RECW hi rad and correctly recalls S10.0. A step 4.7 isolate RECW heat exchanger and correctly determines UE for effluent monitor >2 times alarm value

D incorrect plausible to examinee who miss uses EAL matrix and concludes 3 mRem TEDE is within the ALERT range

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 86 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	2
Difficulty:	3.00
System ID:	1659209
User-Defined ID:	Q# 86 NEW
Lesson Plan Objective:	LOT1710.08
Topic:	SW rad
RO:	2.9
SRO:	3.0
KA#:	400000 A2.04

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data	
Level	SRO
Tier	2
Group	1
KA # and Rating	400000 A2.04 2.9/3.0
KA Statement	Component cooling water system (CCWS) Ability to (a) predict the impacts of the following on the CCWS and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation: Radiation monitoring system alarm
Cognitive level	Higher
Safety Function	8
10 CFR 55	43. 4, 5
Technical Reference with Revision No:	S13.0.B Rev #: <input type="text"/>
Justification for Non SRO CFR Link:	n/a
Question History: (i.e. LGS NRC-05, OYS CERT-04)	New
Question Source: (i.e. New, Bank, Modified)	New
Low KA Justification (if required):	n/a
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	n/a
ILT	
Supplied Ref (If appropriate): (i.e. ABN-##)	NONE
LORT	
PRA: (i.e. Yes or No or #)	
LORT Question Section: (i.e, A-Systems or B-Procedures)	
Comments	

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

87

ID: 1455692

Points: 1.00

SRO

Unit 2 is operating at 100% power when the following alarms are received simultaneously:

- ARC-MCR-207 B2, SRV ACOUSTIC MONITOR POWER LOSS OR CABLE FAULT
- ARC-MCR-207 A5, OPRM/APRM TROUBLE
- ARC-MCR-207 D4, RBM DOWNSCALE/TROUBLE
- ARC-MCR-210 B2, SAFETY RELIEF VALVE OPEN
- ARC-MCR-221 F5, 2A APRM UPS INVERTER TROUBLE
- No other alarms were received

Given the above annunciators, what is the appropriate event procedure required to be entered and an appropriate initial action to direct?

	<u>Event procedure required to be entered</u>	<u>Initial Action to direct</u>
A.	E-2AY185	Insert an "A" side manual scram per OT-117 if "A" RPS is energized
B.	E-2AY185	Bypass isolations to restore RECW to Recirc Pump Seals per GP-8.5
C.	E-2AY160	Insert an "A" side manual scram per OT-117 if "A" RPS is energized
D.	E-2AY160	Bypass isolations to restore RECW to Recirc Pump Seals per GP-8.5

Answer: A

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

The listed annunciators are expected for a loss of 2A-Y185 2A APRM UPS Power. Upon a loss of 2A-Y185 the appropriate Event procedure to enter is E-2AY185. Initial Action in step 2.3 states:

- ARC-MCR-208, A1, "NEUTRON MONITORING SYSTEM TRIP"
- ARC-MCR-208, B1, "AUTO SCRAM CHANNEL A1"
- ARC-MCR-208, B2, "AUTO SCRAM CHANNEL A2"

Alarms should have come in along with the alarms listed in the stem

2.3 IF "A" RPS fails to actuate a HALF SCRAM condition THEN ENTER OT-117 "RPS Failures" AND EXECUTE concurrently.

Loss of power to 2AY185 will cause a loss of power to APRM voter units 1 and 3 causing a half scram

Within OT-117, if there is a failure to half scram, step 3.2.1 directs inserting a manual half scram on the affected RPS side

For the given conditions, there is no concern with RECW as it would not have received an isolation signal.

- A Correct for the above reasons
- B Wrong - Plausible if the student confuses the expected plant response on the loss of 2A-Y185 and believes that an RECW NSSSS Isolation occurred
- C Wrong - Plausible if the student mis-diagnoses the annunciators and determines that there has been a loss of 2A-Y160
- D Wrong - Plausible if the student mis-diagnoses the annunciators and determines that there has been a loss of 2A-Y160

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 87 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	3.00
System ID:	1455692
User-Defined ID:	Q #87 NEW
Lesson Plan Objective:	LGSOPS0074A.11
Topic:	SRO - Impact of Power supply degraded in APRM/LPRM System
RO:	2.7
SRO:	3.1
KA#:	215005 A2.01

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	RO		
Tier	2		
Group	1		
KA # and Rating	215005 A2.01 RO 2.7 SRO 3.1		
KA Statement	215005 Average Power Range Monitor/Local Power Range Monitor A2. Ability to (a) predict the impacts of the following on the AVERAGE POWER RANGE MONITOR/LOCAL POWER RANGE MONITOR SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: A2.01 Power supply degraded		
Cognitive level	High		
Safety Function	7 - Instrumentation		
10 CFR 55	41.5		
Technical Reference with Revision No:	E-2AY185 LLOT0071	Rev #:	0 0 1 2
Justification for Non SRO CFR Link:	N/A		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	New		
Question Source: (i.e. New, Bank, Modified)	New		
Low KA Justification (if required):	N/A		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)			
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	None		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

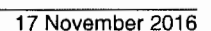
EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

ILT 15-01 January 2017 NRC test

Points: 1.00

- The indicated 300-amp fuse blows (no apparent reason)



EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Answer: B

Answer Explanation

Provide References: U1 Tech Spec 3.8.2.1, 3.8.3.1

Examinee is expected to recognize that this fuse is the ONLY electrical device that connects the 1D Battery to its 125 VDC bus, and that the fuse is inside the associated Fuse Box (in this case, Fuse Box 1FD). While this Fuse Box is explicitly mentioned ONLY in Tech Spec 3.8.3.1 (AC/DC Distribution), specifically, 3.8.3.1.b.4, that LCO does NOT apply here. This is evident by looking at ACTION 3.8.3.1.b, which provides ACTION in the case where this part of the DC Distribution system is "de-energized." This is NOT the case in this scenario because the Charger is still working to keep the 125 VDC bus energized, and so too the associated Distribution Panels (1PPD1, 2, and 3).

As such, it is Tech Spec 3.8.2.1 (DC Sources - Operating), specifically ACTION 'c' that applies...translated: Restore the Div IV battery (i.e., replace the fuse) to OPERABLE status within 2 hours. Otherwise, be in at least HOT SHUTDOWN within 12 hours....etc.

From LGS UFSAR section 8.3.2.1.1.2 Class 1E Batteries

Each Class 1E battery bank is sized to have sufficient capacity without its charger to independently supply the large break LOOP/LOCA load profile for **4** hours.

- A Wrong - Plausible to the student that mistakenly applies the 1 hour duration associated with establishing an alternate AC Source described in SE-1 "Loss of all AC Power (Station Blackout)" Bases coping time from the Station Blackout Analysis.
- B Correct for the above reasons
- C Wrong - Plausible to the student that mistakenly evaluates the P&ID and determines that some of the DC system is de-energized and applies Tech Spec 3.8.3.1. And if the student mistakenly applies the 1 hour duration associated with establishing an alternate AC Source described in SE-1 "Loss of all AC Power (Station Blackout)" Bases coping time from the Station Blackout Analysis.
- D Wrong - Plausible to the student that mistakenly evaluates the P&ID and determines that some of the DC system is de-energized and applies Tech Spec 3.8.3.1.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 88 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	5
Difficulty:	2.00
System ID:	1455679
User-Defined ID:	Q# 88 NEW
Lesson Plan Objective:	LGSOPS0095.9A
Topic:	(SRO ONLY) - Tech Spec - Determine Action for Blown Battery fuse
RO:	3.9
SRO:	4.0
KA#:	263000 G2.1.27

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	1248501			
	General Data			
	Level	SRO		
	Tier	3		
	Group	N/A		
	KA # and Rating	263000 G2.1.27 RO-3.9 SRO - 4.0		
	KA Statement	263000 D.C. Electrical Distribution 2.1.27 Knowledge of system purpose and/or function		
	Cognitive level	High		
	Safety Function	6 - Electrical		
	10 CFR 55	55.43 (2) Facility operating limitations in the technical specification and their bases		
	Technical Reference with Revision No:	Tech Spec 3.8.2.1 Tech Spec 3.8.3.1 UFSAR 8.3.2.1.1.2	Rev #:	
	Justification for Non SRO CFR Link:			
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	New		
	Question Source: (i.e. New, Bank, Modified)	New - used 1248501 for first half of question		
	Low KA Justification (if required):			
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)			
	ILT			
	Supplied Ref (If appropriate): (i.e. ABN-##)	Tech Spec 3.8.2.1 Tech Spec 3.8.3.1		
	LORT			
	PRA: (i.e. Yes or No or #)			
	LORT Question Section: (i.e, A-Systems or B-Procedures)			
	Comments			
		1248501		

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

89

ID: 1455217

Points: 1.00

SRO

Unit 1 is in OPCON 2 with reactor startup in progress.

All IRM's are on Range 6 and reading as follows:

- "A" 22 / 125
- "B" 52 / 125
- "C" 48 / 125
- "D" 24 / 125
- "E" 52 / 125
- "F" 53 / 125
- "G" 33 / 125
- "H" 31 / 125

- The RO ranges up IRMs B,C,G, and H to range 7 and
- The A,D,E and F IRMs are inadvertently ranged up to range 8 and the RO continues to pull control rods.

WHICH of the following identifies the required T.S actions?

- A. Declare the A AND C IRM INOP, place an A side Half SCRAM in within 12 hours
- B. Declare the A, C and D IRM Rod Block function INOP, place a ROD BLOCK in within 12 hours
- C. Declare the A AND D IRM INOP, Startup may continue
- D. Declare the A, and D IRM Rod Block function INOP, place a ROD BLOCK in within 1 hour

Answer: C

Answer Explanation

Ranging from 6 to 7 will divide all readings by 3.16. A,D,E,F are ranged to 8 which will divide the reading by 3.16 again which will result in A and D IRM reading less than 3/125ths of scale which will result in a rod block. operators continue to pull control rods rod block must have not come in. Since only 6 IRMs are required for both RPS and Rod Block 1 IRM may be bypassed on each side. A and D IRM may be bypassed and startup may continue.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 89 Info																																											
Question Type:	Multiple Choice																																										
Status:	Active																																										
Always select on test?	No																																										
Authorized for practice?	No																																										
Points:	1.00																																										
Time to Complete:	3																																										
Difficulty:	3.00																																										
System ID:	1455217																																										
User-Defined ID:	Q# 89 NEW																																										
Lesson Plan Objective:	LGSOPS0074.24A																																										
Topic:	SRO Unit 1 is in OPCON 2 with reactor startup in progress. All IRMs are on Range 6 and reading																																										
RO:	3.4																																										
SRO:	4.7																																										
KA#:	215003 2.2.40																																										
Comments:	<table border="1"> <thead> <tr> <th colspan="2">General Data</th> </tr> </thead> <tbody> <tr> <td>Level</td> <td>SRO</td> </tr> <tr> <td>Tier</td> <td>2</td> </tr> <tr> <td>Group</td> <td>1</td> </tr> <tr> <td>KA # and Rating</td> <td>215003 2.2.40 3.4/4.7</td> </tr> <tr> <td>KA Statement</td> <td>Ability to apply Technical Specifications for a system.</td> </tr> <tr> <td>Cognitive level</td> <td>higher</td> </tr> <tr> <td>Safety Function</td> <td>7</td> </tr> <tr> <td>10 CFR 55</td> <td>43.2</td> </tr> <tr> <td>Technical Reference with Revision No:</td> <td>Rev #:</td> </tr> <tr> <td>Justification for Non SRO CFR Link:</td> <td>n/a</td> </tr> <tr> <td>Question History: (i.e. LGS NRC-05, OYS CERT-04)</td> <td>new</td> </tr> <tr> <td>Question Source: (i.e. New, Bank, Modified)</td> <td>new</td> </tr> <tr> <td>Low KA Justification (if required):</td> <td>n/a</td> </tr> <tr> <td>Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)</td> <td>new</td> </tr> <tr> <th colspan="2">ILT</th> </tr> <tr> <td>Supplied Ref (If appropriate): (i.e. ABN-##)</td> <td>none</td> </tr> <tr> <th colspan="2">LGS</th> </tr> <tr> <td>PRA: (i.e. Yes or No or #)</td> <td></td> </tr> <tr> <td>LORT Question Section: (i.e, A-Systems or B-Procedures)</td> <td></td> </tr> <tr> <td>Comments</td> <td></td> </tr> </tbody> </table>	General Data		Level	SRO	Tier	2	Group	1	KA # and Rating	215003 2.2.40 3.4/4.7	KA Statement	Ability to apply Technical Specifications for a system.	Cognitive level	higher	Safety Function	7	10 CFR 55	43.2	Technical Reference with Revision No:	Rev #:	Justification for Non SRO CFR Link:	n/a	Question History: (i.e. LGS NRC-05, OYS CERT-04)	new	Question Source: (i.e. New, Bank, Modified)	new	Low KA Justification (if required):	n/a	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new	ILT		Supplied Ref (If appropriate): (i.e. ABN-##)	none	LGS		PRA: (i.e. Yes or No or #)		LORT Question Section: (i.e, A-Systems or B-Procedures)		Comments	
General Data																																											
Level	SRO																																										
Tier	2																																										
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10 CFR 55	43.2																																										
Technical Reference with Revision No:	Rev #:																																										
Justification for Non SRO CFR Link:	n/a																																										
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Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new																																										
ILT																																											
Supplied Ref (If appropriate): (i.e. ABN-##)	none																																										
LGS																																											
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LORT Question Section: (i.e, A-Systems or B-Procedures)																																											
Comments																																											

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

90

ID: 1454750

Points: 1.00

SRO

A turbine trip with failure of bypass valves to open occurred on unit 1. After the event the plant is being prepared for startup.

Engineering reports the SRV's lifted at the following pressures during the transient.

SRV	Lift set point	Lifted at		SRV	Lift set point	Lifted at		SRV	Lift set point	Lifted at
H	1170	1175		D	1180	1180		A	1190	1190
J	1170	1160		E	1180	1218		B	1190	1188
L	1170	1159		K	1180	1181		C	1190	1190
N	1170	1133		M	1180	1183		F	1190	1153
				S	1180	1190		G	1190	1230

Maintenance reports the following spare SRV's are available on site

3 SRV's with a lift set point of 1170

Procurement reports that it will take greater than 2 weeks to secure additional SRV's

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

REACTOR COOLANT SYSTEM

3/4.4.2 SAFETY/RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.4.2 The safety valve function of at least 12 of the following reactor coolant system safety/relief valves shall be OPERABLE with the specified code safety valve function lift settings: *#

- 4 safety/relief valves @ 1170 psig $\pm 3\%$
- 5 safety/relief valves @ 1180 psig $\pm 3\%$
- 5 safety/relief valves @ 1190 psig $\pm 3\%$

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

- a. With the safety valve function of one or more of the above required safety/relief valves inoperable, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
- b. DELETED
- c. DELETED

SURVEILLANCE REQUIREMENTS

4.4.2.1 DELETED

4.4.2.2 At least 1/2 of the safety relief valves shall be removed, set pressure tested and reinstalled or replaced with spares that have been previously set pressure tested and stored in accordance with manufacturer's recommendations in accordance with the Surveillance Frequency Control Program, and they shall be rotated such that all 14 safety relief valves are removed, set pressure tested and reinstalled or replaced with spares that have been previously set pressure tested and stored in accordance with manufacturer's recommendations in accordance with the Surveillance Frequency Control Program. All safety valves will be recertification tested to meet a $\pm 1\%$ tolerance prior to returning the valves to service.

* The lift setting pressure shall correspond to ambient conditions of the valves at nominal operating temperatures and pressures.

Up to 2 inoperable valves may be replaced with spare OPERABLE valves with lower setpoints until the next refueling.

Which one of the following describes the earliest the mode switch may be placed in startup?

- A. After SRV replacement with onsite spare SRV's, a risk assessment **IS NOT** required
- B. After SRV replacement with onsite spare SRV's, a risk assessment **IS** required
- C. **Only** after procurement of an additional SRV with a lift set point of 1180
- D. **Only** after procurement of 2 additional SRV's with a lift set point of 1190

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Answer: A

Answer Explanation

Per T.S 3.4.2 SRV set point acceptable tolerance is +/- 3% examinee must determine that N,E,F,& G are outside of 3% and inoperable

Per T.S 3.4.2 only 12 of 14 are required

Per the # note up to 2 SRV's may be replaced with lower set point SRV until the next refuel outage

SRO must recall TS 3.0.4.b requirements for when a risk assessment is required without reference

- A Correct replacing the N SRV and any 2 other SRV's will meet the requirements of T.S 3.4.2 using # note up to 2 SRV's may be replaced with lower set point SRV until the next refuel outage
- B Incorrect plausible to the examinee who does not recognize the # note and believe that using lower setpoint SRV could be used with a risk assessment
- C Incorrect plausible to the examinee who does not apply note # but does recognize that only 12 SRV's are needed
- D Incorrect plausible to the examinee who does apply the note # but does recognize that only 12 SRV's are required

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 90 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	4
Difficulty:	4.00
System ID:	1454750
User-Defined ID:	Q# 90 NEW
Lesson Plan Objective:	LGSOPS1800.5B
Topic:	SRO SRV hi rector pressure
RO:	4.1
SRO:	4.3
KA#:	239002 A2.06

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data			
	Level	SRO		
	Tier	2		
	Group	1		
	KA # and Rating	239002 A2.06 4.1/4.3		
	KA Statement	Relief/Safety Valves Ability to (a) predict the impacts of the following on the RELIEF/SAFETY VALVES ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Reactor high pressure		
	Cognitive level	higher		
	Safety Function	3		
	10 CFR 55	43.2		
	Technical Reference with Revision No:	T.S 3.4.2	Rev #:	186
	Justification for Non SRO CFR Link:	n/a		
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	new		
	Question Source: (i.e. New, Bank, Modified)	new		
	Low KA Justification (if required):	n/a		
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	new		
	Supplied Ref (If appropriate): (i.e. ABN-##)			
	T.S 3.4.2 imbedded			
	PRA: (i.e. Yes or No or #)			
	LORT Question Section: (i.e. A-Systems or B-Procedures)			
	Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

91

ID: 1453648

Points: 1.00

SRO ONLY

Unit 2 is operating at 100% power.

Multiple cell failures on the 'A' ASD results in the following Recirc indications:

	<u>'A' Recirc</u>	<u>'B' Recirc</u>
Loop Flow	28 Mlbm/hr	45 Mlbm/hr

WHICH ONE of the following identifies the HIGHEST value that 'B' Recirc loop must be lowered to which will satisfy Tech Specs and the Basis for the Tech Spec Recirc flow mismatch limitations? (Assume 'A' flow remains constant)

	<u>HIGHEST 'B' Recirc flow value that will satisfy Tech Specs</u>	<u>Basis for Tech Spec Recirc flow mismatch limitations</u>
A.	39.5 Mlbm/hr	Prevents undue stress on the vessel nozzles and bottom head region
B.	37.5 Mlbm/hr	Prevents undue stress on the vessel nozzles and bottom head region
C.	39.5 Mlbm/hr	Ensure an adequate core flow coastdown from either recirc loop following a LOCA
D.	37.5 Mlbm/hr	Ensure an adequate core flow coastdown from either recirc loop following a LOCA

Answer: D

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

D: 37.5 Mlbm/hr, Ensure an adequate core flow coastdown from either recirc loop

following a LOCA is correct. Refer to Tech Spec 3.4.1.3 action a which states "Recirculation loop flow mismatch shall be maintained: a. Within 5% of each other with core flow greater than or equal to 70% of rated core flow, or b. within 10% of each other with core flow less than 70% of rated core flow. From the daily ST, ST-6-107-590-2, Note 1 on page 85, (Rev. 134) states "If core flow < 70%, THEN VERIFY DIFFERENCE \leq 10 Mlbm/hr OR IF \geq 70%, THEN VERIFY DIFFERENCE \leq 5Mlbm/hr. Therefore, when 'B' Recirc flow is reduced to 37.5 Mlbm/hr, total core flow will be less than 70% and the 10 Mlbm/hr flow mismatch requirement will be met.

A: 39.5 Mlbm/hr, Prevents undue stress on the vessel nozzles and bottom head region

is incorrect. This reduction is insufficient to meet the required 10% flow mismatch (mismatch at 39.5 Mlbm/hr is 11.5%) The basis of the flow mismatch Tech Spec is wrong but plausible due to it actually being the basis for recirc loop temperature difference prior to a start of an idle recirc pump.

B: 37.5 Mlbm/hr, Prevents undue stress on the vessel nozzles and bottom head region

is incorrect. The basis of the flow mismatch Tech Spec is wrong but plausible due to it actually being the basis for recirc loop temperature difference prior to a start of an idle recirc pump.

C: 39.5 Mlbm/hr, Ensure an adequate core flow cooldown from either recirc loop following

a LOCA is incorrect. This reduction is insufficient to meet the required 10% flow mismatch (mismatch at 39.5 Mlbm/hr is 11.5%)

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 91 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	4
Difficulty:	3.00
System ID:	1453648
User-Defined ID:	Q# 91 BANK
Lesson Plan Objective:	LGSOPS1800.5B
Topic:	(SRO) Recall Tech Spec 3.4.1.3 SR requirements for Recirc Flow mismatch
RO:	3.0
SRO:	3.2
KA#:	202002 A2.04

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	SRO	
	Tier	2	
	Group	2	
	KA # and Rating	202002 A2.04 3.0/3.2	
	KA Statement	Ability to (a) predict the impacts of the following on the RECIRCULATION FLOW CONTROL SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Recirculation pump speed mismatch between loops: Plant-Specific	
	Cognitive level	higher	
	Safety Function	1	
	10 CFR 55	43.2	
	Technical Reference with Revision No:	Tech spec 3.4.1.3 and bases	Rev #:
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	bank	
	Question Source: (i.e. New, Bank, Modified)	Modified	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)	modified after 2015 cert	
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
	PRA: (i.e. Yes or No or #)		
	LORT Question Section: (i.e. A-Systems or B-Procedures)		
Comments	Also 295001 2.2.12 3.7/4.1		

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

92

ID: 1454490

Points: 1.00

SRO

Unit 1 is operating at 100% power when a LOCA occurs
Plant conditions are as follows;

- Drywell pressure is 14 psig
- Drywell temperature is 248 degrees
- Reactor level is -140 inches up slow with HPCI
- Suppression pool level is 42 feet
- D12 bus lockout occurs
- D13 load center breaker trips and cannot be reclosed

Which of the following describes (1) the T-225 action to be taken by the CRS and (2) where this action is completed from

- A. (1) Spray the Drywell
(2) MCR only
- B. (1) Spray the Suppression Pool
(2) MCR only
- C. (1) Spray the Drywell
(2) MCR and locally at the RHR heat exchanger
- D. (1) Spray the Suppression Pool
(2) MCR and locally at the RHR heat exchanger

Answer: D

Answer Explanation

- A Incorrect plausible to examinee who does not diagnose >37.4 drywell spray is prohibited per PC/P-10 or T-102. plausible to the examinee who does not recall that Div 3 power supplies the A RHR htx outlet valve.
- B Incorrect plausible to the examinee who does not recall that Div 3 power supplies the A RHR htx outlet valve.
- C Incorrect plausible to examinee who does not diagnose >37.4 drywell spray is prohibited per PC/P-10.
- D Correct examinee recognizes safe to spray and but realizes level is too hi to spray the Drywell and directs pool spray. with a loss of D13 load center the A RHR HTX outlet has no power and must be opened manually.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 92 Info																																																																																							
Question Type:	Multiple Choice																																																																																						
Status:	Active																																																																																						
Always select on test?	No																																																																																						
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Points:	1.00																																																																																						
Time to Complete:	3																																																																																						
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System ID:	1454490																																																																																						
User-Defined ID:	Q# 92 NEW																																																																																						
Lesson Plan Objective:	LGSOPS1560.06																																																																																						
Topic:	SRO FLR action cont. SPRAY																																																																																						
RO:	3.8																																																																																						
SRO:	4.0																																																																																						
KA#:	226001 2.4.35																																																																																						
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

93

ID: 1454412

Points: 1.00

SRO

Plant conditions are as follows:

Unit 1

- Reactor power is 100%
- RWCU resin spill has occurred in the Reactor Enclosure (RE)
- RE HVAC Exhaust radiation level is 11 mR/hr
- RWCU 'A' Pump Room radiation level is 120 mR/hr
- RWCU Regen Heat Exchanger Room radiation level is 122 mR/hr

Access to unit 1 Reactor Enclosure is required.

Unit 2

- OPCON 5 Drywell purge in progress

WHICH ONE of the following identifies

(1) the status of unit 2 drywell purge?

(2) the T-103 action required?

- A. (1) Isolated
(2) Restore Reactor Enclosure HVAC per T-103 Secondary Containment Control, Step SCC/T-3
- B. (1) In service
(2) Restore Reactor Enclosure HVAC per T-103 Secondary Containment Control, Step SCC/T-3
- C. (1) Isolated
(2) Ensure Reactor HVAC isolation and SGTS initiation per T-103 Secondary Containment Control, Step SCC-4
- D. (1) In service
(2) Ensure Reactor HVAC isolation and SGTS initiation per T-103 Secondary Containment Control, Step SCC-4

Answer: C

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

- A Incorrect SCC/T-3 only applies if reactor enclosure rad is < 1.35 mR/H plausible if the examinee does not recall requirement for rad to be below 1.35 or confuses this with T-104 RR-3 which allows start of REFUEL HVAC regardless for rad if entry is required
- B Incorrect At > 1.35 mR/H reactor HVAC will isolate and SBGT will start and Isolate unit 2 purge. SCC/T-3 only applies if reactor enclosure rad is < 1.35 mR/H plausible if the examinee does not recall requirement for rad to be below 1.35 or confuses this with T-104 RR-3 which allows start of REFUEL HVAC regardless for rad if entry is required
- C Correct At > 1.35 mR/H reactor HVAC will isolate and SBGT will start and Isolate unit 2 purge. Ensure Reactor HVAC isolation and SGTS initiation per T-103 Secondary Containment Control, Step SCC-4
- D Incorrect At > 1.35 mR/H reactor HVAC will isolate and SBGT will start and Isolate unit 2 purge..

T-104 RR-3

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 93 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	3.00
System ID:	1454412
User-Defined ID:	Q# 93 NEW
Lesson Plan Objective:	LGSOPS1560.06
Topic:	SRO Reactor encl hi rad
RO:	3.4
SRO:	3.6
KA#:	290001 A2.03

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data			
	Level		SRO	
	Tier		2	
	Group		2	
	KA # and Rating		290001 A2.03 3.4/3.6	
	KA Statement		Secondary Containment Ability to (a) predict the impacts of the following on the SECONDARY CONTAINMENT ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: High area radiation	
	Cognitive level		higher	
	Safety Function		5	
	10 CFR 55		43.4 & 43.5	
	Technical Reference with Revision No:		T-103	Rev #: 2 3
	Justification for Non SRO CFR Link:		n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)		new	
	Question Source: (i.e. New, Bank, Modified)		new	
	Low KA Justification (if required):		n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)		new	
	ILT			
	Supplied Ref (If appropriate): (i.e. ABN-##)		none	
	LORT			
	PRA: (i.e. Yes or No or #)			
	LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments				

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

94

ID: 1455644

Points: 1.00

SRO

A large fire is burning in the Auxiliary Boiler Enclosure. What are the SE-8 "Fire" requirements for controlling access of an offsite fire department?

- A. Access inside the Protected Area is not permitted, assistance will be provided from outside the Protected Area Boundary **ONLY**
- B. The offsite fire department is to be escorted inside the Protected Area by any Fire Brigade Member qualified Equipment Operator
- C. The offsite fire department is to be escorted inside the Protected Area by a Fire Brigade Leader qualified Equipment Operator **ONLY**
- D. The offsite fire department is to be escorted inside the Protected Area by plant Security

Answer: D

Answer Explanation

- A Wrong - Plausible if the student assumes that the Offsite Fire Departments are called only to provide aid from outside the Protected Area Boundary
- B Wrong - Plausible if the student assumes that the Offsite Fire Department should be escorted by an individual knowledgeable in the equipment locations in the plant and fire fighting techniques.
- C Wrong - Plausible if the student assumes that the Offsite Fire Department should be escorted by an individual in charge of fire fighting activities
- D Correct - SE-8 "Fire" Shift Supervisor Response section step 4.8.5.6 has the SRO request plant security to escort offsite Fire Departments

Applicable to SROs and NOT General Employee Knowledge due to Licensed Operators having sole responsibility to direct actions from procedure SE-8 "Fire"

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 94 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1455644
User-Defined ID:	Q# 94 NEW
Lesson Plan Objective:	LLOT1563.04 (E/SE PROCEDURES)
Topic:	SRO - requirements for controlling vital/ controlled access
RO:	
SRO:	3.2
KA#:	2.1.13

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	SRO		
Tier	3		
Group	N/A		
KA # and Rating	2.1.13 SRO Importance SRO 3.2		
KA Statement	Knowledge of facility requirements for controlling vital/controlled access.		
Cognitive level	Low		
Safety Function	N/A		
10 CFR 55	43.5		
Technical Reference with Revision No:	SE-8	Rev #:	5 4
Justification for Non SRO CFR Link:	Applicable to SROs and NOT General Employee Knowledge due to Licensed Operators having sole responsibility to direct actions from procedure SE-8 "Fire"		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	New		
Question Source: (i.e. New, Bank, Modified)	New		
Low KA Justification (if required):	N/A		
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)			
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	None		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

95

ID: 1455601

Points: 1.00

SRO

Given the following:

- The 2B Reactor Feed Pump (RFP) has been experiencing fluctuating speed changes
- To support trouble shooting, I&C is requesting to connect a strip chart recorder to monitor the DFLCS signal to the Woodward Governor for the 2B RFP
- The strip chart recorder will be attached to existing test points in the system

Refer to Attachment 4 "Risk and Rigor Determination Matrix" of MA-AA-716-004 "Conduct of Troubleshooting" to classify this activity

This is a ____ (1) ____ Risk troubleshooting activity, classified as Category ____ (2) ____.

- A. (1) High
(2) A
- B. (1) High
(2) C
- C. (1) Medium
(2) A
- D. (1) Medium
(2) C

Answer: B

Answer Explanation

- A Wrong - plausible if the student confuse the risk category of With test points (C) with that of without test points (A)
- B Correct - This is High Risk Troubleshooting per MA-AA-716-004 Attachment 4 due to DFLCS and the Woodward Governor being control systems that directly involve power generation support (1.2) and being Logic systems that can directly or indirectly cause a reactor scram (1.3). The risk category is C due to hooking up the recorder using existing test points.
- C Wrong - plausible if the student confuse the risk level classification as Medium due to mis applying 2.3 as Level control changes in the reactor and confuses the risk category of With test points (C) with that of without test points (A)
- D Wrong - plausible if the student confuse the risk level classification as Medium due to mis applying 2.3 as Level control changes in the reactor.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 95 Info																																																																																							
Question Type:	Multiple Choice																																																																																						
Status:	Active																																																																																						
Always select on test?	No																																																																																						
Authorized for practice?	No																																																																																						
Points:	1.00																																																																																						
Time to Complete:	3																																																																																						
Difficulty:	2.50																																																																																						
System ID:	1455601																																																																																						
User-Defined ID:	Q #95 MODIFIED																																																																																						
Lesson Plan Objective:	LGSOPS2005A 6.B (ADMIN PROCED)																																																																																						
Topic:	SRO - Managing troubleshooting activities																																																																																						
RO:																																																																																							
SRO:	3.8																																																																																						
KA#:	2.2.20																																																																																						
Comments:	<table border="1"> <thead> <tr> <th colspan="4">General Data</th> </tr> </thead> <tbody> <tr> <td>Level</td> <td colspan="3">SRO</td> </tr> <tr> <td>Tier</td> <td colspan="3">3</td> </tr> <tr> <td>Group</td> <td colspan="3">N/A</td> </tr> <tr> <td>KA # and Rating</td> <td colspan="3">2.2.20 Importance SRO 3.8</td> </tr> <tr> <td>KA Statement</td> <td colspan="3">Knowledge of the process for managing troubleshooting activities</td> </tr> <tr> <td>Cognitive level</td> <td colspan="3">High</td> </tr> <tr> <td>Safety Function</td> <td colspan="3">N/A</td> </tr> <tr> <td>10 CFR 55</td> <td colspan="3">43.5</td> </tr> <tr> <td>Technical Reference with Revision No:</td> <td>MA-AA-716-004</td> <td>Rev #:</td> <td>1 3</td> </tr> <tr> <td>Justification for Non SRO CFR Link:</td> <td colspan="3">N/A</td> </tr> <tr> <td>Question History: (i.e. LGS NRC-05, OYS CERT-04)</td> <td colspan="3">Modified PBAPS 2008 ILT NRC SRO #21</td> </tr> <tr> <td>Question Source: (i.e. New, Bank, Modified)</td> <td colspan="3">Modified PBAPS 2008 ILT NRC SRO #21</td> </tr> <tr> <td>Low KA Justification (if required):</td> <td colspan="3">N/A</td> </tr> <tr> <td>Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)</td> <td colspan="3"></td> </tr> <tr> <th colspan="4">ILT</th> </tr> <tr> <td>Supplied Ref (If appropriate): (i.e. ABN-##)</td> <td colspan="3">MA-AA-716-004 Attachment 4</td> </tr> <tr> <th colspan="4">LORT</th> </tr> <tr> <td>PRA: (i.e. Yes or No or #)</td> <td colspan="3"></td> </tr> <tr> <td>LORT Question Section: (i.e. A-Systems or B-Procedures)</td> <td colspan="3"></td> </tr> <tr> <td>Comments</td> <td colspan="3"></td> </tr> </tbody> </table>			General Data				Level	SRO			Tier	3			Group	N/A			KA # and Rating	2.2.20 Importance SRO 3.8			KA Statement	Knowledge of the process for managing troubleshooting activities			Cognitive level	High			Safety Function	N/A			10 CFR 55	43.5			Technical Reference with Revision No:	MA-AA-716-004	Rev #:	1 3	Justification for Non SRO CFR Link:	N/A			Question History: (i.e. LGS NRC-05, OYS CERT-04)	Modified PBAPS 2008 ILT NRC SRO #21			Question Source: (i.e. New, Bank, Modified)	Modified PBAPS 2008 ILT NRC SRO #21			Low KA Justification (if required):	N/A			Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)				ILT				Supplied Ref (If appropriate): (i.e. ABN-##)	MA-AA-716-004 Attachment 4			LORT				PRA: (i.e. Yes or No or #)				LORT Question Section: (i.e. A-Systems or B-Procedures)				Comments			
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

96

ID: 1454973

Points: 1.00

SRO

I & C has just informed you that ST-2-063-600-0, RADIOACTIVE LIQUID EFFLUENT MONITORING - LIQUID RADWASTE EFFLUENT LINE FUNCTIONAL TEST (**RISH-63-0K604**), is UNSAT due to the instrument setpoint being non conservative.

What is required prior to approval of future radioactive effluent releases?

- A. NO releases are permitted until the instrument is restored and the Surveillance Test is completed SAT
- B. Releases are permitted provided the flow rate is estimated at least once per 4 hours during actual releases
- C. Releases are permitted for the next 30 days **ONLY** provided two independent samples are analyzed, two Chemistry Techs independently verify the release rate calculation and two Equipment Operators independently verify the discharge line valving
- D. Releases are permitted provided two independent samples are analyzed, two Chemistry Techs independently verify the release rate calculation and two Equipment Operators independently verify the discharge line valving

Answer: D

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

From the stem the student determines that the Liquid Radwaste Effluent Line Gross Radioactivity Monitor (CY-LG-107-301 Table 3.1-1 Instrument 1.a) is non-conservative. With the instrument channel non-conservative ODCM action 3.1.1.a applies.

"With a radioactive liquid effluent monitoring instrumentation channel Alarm/Trip Setpoint less conservative than required by the above control, immediately suspend the release of radioactive liquid effluents monitored by the affected channel, or declare the channel inoperable, or change the setpoint so it is acceptably conservative."

Given the current condition of the instrument it is declared INOP and Action 3.1.1.b applies.

"With less than the minimum number of radioactive liquid effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.1-1. Restore the inoperable instrumentation to OPERABLE status within 30 days and, if unsuccessful explain in the next Annual Radioactive Effluent Release Report pursuant to CONTROL 6.2 why this inoperability was not corrected in a timely manner."

For Instrument 1.a, Action 100 applies

"With the number of channels OPERABLE less than required by the Minimum Channels requirement, effluent releases via this pathway may continue provided that prior to initiating a release:

- a. At least two independent samples are analyzed in accordance with SURVEILLANCE REQUIREMENT 4.2.1.1.1, and
- b. At least two technically qualified members of the facility staff independently verify the release rate calculations and discharge line valving.

Otherwise, suspend release of radioactive effluents via this pathway."

- A Wrong but plausible to the student that determines that action a contains all items that are to be performed and only applies the following portion of the action, "immediately suspend the release of radioactive liquid effluents monitored by the affected channel, or declare the channel inoperable, or change the setpoint so it is acceptably conservative."
- B Wrong but plausible to the student that identifies the wrong instrument being INOP and believe it is the "Liquid Radwaste Effluent Line - Flow Rate Measurement Device", the stem only provides the student with the instrument ID. RISH (Radiation Indicating Switch High) is Instrument 1.a; all 3.a instruments start with "F" for Flow
- C Wrong but plausible to the student that determines that releases using Action 100 can only continue for the first 30 days of inoperability based on action b stating, "Restore the inoperable instrumentation to OPERABLE status within 30 days..."
- D Correct for the above reasons

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 96 Info																																																																																							
Question Type:	Multiple Choice																																																																																						
Status:	Active																																																																																						
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Difficulty:	3.00																																																																																						
System ID:	1454973																																																																																						
User-Defined ID:	Q#96 NEW																																																																																						
Lesson Plan Objective:	LLOT1790.4																																																																																						
Topic:	SRO - Ability to Approve Release Permits																																																																																						
RO:																																																																																							
SRO:	3.8																																																																																						
KA#:	G2.3.6																																																																																						
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

97

ID: 1433105

Points: 1.00

SRO

A startup was in progress with reactor power at 35%, when the following occurred:

- Alarm MCR-106-D1 CONDENSER LO VACUUM TRIP alarms
- The RO reports that RPT breakers have tripped for both recirc pumps

Two (2) minutes later

All immediate operator actions have been completed; reactor power is stable at 25% with turbine bypass valves controlling reactor pressure.

Based on these conditions, which of the following describes the procedure the CRS should enter first and the EAL classification, if any?

- A. OT-116 Loss Of Condenser Vacuum and declare a SITE AREA EMERGENCY
- B. OT-116 Loss Of Condenser Vacuum and declare an ALERT
- C. T-101 RPV Control and declare a SITE AREA EMERGENCY
- D. T-101 RPV Control and declare an ALERT

Answer: D

Answer Explanation

The examinee is expected to interpret from the given conditions that the main turbine tripped on low vacuum and at >30% power a reactor SCRAM should have occurred, but did not. A failure to scram and power >4% requires an ALERT declaration. Although there is an entry condition for OT-116 the priority should be T-101 RPV control.

- A **Incorrect** OT-116 No EAL plausible to examinee who does not recognize the reactor should have SCRAMMED and does not recall the correct EAL for the listed condition
- B **Incorrect** Plausible to the examinee who prioritizes low vacuum over an ATWS
- C **Incorrect** Plausible to the examinee who does not recall the correct EAL for the listed condition
- D **Correct** The examinee is expected to interpret from the given conditions that the main turbine tripped on low vacuum and at >30% power a reactor SCRAM should have occurred, but did not. A failure to scram and power >4% requires an ALERT declaration. Although there is an entry condition for OT-116 the priority should be T-101 RPV control.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

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Question Type:	Multiple Choice																																																																																						
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Difficulty:	4.00																																																																																						
System ID:	1433105																																																																																						
User-Defined ID:	Q#97 GRAND GUL 2014																																																																																						
Lesson Plan Objective:	EAL TRAINING EAL OBJECTIVE																																																																																						
Topic:	SRO turb trip 38%																																																																																						
RO:	2.4																																																																																						
SRO:	4.4																																																																																						
KA#:	2.4.38																																																																																						
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

98

ID: 1454851

Points: 1.00

SRO

Annunciator 110-B1 SRV/HEAD VENT leaking is coming in and out repeatedly 3 to 4 times every 5 minutes.

- Head vent valves are verified closed and no SRV's are showing elevated temperature
- I&C reports that repair will require a drywell entry and will be scheduled for the next refueling outage in three weeks.

Which of the following describes the actions to be taken by the CRS?

ACPS=Abnormal component positioning sheet

EST= Equipment status tag

TCCP= Temporary Configuration Change Packages

- A. Remove annunciator can initiate an EST
- B. Put annunciator reset switch in manual initiate an IR and a clearance
- C. Remove annunciator can after TCCP is complete
- D. Put annunciator reset switch in manual initiate an ACPS

Answer: B

Answer Explanation

- A Incorrect multi input annunciators require a TCCP and an IR per step 4.1.1 and 4.1.3 plausible to the examinee who stops at step 2.6
- B correct examinee uses table in attachment 1 to determine reset switch is normally in auto per step 2.4 of OP-LG-103-102-1001 CRS can authorize swap to manual reset per steps 4.1.1 and 4.1.3 an IR and EST are required
- C Incorrect plausible to examinee who only reads section 4 of OP-LG-103-102-1001
- D Incorrect plausible to examinee who does not understand that reset switch can be placed in manual and does not continue to section 4 of OP-LG-103-102-1001

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

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System ID:	1454851																																																																																						
User-Defined ID:	Q# 98 NEW																																																																																						
Lesson Plan Objective:	LOT1572 COND. OF OPS																																																																																						
Topic:	SRO INOP annun																																																																																						
RO:	3.0																																																																																						
SRO:	3.3																																																																																						
KA#:	2.2.43																																																																																						
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EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

99

ID: 1454568

Points: 1.00

SRO

Fuel is being loaded into the core on Unit 1, with the following:

- '1A' SRM count rate is 3.5 cps and has a signal-to-noise ratio of 2.0
- '1B' SRM count rate is 1.1 cps and has a signal-to-noise ratio of 7.0
- '1C' SRM count rate is 2.0 cps and has a signal-to-noise ratio of 1.5
- '1D' SRM count rate is 2.5 cps and has a signal-to-noise ratio of 2.0

REFUELING OPERATIONS

3/4.9.2 INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.9.2 At least two source range monitor (SRM) channels* shall be OPERABLE and inserted to the normal operating level with:

- a. Continuous visual indication in the control room,
- b. At least one with audible alarm in the control room,
- c. One of the required SRM detectors located in the quadrant where CORE ALTERATIONS are being performed and the other required SRM detector located in an adjacent quadrant, and
- d. Unless adequate shutdown margin has been demonstrated, the shorting links shall be removed from the RPS circuitry prior to and during the time any control rod is withdrawn.**

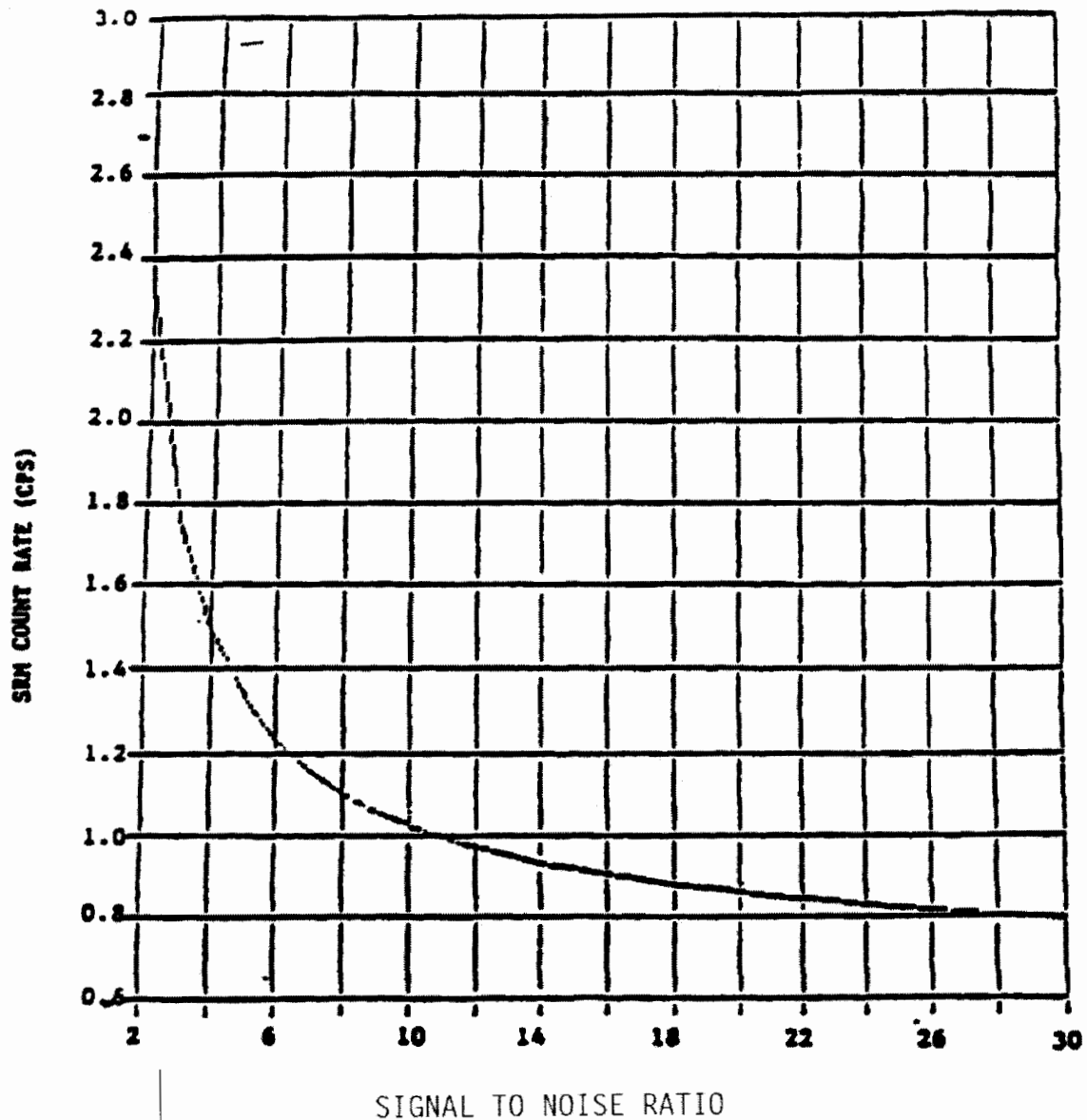
APPLICABILITY: OPERATIONAL CONDITION 5.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving CORE ALTERATIONS and insert all insertable control rods.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test



SRM COUNT RATE VERSUS SIGNAL TO NOISE RATIO

FIGURE 3.3.6-1

WHICH ONE of the following describes the limitations, if any, regarding loading fuel into the core?

- A. Fuel may be loaded into any quadrant.
- B. All fuel loading must be suspended immediately.
- C. Fuel may be loaded into "A" or "D" core quadrants ONLY.
- D. Fuel may be loaded into "A", "C" or "D" core quadrants ONLY.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Answer: C

Answer Explanation

Correct: C

"1B" and "1C" SRMs are INOPERABLE ("1C" due to inadequate Signal-To-Noise Ratio per Technical Specification Figure 3.3.6-1). Therefore, fuel movement is only permitted in quadrants "A" and "D" per Technical Specification 3.9.2 (detector in the quadrant where CORE ALTERATIONS are being performed and one in an adjacent quadrant, with adjacent being defined as "NOT diagonal")

Limerick Core quadrants are laid out as follows:

AB
DC

Incorrect: A

With "1B" and "1C" SRMs INOPERABLE, fuel movement is permitted in quadrants "A" and "D" per Technical Specification 3.9.2 only (detector in the quadrant where CORE ALTERATIONS are being performed and one in an adjacent quadrant, with adjacent being defined as "NOT diagonal"). Plausible to the candidate that mistakenly determines no SRMs are INOP due to assessing Signal to noise ratio incorrectly.

Incorrect: B

With "1B" and "1C" SRMs INOPERABLE, fuel movement is still permitted, but only in quadrants "A" and "D" per Technical Specification 3.9.2 (detector in the quadrant where CORE ALTERATIONS are being performed and one in an adjacent quadrant, with adjacent being defined as "NOT diagonal"). Plausible to the candidate that mistakenly determines one or more additional inoperable SRMs due to assessing Signal to noise ration incorrectly.

Incorrect: D

Fuel cannot be loaded into quadrant "C" because the "1C" SRM detector is INOPERABLE, and Technical Specification 3.9.2 requires a detector in the quadrant where CORE ALTERATIONS are being performed and one in an adjacent quadrant (adjacent being defined as "NOT diagonal"). Plausible to the candidate that mistakenly determines no additional SRMs are INOP due to assessing Signal to noise ratio incorrectly.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 99 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	3
Difficulty:	2.00
System ID:	1454568
User-Defined ID:	Q#99 BANK
Lesson Plan Objective:	LGSOPS1800.6B
Topic:	(SRO ONLY) - Tech Spec - SRM Operability During Fuel Loading
RO:	3.0
SRO:	4.1
KA#:	2.1.36

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:	General Data		
	Level	SRO	
	Tier	3	
	Group	N/A	
	KA # and Rating	2.1.36 IMPORTANCE RO 3.0 SRO 4.1	
	KA Statement	Knowledge of procedures and limitations involved in core alterations.	
	Cognitive level	High	
	Safety Function	N/A	
	10 CFR 55	41.10; 43.6	
	Technical Reference with Revision No:	Technical Specification 3.9.2 and Technical Specification Figure 3.3.6-1	Rev #:
	Justification for Non SRO CFR Link:	n/a	
	Question History: (i.e. LGS NRC-05, OYS CERT-04)	Bank 591173	
	Question Source: (i.e. New, Bank, Modified)	Bank	
	Low KA Justification (if required):	n/a	
	Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)		
	ILT		
	Supplied Ref (If appropriate): (i.e. ABN-##)	none	
	LORT		
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			

EXAMINATION ANSWER KEY

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EXAMINATION ANSWER KEY

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100

ID: 1454415

Points: 1.00

SRO

Unit 1 is operating at 100% power.

- The Main Steam Line (MSL) Rad Monitors at 10C600 read as follows:

A – 2141 mR/hr

B – 2170 mR/hr

C – 2156 mR/hr

D – 2196 mR/hr

- The HWC system is functioning correctly
- The following annunciators have been received:

- 1 MAIN STEAM LINE DIVISION 1 RAD MONITOR HI/DOWNSCALE (ARC-MCR-109, F1)
- 1 MAIN STEAM LINE RAD MON C/D HI/DOWNSCALE (ARC-MCR-109, F2)

WHICH ONE of the following identifies the procedure(s) requiring entry and the action(s) required as a result of the above conditions?

	<u>Procedure(s) requiring entry</u>	<u>Action(s) required</u>
A.	ON-102 ONLY	Reduce reactor power to lower MSL Rad levels below 1.5X NFPB
B.	ON-102 and T-103	Reduce reactor power to lower MSL Rad levels below 1.5X NFPB
C.	ON-102 ONLY	Perform T-101 Shutdown and Close the MSIVs
D.	ON-102 and T-103	Perform T-101 Shutdown and Close the MSIVs

Answer: B

Answer Explanation

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

From the stem the student identifies that Main Steam Line (MSL) radiation is elevated and above 1.5 X Normal Full Power Background (NFPB) (the alarm set points are 1.5 X NFPB). Also from the stem the students determine that MSL Rad is below 3 X NFPB (based on the absence of ARC-MCR-107 I1, Main steam line high-high radiation). Based in this information the appropriate procedures are both ON-102 and T-103. The appropriate action for these conditions is found in ON-102 step 2.2:

2.2 **IF** power reduction is required to maintain air ejector discharge radiation level below HiHi Alarm setpoint (ARC-MCR-*09 G1)

OR main steam line radiation level below 1.5x normal full power background,

THEN REDUCE reactor power in accordance with GP-5 Appendix 2, Section 3.1, Reducing Rx Power,

AND Reactor Maneuvering Shutdown Instructions to maintain air ejector discharge radiation level below Hi Hi Alarm setpoint (ARC-MCR-*09 G1)

AND Main Steam Line radiation level below 1.5 x normal full power background. (**CM-1** T03582)

- A Wrong - Does not identify T-103 entry. Plausible to the student that believes T-103 entry is not required until 3X NFPB
- B Correct - See discussion above
- C Wrong - Does not identify T-103 entry and identifies that wrong actions for the given conditions. Plausible to the student that believes T-103 entry is not required until 3X NFPB and believes that closure of the MSIVs is required at 1.5 X NFPB.
- D Wrong - Identifies that wrong actions for the given conditions. Plausible to the student that believes that closure of the MSIVs is required at 1.5 X NFPB.

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Question 100 Info	
Question Type:	Multiple Choice
Status:	Active
Always select on test?	No
Authorized for practice?	No
Points:	1.00
Time to Complete:	5
Difficulty:	2.00
System ID:	1454415
User-Defined ID:	Q#100 NEW
Lesson Plan Objective:	LGSOPS0026A.IL12
Topic:	SRO - Interpreting MSL Rad Monitor Readings
RO:	2.9
SRO:	2.9
KA#:	272000 G2.3.5

EXAMINATION ANSWER KEY

ILT 15-01 January 2017 NRC test

Comments:

General Data			
Level	SRO		
Tier	3		
Group	N/A		
KA # and Rating	2.3.5 IMPORTANCE RO 2.9 SRO 2.9		
KA Statement	Ability to use radiation monitoring systems, such as fixed radiation monitors and alarms, portable survey instruments, personnel monitoring equipment, etc.		
Cognitive level	High		
Safety Function	N/A		
10 CFR 55	41.11, 41.12, 43.5		
Technical Reference with Revision No:	ARC-MCR-109 F1 ARC-MCR-109 F2 ON-102 T-103	Rev #:	0 1 2 9 2 3
Justification for Non SRO CFR Link:	N/A		
Question History: (i.e. LGS NRC-05, OYS CERT-04)	New		
Question Source: (i.e. New, Bank, Modified)	New		
Low KA Justification (if required):			
Revision History: Revision History: (i.e. Modified distractor "b" to make plausible based on OTPS review)			
ILT			
Supplied Ref (If appropriate): (i.e. ABN-##)	None		
LORT			
PRA: (i.e. Yes or No or #)			
LORT Question Section: (i.e. A-Systems or B-Procedures)			
Comments			