FINAL SRO WRITTEN EXAMINATION

FOR THE LASALLE INITIAL EXAMINATION - MAY 2003

ANSWER KEY

SRO NRC ILT WRITTEN EXAM

Q# 1	BOTH	TIER 2	GROUP	RO 2 SRO 3	201003	A2.10	RO 3.0	SRO 3.4	High

Control Rod and Drive Mechanism

Ability to (a) predict the impacts of the following on the CONTROL ROD AND DRIVE MECHANISM; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations:

Excessive SCRAM time for a given drive mechanism

The scram time for control rod 22-43 is measured to be 90 seconds during single control rod scram timing.

(1) Predict how this will effect the rod's response to a full reactor scram and,
(2) select the action taken to mitigate the consequences of those affects.

A. (1) The rod will fully insert,
(2) recharge the accumulator per LOP-RD-20, "Control Rod Accumulator Recharging".

B. (1) The rod will partially insert,
(2) recharge the accumulator per LOP-RD-20, "Control Rod Accumulator Recharging".

C. (1) The rod will fully insert,
(2) fully insert the control rod and disarm it IAW LOP-RD-12, "Removal of a CRD HCU with Cooling Water On".

D. (1) The rod will partially insert
(2) fully insert the control rod and disarm it IAW LOP-RD-12, "Removal of a CRD HCU with Cooling Water On".

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	T.S. 3.1.3 and .3.1.4 **PROVIDE REFERENCE**	024.00.14	New	

Explanation:
Scram time requires the rod to be inserted per T.S.'s. If the reactor scrammed, prior to rod insertion, the rod will only partially insert due to the SDV becoming full.

Q# 2	BOTH	TIER 2	GROUP	RO 2 SRO 2	202001	K2.01	RO 3.2	SRO 3.2	Memory

Recirculation System Knowledge of electrical power supplies to the following:

Recirculation pumps: Plant-Specific

Reactor Recirculation Pump 2A is powered from __(1)__ when in FAST speed and __(2)__ when in SLOW speed.

A. (1) Bus 241Y
(2) Bus 251

B. (1) Bus 251
(2) Bus 241Y

C. (1) Bus 251
(2) Bus 251

D. (1) Bus 241Y
(2) Bus 241Y

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LOP-RR-2AE	022.00.06	CPS ILT0101 NRC Q#81	

Explanation:
Power supplies as stated.

Q# 3	BOTH	TIER 2	GROUP	RO 1 SRO 1	202002	K3.03	RO 3.3	SRO 3.4	High

Recirculation Flow Control System

Knowledge of the effect that a loss or malfunction of the RECIRCULATION FLOW CONTROL SYSTEM will have on following:

Reactor water level

Unit 1 is at 100% power when a spurious trip of the 1A RR pump occurs.

INITIALLY, reactor water level will:

A. decrease, due to a decrease in core voids.

B. decrease, due to the RWLC system response on a trip of the RR pump.

C. increase, due to an increase in core voids.

D. increase, due to the RWLC system response on a trip of the RR pump.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	LSCS-UFSAR 15.3-3	023.00.05	New	

Explanation:
Reduction in core flow will initially cause an increase in core voids, resulting in an initial increase in reactor level.

Q# 4	BOTH	TIER 2	GROUP	RO 2 SRO 2	204000	K1.08	RO 3.7	SRO 3.8	Memory

Reactor Water Cleanup System

Knowledge of the physical connections and/or cause- effect relationships between REACTOR WATER CLEANUP SYSTEM and the following:

SBLC

Which of the following describes the direct response of the Reactor Water Cleanup (RT) system when the Standby Liquid Control (SC) system is initiated?

A. The operating RT pumps trip when the SC pump starts.

B. The Outboard Isolation [1(2)G33-F004] valve automatically closes.

C. The Blowdown Flow Control [1(2)G33-F033] valve automatically closes.

D. The operating filter demineralizers go into HOLD when the SC pump starts.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LP-27 Section III.E, IV.A	027.00.12	Bank	

Explanation:
The RT system isolates. The RT pumps will trip but NOT from a signal from the SC pump starting. The filter demineralizers do NOT go into HOLD on a signal from the SC pump starting. The Blowdown Flow Control valve does NOT close on a signal from the SC system initiating.

Q# 5	BOTH	TIER 2	GROUP	RO 1 SRO 1	209001	A1.07	RO 3.0	SRO 3.1	High

Low Pressure Core Spray System

Ability to predict and/or monitor changes in parameters associated with operating the LOW PRESSURE CORE SPRAY SYSTEM controls including:

Emergency generator loading

An ECCS condition occurred on Unit 1. Normal power is available, but the operator decided to load the DG and manually close it onto Bus 141Y. Later, an ECCS and Undervoltage condition occurs on Unit 2.

What indication would you expect to see for the SAT feed to 141Y and the "0" DG?

A. SAT feed to 141Y and "0" DG amps will remain constant.

B. SAT feed to 141Y amps will increase; "0" DG amps will decrease then immediately increase.

C. SAT feed to 141Y amps will increase and "0" DG amps will decrease.

D. SAT feed to 141Y amps will increase; "0" DG amps will decrease and then increase after a 5 second time delay.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LP Ch. 11 p. 50	063.00.05	New	

Explanation:
Unless the U-1 breaker is manually tripped or the ECCS condition is reset, the closure permissives for the U-2 breaker CANNOT be met.

Q# 6	BOTH	TIER 2	GROUP	RO 1 SRO 1	209001	K2.03	RO 2.9	SRO 3.1	Memory

Low Pressure Core Spray System Knowledge of electrical power supplies to the following:

Initiation logic

The Unit 1 NSO arms and depresses the Division 1 and Division 2 ECCS initiation pushbuttons.

The LPCS pump does NOT start nor do any LPCS valves reposition as a result of his/her action.

The lack of LPCS system component response could be attributed to a loss of ...

A. Bus 111X

B. Bus 111Y

C. Bus 112X

D. Bus 112Y

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LP 63 p. 20	006.00.018	LaSalle 2000 ILT Certification Exam Q#30	

Explanation:
LPCS is a Division 1 ECCS component. Logic for Division 1 ECCS, including LPCS, is from 111Y.

Q# 7	BOTH	TIER 2	GROUP	RO 1 SRO 1	215004	K3.02	RO 3.4	SRO 3.4	High

Source Range Monitoring System

Knowledge of the effect that a loss or malfunction of the SOURCE RANGE MONITOR (SRM) SYSTEM will have on the following:

Reactor manual control: Plant Specific

Reactor startup is in progress.
The reactor is NOT critical.

SRM's read as follows:

Channel:	A	B	C	D
Counts Per Second:	$2x10^3$	$3x10^3$	$2x10^3$	$5x10^3$

Predict the effect of a loss of the SRM C High Voltage Power Supply, AND what would be the necessary operator action?

	EFFECT	NECESSARY OPERATOR ACTION
A.	Rod Block	Suspend startup until repairs are completed.
B.	Rod Block	Bypass the affected channel and continue startup.
C.	Half Scram	Bypass the affected channel and continue startup.
D.	Half Scram	Suspend startup until repairs are completed.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LP 41, Section IV, LOA-NR-101, pp 9	041.00.05	Modified, CPS ILT0101 Exam	

Explanation:
High Voltage Power Supply low creates INOP rod block, you are allowed to bypass and continue.

Q# 8	BOTH	TIER 2	GROUP	RO 1 SRO 1	211000	A3.08	RO 4.2	SRO 4.2	High

Standby Liquid Control System

Ability to monitor automatic operations of the STANDBY LIQUID CONTROL SYSTEM including:

System initiation: Plant Specific

The Standby Liquid Control (SBLC) system is in the following initial lineup:

- Test Tank Outlet Valve (1C41-F031) is full open
- Head Tank Outlet Valve (1C41-F014) is closed
- 1A Storage Tank Outlet Valve (1C41-F001A) is closed
- 1B Storage Tank Outlet Valve (1C41-F001B) is closed
- 1A SBLC Pump is OFF
- 1B SBLC Pump is OFF
- 1A Squib Valve (1C41-F004A) is closed
- 1B Squib Valve (1C41-F004B) is closed

If the 1A SBLC Pump keylock switch at 1H13-P603 were taken to SYS A, what would be the expected system status one (1) minute later?

A. The 1A SBLC system will remain in the current configuration.

B. The 1A SBLC pump will be injecting test tank water into the reactor.

C. The 1A SBLC pump will be injecting both test tank AND storage tank volumes into the reactor.

D. The 1A SBLC squib valve will fire and all other components will remain in their current configuration.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LP 28, p.12 of 35.	028.00.05	New	

Explanation:
With the test tank outlet valve open, the suction valves will not open. The pump will start if either the test tank outlet valve is fully open or one of the storage tank outlet valves are fully open. The squib valves fire anytime the keylock switch at 1H13-P603 it turned to SYS A.

Q# 9	BOTH	TIER 2	GROUP	RO 2 SRO 2	214000	K6.02	RO 2.7	SRO 2.7	High

Rod Position Information System

Knowledge of the effect that a loss or malfunction of the following will have on the ROD POSITION INFORMATION SYSTEM:

Position indication probe

Control Rod 38-13 is uncoupled.
The over-travel reed switch on control rod 38-13's position probe is stuck open.

Which of the following describes the expected indication on the Four-Rod Display if control rod 38-13 was withdrawn to position 48 and a coupling check then performed?

The position readout for Control Rod 38-13 on the Four Rod Display will...

A. be blank and an OVERTRAVEL alarm will be received.

B. indicate a "48" and an OVERTRAVEL alarm will be received.

C. be blank and an OVERTRAVEL alarm will NOT be received.

D. indicate a "48" and an OVERTRAVEL alarm will NOT be received.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	LOR 1H13-P603-A402 LOA-RM-101	024.00.05	Dresden 2001 NRC/modified	

Explanation:
With the control rod uncoupled, the mechanism will settle to the over-travel position. With the over-travel reed switch stuck open, no alarm will be generated. There is no indication on the Four Rod Display when a control rod is in the over-travel beyond full-out position..

Q# 10	BOTH	TIER 2	GROUP	RO 2 SRO 2	215002	K3.01	RO 3.3	SRO 3.5	Memory

Rod Block Monitor System

Knowledge of the effect that a loss or malfunction of the ROD BLOCK MONITOR SYSTEM will have on following:

Reactor manual control system: BWR-3, 4, 5

Unit 1 is at 100% power.

The function switch for the "A" RBM is placed in "STANDBY".

What, if any, rod blocks will be applied?

A. Insert Block only.

B. Withdraw Block only.

C. Insert and Withdraw Block.

D. No rod blocks.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LP 45 – RBM pp 20 & 28 of 47; LOR 1H13-P603-A406	45.00.05g	New	M

Explanation:
With RBM function switch NOT in operate, a RBM INOP trip exists, preventing rod movement. RBM only provides withdrawal blocks.

Q# 11	BOTH	TIER 2	GROUP	RO 1 SRO 1	215004	K5.01	RO 2.6	SRO 2.6	Memory

Source Range Monitor (SRM) System

Knowledge of the operational implications of the following concepts as they apply to SOURCE RANGE MONITOR (SRM) SYSTEM:

Detector operation

Which of the following features of the Source Range Monitoring (SRM) system extends the detector effective lifetime?

A. The SRM detector can internal coating is enriched with U-234.

B. The SRM detector internal gas pressure is much greater than that used in either the Intermediate Range or Local Power Range Detectors.

C. The SRM detectors are physically larger than both the Intermediate Range and Local Power Range detectors.

D. The SRM detectors can be retracted from the core when the flux levels are high.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LP 41 SRM system, page 6 of 29	041.00.05	Bank, 041.00.05 004	

Explanation:
The SRM detectors are retracted from the core when NOT being used. All other choices are either incorrect statements, or statements that are true but do NOT add to SRM life extension.

Q# 12	BOTH	TIER 2	GROUP	RO 1 SRO 1	217000	A3.06	RO 3.5	SRO 3.4	Memory

Reactor Core Isolation Cooling System (RCIC)

Ability to monitor automatic operations of the REACTOR CORE ISOLATION COOLING SYSTEM (RCIC) including:

Lights and alarms

Two sets of position indicating lights are provided on Panel 1H13-P601 for the RCIC Turbine Trip and Throttle Valve, one on the vertical section and one on the horizontal section of the panel.

What condition is indicated if the lights on the vertical section indicate CLOSED and the indication on the horizontal section indicates OPEN?

The Trip and Throttle Valve ...

A. is open with an initiation signal present.

B. was manually closed from the control room.

C. is closed due to a RCIC turbine trip.

D. is in a normal standby lineup.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	LP 32 Sect III.P	032.00.05	B	

Explanation:
A RCIC turbine trip signal would cause the valve to close, as would be indicated on the vertical section. The valve actuator, however, would still indicate open (horizontal section).

Q# 13	BOTH	TIER 2	GROUP	RO 1 SRO 1	217000	K4.05	RO 3.2	SRO 3.5	Memory

Reactor Core Isolation Cooling System (RCIC)

Knowledge of REACTOR CORE ISOLATION COOLING SYSTEM (RCIC) design feature(s) and/or interlocks which provide for the following:

Prevents radioactivity release to auxiliary/reactor building

Which of the following correctly states four parameters that will cause an automatic PCIS isolation of the RCIC steam supply line (E51-F008)?

A. High RCIC Steam Flow Rate,
High Temperature in the RCIC pipe tunnel,
High Differential Temperature in the RCIC Pipe Tunnel,
Low RCIC Steam Flow Rate.

B. High RCIC Steam Flow Rate,
High Temperature in the RCIC equipment room,
High Differential Temperature in the RCIC pipe tunnel,
Low Steam Supply Pressure.

C. High Drywell Pressure,
High Temperature in the RCIC equipment room,
High Differential Temperature in the RCIC equipment room,
Low Steam Supply pressure

D. High Drywell Pressure,
High Temperature in the RCIC equipment room,
High Differential Temperature in the RCIC pipe tunnel,
High Pressure between the rupture discs on the RCIC turbine exhaust line.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LOP-PC-03	032.00.05	Bank 032.00.12 003	

Explanation:
Answer B includes only RCIC isolation signals.

Q# 14	BOTH	TIER 2	GROUP	RO 1 SRO 1	223002	A4.01	RO 3.6	SRO 3.5	Memory

Primary Containment Isolation System/Nuclear Steam Supply Shut-Off

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

Valve closures

Unit 2 is operating at rated conditions.

"2A" RPS and DC bus 211Y are both lost simultaneously.

Based on this loss, which of the following isolation valve(s) will close?

A. Inboard VP isolation valves

B. Inboard MS isolation valves

C. Outboard RI isolation valves

D. Outboard WR isolation valves

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LOA-DC-201 p.44 and LOA-RP-201 p.6	091.00.05	INPO Bank Q#1808	

Explanation:
On loss of RPS A, Outboard PCIS valves for groups 1-3, 5-7- and 10 close EXCEPT FOR MSIV's, PCCW and RBCCW. On loss of 211Y, 2WR179/180 close.

Q# 15	BOTH	TIER 2	GROUP	RO 2 SRO 1	226001	K6.10	RO 3.3	SRO 3.5	High

RHR/LPCI: Containment Spray System Mode

Knowledge of the effect that a loss or malfunction of the following will have on the RHR/LPCI: CONTAINMENT SPRAY SYSTEM MODE: Suppression chamber to drywell vacuum breakers: Mark-I-II

One of the suppression chamber to drywell vacuum breakers is found stuck open.

If a reactor water level instrument reference leg ruptured in the drywell, what affect would the vacuum breaker failure have on the use of the drywell and suppression chamber sprays compared to the same event with functional suppression chamber to drywell vacuum breakers?

With the suppression chamber to drywell vacuum breakers stuck open, _____ would have to be placed in service earlier in the transient.

A. NEITHER the drywell sprays nor suppression chamber sprays

B. ONLY the suppression chamber sprays

C. ONLY the drywell sprays

D. BOTH the drywell sprays and suppression chamber sprays

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LP 090, p23	064.00.05	New	

Explanation:
With the vacuum breaker stuck open, the pressure suppression capacity of the containment would be reduced as steam would NOT be forced through the downcomers to be condensed by the suppression pool. Drywell and suppression chamber pressure would increase at a higher rate requiring alignment of the suppression chamber sprays and the drywell sprays at an earlier point in the transient.

Q# 16	BOTH	TIER 2	GROUP	RO 2 SRO 2	230000	A2.15	RO 4.0	SRO 4.1	High

RHR/LPCI: Torus/Suppression Pool Spray Mode

Ability to (a) predict the impacts of the following on the RHR/LPCI: TORUS/SUPPRESSION POOL SPRAY MODE; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations:

Loss of coolant accident

Unit 2 was operating at rated conditions when one of the Recirculation pump suction lines completely separated from the vessel at the same time that all off-site power was lost.

The following conditions exist 60 seconds after the transient began:

- Drywell pressure is 18 psig and increasing at 0.5 psig/minute
- Suppression chamber pressure is 16 psig and increasing at 0.5 psig/minute
- Reactor pressure is 300 psig and decreasing at 100 psig/minute
- Reactor water level is –171 inches and decreasing at 10 inches/minute
- Only the Division 2 DG started.
- No operator action has yet been taken.

Regarding the "B" RHR suppression chamber spray valve, which of the following describes

(1) the expected status of the valve, AND
(2) the expected immediate operator actions regarding the valve?

The "B" RHR suppression chamber spray valve will be…

A. (1) OPEN.
(2) Operators will close the valve to increase vessel injection.

B. (1) OPEN.
(2) Operators will leave the valve open to control containment pressure.

C. (1) CLOSED.
(2) Operators will leave the valve closed to maximize vessel injection.

D. (1) CLOSED.
(2) Operators will open the valve to control containment pressure.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	LGA LP 07 – LGA-003	064.00.05	New	

Explanation:
The suppression chamber spray valve will NOT automatically open on system initiation. With reactor vessel water level less than the top of active fuel, ECCS flow should NOT be diverted from vessel injection.

Q# 17	BOTH	TIER 2	GROUP	RO 1 SRO 1	239002	A3.06	RO 4.1	SRO 4.1	Memory

Relief/Safety Valves

Ability to monitor automatic operations of the RELIEF/SAFETY VALVES including:

Reactor pressure

A transient occurred that resulted in reactor pressure increasing to the Alternate Rod Insertion setpoint.

Which of the following indicates the MINIMUM number of safety relief valves that would be expected to have opened for this transient?

A. 7

B. 9

C. 11

D. 13

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LP-70 p. 50 LOA-SRV-101	070.00.05	New	

Explanation:
Actual setpoint is 1123 psig, which is greater than all of the SRV's relief setpoint.

Q# 18	BOTH	TIER 2	GROUP	RO 1 SRO 1	239002	K1.07	RO 3.6	SRO 3.8	Memory

Relief/Safety Valves

Knowledge of the physical connections and/or cause- effect relationships between RELIEF/SAFETY VALVES and the following:

Suppression pool

SRV's discharge to the Suppression Pool at ___(1)___ elevation and ___(2)___ distances from the center of the Suppression Pool.

A. (1) the same
(2) the same

B. (1) varying
(2) various

C. (1) varying
(2) the same

D. (1) the same
(2) various

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LP 70 p.7	070.00.05	N	

Explanation:
SRV's discharge near the bottom of the pool at varying distances from the center of the pool.

Q# 19	BOTH	TIER 2	GROUP	RO 2 SRO 2	245000	K5.07	RO 2.6	SRO 2.9	Memory

Main Turbine Generator and Auxiliary Systems

Knowledge of the operational implications of the following concepts as they apply to MAIN TURBINE GENERATOR AND AUXILIARY SYSTEMS:

Generator operations and limitations

Which of the following would occur if generator hydrogen pressure decreases to 25 psig while operating the main generator fully loaded?

Generator damage due to ...

A. lack of cooling ability.

B. seal oil backup.

C. lack of seal oil.

D. hydrogen detonation.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LP 009 p.30	009.00.05	New	

Explanation:
Hydrogen pressure should be maintained within limits of generator loading.

Q# 20	BOTH	TIER 2	GROUP	RO 1 SRO 1	259002	A1.02	RO 3.6	SRO 3.5	High

Reactor Water Level Control System

Ability to predict and/or monitor changes in parameters associated with operating the REACTOR WATER LEVEL CONTROL SYSTEM controls including:

Reactor feedwater flow

The plant is operating normally at approximately 75% power.

- The 1A and 1B TDRFP's are both in 3-Element control
- The RWLC setpoint is at 36 inches.
- One of the MSL Flow inputs to RWLC instantaneously fails downscale.

Which of the following describes the expected response of reactor feedwater flow?

Reactor feedwater flow will....

A. remain constant.

B. initially increase and then decrease prior to an automatic scram.

C. initially decrease and then increase prior to an automatic main turbine trip.

D. decrease until the reactor automatically scrams due to low reactor water level.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LP 31 p. 50	031.00.05	Modified 2002R.bnk DFW011	

Explanation:
Failure of any single component will NOT impair the systems ability to maintain level.

Q# 21	BOTH	TIER 2	GROUP	RO 1 SRO 1	259002	K6.02	RO 3.3	SRO 3.4	Memory

Reactor Water Level Control System

Knowledge of the effect that a loss or malfunction of the following will have on the REACTOR WATER LEVEL CONTROL SYSTEM:

A.C. power

Unit 1 at 100% power.

- 1A and 1B TDRFP in 3-Element control.
- A trip of 135X-3 occurs.

Which of the following describe how Reactor Water Level Control will respond to the event?

A. All RWLC M/A Stations will transfer to manual.

B. TDRFP's will transfer to Demand Substitution, the Feed Reg. Valve and Low Flow Feed Reg. Valve fail closed.

C. The RWLC system annunciates a minor RWLC failure alarm and component status is unchanged.

D. Band C Narrow range transmitters will fail downscale, causing a level 8 trip.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	LP 31 p. 44	031.00.16	N	

Explanation:
135X-3 and 136X-3 provide redundant power supplies to 1H13-P660 & P612. On loss of 135X-3, power will be supplied from 136X-3.

Q# 22	BOTH	TIER 2	GROUP	RO 2 SRO 1	262001	K1.04	RO 3.1	SRO 3.4	High

A.C. Electrical Distribution

Knowledge of the physical connections and/or cause- effect relationships between A.C. ELECTRICAL DISTRIBUTION and the following:

Uninterruptible power supply

Unit 2 at 100% power

LOR 2PM01J-A111, "UPS TROUBLE" alarm just received for the Process Computer UPS
Computer Point R0256 "UPS 480V Norm Sply Volt Lo" received.

The Unit 2 UPS is now fed from...

A. 235X-3

B. 135X-2

C. 221Y

D. 211Y

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	LOP-CX-02E;LP 12 p. 17	012.00.05	N	

Explanation:
Normal power supply is AC from it's own unit. The 250VDC supply backs up the normal. If both normal AC and backup DC are lost, alternate AC is supplied.

Q# 23	BOTH	TIER 2	GROUP	RO 2 SRO 1	262001	K2.01	RO 3.3	SRO 3.6	High

A.C. Electrical Distribution Knowledge of electrical power supplies to the following:

Off-site sources of power

Unit 1 has just started a refueling outage (shutdown was 3.5 hours ago).
Unit 2 is critical with a 65°F/hour heat-up rate established.

Given this initial lineup, which one of the following combinations of failures would result in a loss of all Off-Site AC power to both units?

A. Unit 1 SAT and Lines 0108 and 0101.

B. Unit 1 SAT and Unit 2 SAT.

C. Unit 1 Ring Bus and Lines 0102 and 0103.

D. Unit-2 SAT and Lines 6102 and 0108.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	Figure 03-02	005.00.05	B	

Explanation:
With both generators off-line (UAT's are unavailable) a loss of both SAT's will result in a loss of off-site power to both units.

Q# 24	BOTH	TIER 2	GROUP	RO 2 SRO 2	263000	A4.02	RO 3.2	SRO 3.1	Memory

D.C. Electrical Distribution Ability to manually operate and/or monitor in the control room:

Battery voltage indicator: Plant-Specific

Unit 1, Division 1, 125VDC Voltage is indicated on the ___(1)___ panel and indicates ___(2)___.

A. (1) 1PM01J
(2) battery output only.

B. (1) 1PM01J
(2) battery and battery charger output.

C. (1) 1PM02J
(2) battery output only.

D. (1) 1PM02J
(2) battery and battery charger output.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LP 6 p. 32	006.00.07	N	

Explanation:
Battery and charger output indication are located on 1PM01J.

Q# 25	BOTH	TIER 2	GROUP	RO 1 SRO 1	264000	A2.04	RO 2.9	SRO 3.0	High

Emergency Generators (Diesel/Jet)

Ability to (a) predict the impacts of the following on the EMERGENCY GENERATORS (DIESEL/JET); and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations:

Consequences of operating under/over excited

LOS-DG-M2, 1A/2A Diesel Generator Operability Test is in progress for the 1A Diesel Generator.

Current load is at 1300 KW with 180 KVARS.

Action should be taken to increase KVARS to ___(1)___ in order to _____(2)_____ .

A. (1) 790 out
(2) maintain ECCS pump operability requirements should a loss of the SAT occur.

B. (1) 790 out
(2) prevent the Diesel Generator from tripping on reverse power due to large load changes on the grid.

C. (1) 450 out
(2) maintain ECCS pump operability requirements should a loss of the SAT occur.

D. (1) 450 out
(2) prevent the Diesel Generator from tripping on reverse power due to large load changes on the grid.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LOS-DG-M2 p. 8 **PROVIDE REFERENCE (TABLE ONLY)**		New	

Explanation:
D is the correct answer per LOS-DG-M2.

Q# 26	BOTH	TIER 2	GROUP	RO 1 SRO 1	264000	K3.01	RO 4.2	SRO 4.4	High

Emergency Generators (Diesel/Jet)

Knowledge of the effect that a loss or malfunction of the EMERGENCY GENERATORS (DIESEL/JET) will have on following:

Emergency core cooling systems

Given the following Unit 1 conditions:

- Drywell pressure at 2.0 psig.
- The SAT has tripped due to spurious deluge.
- One (1) minute later, the 1A DG Cooling Water Pump trips.

If no operator action is taken, which of the following explains the operation of the emergency core cooling equipment?

A. Division 1 ECCS pumps will trip immediately due to a loss of power.

B. Division 2 ECCS pumps will trip immediately due to a loss of power.

C. Division 1 ECCS pumps will run until diesel failure occurs.

D. Division 2 ECCS pumps will run until diesel failure occurs.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LOP-DG-01 p.5	011.00.05	New	

Explanation:
The 1A DG high cooling water temperature trip is bypassed with a LOCA signal present. As a result, the 1A DG will eventually trip on high water temperature, which will deenergize bus 142, resulting in a loss of power to the Division 2 ECCS Pumps.

Q# 27	BOTH	TIER 2	GROUP	RO 3 SRO 3	268000	K3.04	RO 2.7	SRO 2.8	Memory

Radwaste

Knowledge of the effect that a loss or malfunction of the RADWASTE will have on following:

Drain sumps

2WE01T, Unit 2 Waste Collector Tank is Out of Service and isolated.
1WE01T, Unit 1 Waste Collector Tank inlet valve (1WE001) solenoid has failed closed.

Input from which of the following will be affected by the above condition?

A. Reactor Building Equipment Drain Sumps

B. Reactor Building Floor Drain Sumps

C. Fuel Pool Filter Demin Backwash

D. Laundry Sample Tank

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LP 121 p. 68	121.00.02	New	

Explanation:
A is the only input to the Waste Collector. All other distracters are collected in other Radwaste Tanks.

Q# 28	BOTH	TIER 2	GROUP	RO 3 SRO 3	268000	K5.02	RO 3.1	SRO 3.6	High

Radwaste

Knowledge of the operational implications of the following concepts as they apply to RADWASTE:

Radiation hazards and ALARA concept

Which of the following individuals would have the greatest risk of exceeding their daily radiation exposure limit due to changing radiological conditions during the stated evolution?

An operator standing by the ...

A. Spent Resin Tank (0WX03T) during a Unit 2 Reactor Water Clean-Up System Filter Demineralizer Backwash.

B. Phase Separator Tank (2WX01TB) during a Unit 2 Reactor Water Clean-Up System Filter Demineralizer Backwash.

C. Spent Resin Tank (0WX03T) during a Unit 2 Condensate Polisher Resin Transfer To URC Inlet Vessel.

D. Phase Separator Tank (2WX01TB) during a Unit 2 Condensate Polisher Resin Transfer To URC Inlet Vessel.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LP 122, Waste Processing System, Page 5 of 41	027.00.06 (location) 122.00.03.	New	

Explanation:
RWCU resin is highly irradiated with corrosion products from the RPV. The F/D is backwashed to the Phase Separator Tank. The CPs only have Condensate corrosion products, which are lower in dose than the RWCU resin and are sent to the URC,

Q# 29	BOTH	TIER 2	GROUP	RO 2 SRO 2	271000	A1.08	RO 3.1	SRO 3.1	High

Offgas System

Ability to predict and/or monitor changes in parameters associated with operating the OFFGAS SYSTEM controls including:

System flow

Unit 1 is starting up.

Steam Jet Air Ejector steam flow is 6500lbm/hr.

1N62-F300A/B Main Condenser Outlet Valves are open with their C/S in OPEN.

What affect, if any, will placing the Control Switches for 1N62-F300A/B to AUTO have on Offgas system flow?

A. No affect.

B. Offgas flow will increase first, then return to its original value.

C. Offgas flow will increase.

D. Offgas flow will decrease.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LOR 1N62-P600-A505	080.00.05	New	

Explanation:
At <7,800 lbm/hr flow and the C/S in AUTO, the F300A/B will close.

Q# 30	BOTH	TIER 2	GROUP	RO 2 SRO 1	290001	A2.05	RO 3.1	SRO 3.3	High

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 temperature

Unit 1 is operating at 100% power.

A 2 gpm Reactor Water Cleanup leak has been identified in the 1A RT Pump Room.

Unit 1 Reactor Building Ventilation (VR) system spuriously trips.

Based on the above transient,

(1) predict the concern of the VR Isolation on the secondary containment, AND
(2) actions taken to mitigate the transient.

A. (1) Temperature increase affecting equipment operability;
(2) Start ONE Standby Gas Treatment train to maintain area temperatures.

B. (1) Temperature increase affecting equipment operability;
(2) Bypass high differential temperature isolation signals and restart VR.

C. (1) Radiation levels increasing, affecting equipment operability;
(2) Bypass high radiation isolation signals and restart VR.

D. (1) Radiation levels increasing, affecting equipment operability;
(2) Start BOTH Standby Gas Treatment trains to maintain area radiation levels.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LGA-002 Lesson Plan, page 4 of 28	417.00.01	New	

Explanation:
Area Temps. >212°F is an entry cond. for LGA-002. It's bases is to maintain emergency functions and ensure safety of personnel.

Q# 31	BOTH	TIER 2	GROUP	RO 2 SRO 1	290001	K4.03	RO 2.8	SRO 2.9	Memory

Secondary Containment

Fluid leakage collection

Knowledge of SECONDARY CONTAINMENT design feature(s) and/or interlocks which provide for the following:

What is the difference, if any, between how leakage into the reactor building corner room sumps will be processed during conditions in which the secondary containment has isolated as compared to normal operations?

A. NO DIFFERENCE, the floor drain sump will continue to pump down to the Radwaste floor drain collector tank regardless of secondary containment status.

B. The floor drain sump will isolate and need to be manually aligned to Radwaste floor drain collector tank using the RE/RF isolation bypass keylock switches at 1(2)PM16J.

C. The floor drain sump CANNOT be pumped down while the secondary containment is isolated, resulting in the sumps overflowing into the other corner room sumps.

D. The floor drain sump will be pumped to the reactor building equipment drain sump vice the Radwaste floor drain collector tank while the secondary containment is isolated.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LP 121, Liquid Processing and Sumps, Section III.B, Page 8 of 73	**None.**	New	

Explanation:
The reactor building floor drain sumps have no automatic isolation features associated with secondary containment isolation. The system will continue to operate normally.

Q# 32	BOTH	TIER 2	GROUP	RO 2 SRO 2	290003	A3.01	RO 3.3	SRO 3.5	High

Control Room HVAC

Ability to monitor automatic operations of the CONTROL ROOM HVAC including:

Initiation/reconfiguration

The 0A Control Room Ventilation (VC) system is operating in purge mode to remove light smoke from an electrical fault in a desktop computer.

Predict the response of the VC system if high radiation is detected in the outside air by detectors 1D18-K751A and 1D18-K751B?

A. ONLY VC Minimum and Maximum Outside Air Dampers will receive a signal to close. The VC Charcoal Filter will remain in its current lineup.

B. ONLY VC Minimum and Maximum Outside Air Dampers will receive a signal to close. The VC Charcoal Filter will realign.

C. VC and VE Minimum and Maximum Outside Air Dampers will receive a signal to close. The VC Charcoal Filter will remain in its current lineup.

D. VC and VE Minimum and Maximum Outside Air Dampers will receive a signal to close. The VC Charcoal Filter will realign.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	LOP-VC-01 rev. 19 p.64	117.00.05	Bank, LOP-VC-01 050	

Explanation:
The proper combination of rad monitors have tripped, so the system will realign to the pressurization mode. When in the purge mode, the Odor Eater is placed in service, therefore it will NOT realign. On a high rad condition, the Emergency M/U will start. All min and max outside air dampers will close.

Q# 33	BOTH	TIER 2	GROUP	RO 2 SRO 2	290003	K4.01	RO 3.1	SRO 3.2	Memory

Control Room HVAC

Knowledge of CONTROL ROOM HVAC design feature(s) and/or interlocks which provide for the following:

System initiations/reconfiguration: Plant-Specific

The Control Room Ventilation System is aligned for normal operations (NOT in purge) and smoke is detected in the RETURN AIR supply duct.

Which of the following describes the response of the VC System?

A. The VC Charcoal Filter is automatically placed on line and the Minimum Outside Air Damper closes.

B. The Emergency Make Up Train automatically comes on line and the Outside Air Supply isolates.

C. The VC Charcoal Filter is automatically placed on line and the Minimum Outside Air Damper remains open.

D. The Emergency Make Up Train automatically comes on line and the Minimum Outside Air Damper remains open.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	VC LP, pg. 4, 5	117.00.08	LaSalle 1999 NRC Exam	

Explanation:
High return air smoke detection sensed upstream of the VC return fan suction isolation dampers aligns the VC System recirculation charcoal filter dampers to insure smoke removal. The alignment is as follows: 0VC11YA(B), Inlet, OPENS; 0VC12YA(B), Outlet, OPENS; 0VC13YA(B), Bypass, CLOSES.
EMU comes on line when smoke is detected in outside air supply NOT return air.

Q# 34	BOTH	TIER 1	GROUP	RO 2 SRO 1	295003	2.1.28	RO 3.2	SRO 3.3	Memory

Partial or Complete Loss of A.C. Power

Conduct of Operations

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

Unit 1 is at rated power with a normal electrical lineup.

If Bus 141Y voltage drops to 65% of its normal voltage . . .

A. the UAT feed to 141Y will trip and the 0 DG will start and pick up the bus to restore voltage to essential equipment.

B. the UAT feed to 141Y will trip and the SAT feed will automatically close to restore voltage to all loads on the bus.

C. the SAT feed to 141Y will trip and the 0 DG will start and pick up the bus to restore voltage to essential equipment.

D. the SAT feed to 141Y will trip and the UAT feed will automatically close to restore voltage to all loads on the bus.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	LOR-1PM01J-A314	005.00.10	LaSalle 1999 NRC Exam	

Explanation:
If Bus 141Y voltage <69%, ACBs 1412 will trip, the 0 DG will start and ACB 1413 will close. The normal electrical power supply to 141Y is the SAT. The under voltage signal will also trip multiple non-essential loads.

Q# 35	BOTH	TIER 1	GROUP	RO 2 SRO 1	295003	AK3.06	RO 3.7	SRO 3.7	Memory

Partial or Complete Loss of A.C. Power

Knowledge of the reasons for the following responses as they apply to PARTIAL OR COMPLETE LOSS OF A.C. POWER:

Containment isolation

Why are Inboard and Outboard Primary Containment Isolation Valves powered from separate sources?

To ensure that a loss or failure of __(1)__ power supply(s) will _____(2)_____ .

A. (1) a single
   (2) NOT prevent an isolation from occurring.

B. (1) both
   (2) NOT prevent an isolation from occurring.

C. (1) a single
   (2) always result in an isolation.

D. (1) both
   (2) always result in an isolation.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LP 091, PCIS Page 3 of 51	091.00.01	New	

Explanation:
The power supply arrangement is such that a failure of a single power supply will not prevent an isolation from occurring.

Q# 36	BOTH	TIER 1	GROUP	RO 2 SRO 2	295004	AK3.02	RO 2.9	SRO 3.3	Memory

Partial or Complete Loss of D.C. Power

Knowledge of the reasons for the following responses as they apply to PARTIAL OR COMPLETE LOSS OF D.C. POWER:

Ground isolation/fault determination

The following alarms are received in the control room:

- 125VDC Pnl 111X/Y Gnd Det
- 125VDC Div 1 Charger Trouble

The Shift Manager has given permission to commence ground isolation on Bus 111Y per the appropriate procedure.

Which of the following indicates the system affected and the expected response of that system to opening individual circuit breakers during the course of ground isolation?

A. The "B" Narrow Range Indicator will fail downscale.

B. The 1A TDRFP will NOT respond to speed demand signals.

C. MDRFP will trip due to Level 8 trip.

D. RCIC will NOT automatically initiate as designed.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LOA-DC-101 rev. 6 p. 163	06.00.18	LORT BANK LOP-DC-04 002	

Explanation:
RCIC auto initiation is prevented. B NR is NOT fed from 111Y. 1A TDRFP is NOT fed from 111Y and the C level 8 channel fails in a tripped condition, NOT preventing nor causing a trip by itself.

Q# 37	BOTH	TIER 1	GROUP	RO 1 SRO 2	295005	AA1.01	RO 3.1	SRO 3.3	Memory

Main Turbine Generator Trip

Ability to operate and/or monitor the following as they apply to MAIN TURBINE GENERATOR TRIP:

Recirculation system: Plant-Specific

Reactor power is at 60%, with a decreasing Relayed Emergency Trip Supply (RETS) pressure.

Which of the following describes the HIGHEST RETS pressure that will cause Reactor Recirculation (RR) pump speed to change and the expected final RR pump speed?

	RETS Pressure	RR Pumps
A.	450 psig	OFF
B.	450 psig	SLOW
C.	550 psig	OFF
D.	550 psig	SLOW

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LOR 1H13-P603-B106	071.00.10	New	

Explanation:
With reactor power greater than 25% and RETS header pressure below 510 psig the EOC-RPT downshift to slow speed interlock is activated and the RR pumps will automatically downshift.

Q# 38	BOTH	TIER 1	GROUP	RO 1 SRO 2	295005	AK1.03	RO 3.5	SRO 3.7	High

Main Turbine Generator Trip

Knowledge of the operational implications of the following concepts as they apply to MAIN TURBINE GENERATOR TRIP:

Pressure effects on reactor level

Unit 2 is at rated conditions.

The 2A Moisture Separator Reheater Drain Tank level controls fail causing level to increase to the bottom of the 2A Moisture Separator Reheater Shell.

Which of the following describes the INITIAL response of reactor pressure and level to a Main Turbine Generator Trip from rated conditions?

Reactor Pressure will ___(1)___ and INDICATED Reactor Water Level will ____(2)____.

A. (1) increase
(2) increase

B. (1) increase
(2) decrease

C. (1) decrease
(2) increase

D. (1) decrease
(2) decrease

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	PBIG LGP 3-2, LP 071, page 25	40.00.07	New	

Explanation:
Reactor pressure will increase due to the loss of a major steam load and Reactor water level will decrease due to the pressure increase collapsing the voids and reduction in power.

Q# 39	BOTH	TIER 1	GROUP	RO 1 SRO 1	295006	AK1.01	RO 3.7	SRO 3.9	High

SCRAM

Knowledge of the operational implications of the following concepts as they apply to SCRAM:

Decay heat generation and removal.

A reactor startup is in progress with reactor power at 13%.
An electrical malfunction causes all turbine control valves to open fully.
The reactor automatically scrammed.

Without operator action, which of the following describes the methods of decay heat removal AVAILABLE immediately after the scram?

1. Main Turbine Bypass Valves
2. Outboard Main Steam Line Drains
3. Safety Relief Valves
4. Reactor Water Cleanup

A. 1, 2, 3 and 4

B. 1, 2 and 3 only

C. 2, 3 and 4 only

D. 3 and 4 only

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LOP-PC-03 p. 6&11	091.00.08	N	

Explanation:
Control valves failing open would give a Group 1 (MSIV) isolation. Main Turbine Bypass Valves and outboard MSIV drains would NOT be available.

Q# 40	BOTH	TIER 1	GROUP	RO 1 SRO 1	295007	AK1.02	RO 3.1	SRO 3.4	High

High Reactor Pressure

Knowledge of the operational implications of the following concepts as they apply to HIGH REACTOR PRESSURE:

Decay heat generation

Unit 1 is cooling down for a refueling outage with the following conditions present:

- Reactor Pressure is 100 psig
- 1A RHR in Shutdown Cooling
- EHC pressure set is at 150 psig
- MSIV's are open
- Reactor scram has been reset
- All running RHR Service Water Pumps trip

With no operator action, which of the following events will be expected to occur NEXT?

A. 1A RHR pump trip

B. Turbine BPV's open

C. MSIV's isolate

D. Reactor Scram

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	064, RHR System Lesson Plan, IV.L.3.b, Page 34 of 59.	064.00.21	New	

Explanation:
With a loss of RHR-WS, the vessel will heat up due to decay heat. When pressure reaches 135 psig, SDC will isolate, resulting in a low suction pressure trip of the 1A RHR pump.

Q# 41	BOTH	TIER 1	GROUP	RO 1 SRO 1	295007	AK3.03	RO 3.4	SRO 3.5	High

High Reactor Pressure

Knowledge of the reasons for the following responses as they apply to HIGH REACTOR PRESSURE:

RCIC operation: Plant-Specific

RCIC flow is in automatic, injecting at rated flow.
SRV's are being cycled to maintain reactor pressure.

Which of the following describes the RCIC system FINAL parameters as reactor pressure rises from 800 to 1000 psig.

	Turbine Speed	Pump Flow	Pump Discharge Pressure
A.	Lower	Remain the Same	Higher
B.	Remain the Same	Lower	Lower
C.	Higher	Higher	Remain the Same
D.	Higher	Remain the Same	Higher

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LP 32 p. 60	032.00.05	LaSalle 2000 ILT Certification Exam	

Explanation:
In AUTO, the system will attempt to maintain flow. As reactor pressure rises flow will lower and turbine speed and pump discharge pressure must be higher to maintain flow as described in LP 32.

Q# 42	BOTH	TIER 1	GROUP	RO 2 SRO 2	295008	AK1.02	RO 2.8	SRO 2.8	Memory

High Reactor Water Level

Component erosion/damage

Knowledge of the operational implications of the following concepts as they apply to HIGH REACTOR WATER LEVEL:

The MDRFP will trip at Level 8 to prevent damaging the ....

1. Safety Relief Valves
2. Main Turbine
3. Reactor Vessel Steam Separator
4. RCIC Turbine

A. 1, 2, 3 and 4.

B. 1, 2 and 3 only.

C. 2 and 4 only.

D. 1 and 2 only.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LP 77 p. 27.IV.A.3	071.00.05	Modified from Dresden 2002	

Explanation:
High level trip to protect SRV's from water-hammer and prevent carryover to turbine.. RCIC has its own level 8 trip.

Q# 43	BOTH	TIER 1	GROUP	RO 2 SRO 2	295008	AK2.07	RO 2.9	SRO 3.0	Memory

High Reactor Water Level

Knowledge of the interrelations between HIGH REACTOR WATER LEVEL and the following:

HPCS: Plant-Specific

HPCS automatically starts and injects to the vessel.

Annunciators for Reactor Vessel Level 8 are received on 1H13-P601.

Which of the following statements is true?

A. HPCS injection valve will close and the Full Flow Test valve will open.

B. HPCS injection valve will close and the HPCS pump breaker will trip.

C. HPCS will continue to inject due to the High Drywell signal.

D. HPCS pump will continue to run and the Minimum Flow valve will open.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LP 61 p. 13& 14	061.00.05	Modified, Perry 1997 ILT exam	

Explanation:
HPCS Injection valve automatically closes on Level 8, the pump continues to run and the min flow will open. Other answers incorrect because HPCS does NOT continue to inject, the pump breaker does NOT trip, and the Full Flow Test valve does NOT auto open.

Q# 44	BOTH	TIER 1	GROUP	RO 1 SRO 1	295010	AK1.01	RO 3.0	SRO 3.4	High

High Drywell Pressure

Knowledge of the operational implications of the following concepts as they apply to HIGH DRYWELL PRESSURE:

Downcomer submergence: Mark-I&II

A LOCA is in progress on Unit 2.
Drywell pressure is 13 psig and increasing at 0.1psig/min.

Which of the following would indicate proper operation of Primary Containment?

A Suppression Chamber Pressure of ...

A. 0 - 1 psig.

B. 4 - 5 psig.

C. 8 - 9 psig.

D. 12 - 13 psig.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	LP 90 Pri. And Sec. Cont. p.20	090.00.05	New	

Explanation:
Once drywell pressure overcomes the static head in the downcomers, suppression chamber pressure will increase. It takes approx. 4-5 psid to overcome the static head.

Q# 45	BOTH	TIER 1	GROUP	RO 2 SRO 1	295013	AK2.01	RO 3.6	SRO 3.7	Memory

High Suppression Pool Temperature

Knowledge of the interrelations between HIGH SUPPRESSION POOL TEMPERATURE and the following:

Suppression pool cooling

Unit 2 is at full power

- Suppression Pool (SP) Cooling is in operation
- Average pool temperature is increasing
- RCIC testing is in progress

If SP temperature continues to rise, the unit is required to immediately stop RCIC testing if SP temperature exceeds __(1)__ degrees F, or immediately place the reactor mode switch in SHUTDOWN if SP temperature exceeds __(2)__ degrees F.

A. (1) 105
(2) 110

B. (1) 110
(2) 120

C. (1) 105
(2) 120

D. (1) 100
(2) 110

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	Technical Specification 3.6.2.1	032.00.20 090.00.22	2002 NRC ILT EXAM	

Explanation:
Answer A is correct per the references.

Q# 46	BOTH	TIER 1	GROUP	RO 1 SRO 1	295014	AK2.05	RO 4.0	SRO 4.1	High

Inadvertent Reactivity Addition

Knowledge of the interrelations between INADVERTENT REACTIVITY ADDITION and the following:

Neutron monitoring system

Unit 1 is at 100% power.
Extraction Steam to the 16A HP Heater has just been lost.
LOA-HD-101, "Heater Drain System Trouble" has been entered.

APRM AGAF's:

A: 0.972	B : 0.974	C : 1.030
D: 1.040	E : 0.974	F: 1.024

Core power should be determined via:

A. Power-to-Flow Map.

B. APRM's.

C. OD3.

D. RBM.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	LOA-HD-101 p.36-37	044.00.014	New	

Explanation:
When AGAF's out of spec., OD3 should be used.

Q# 47	BOTH	TIER 1	GROUP	RO 1 SRO 1	295015	AA1.02	RO 4.0	SRO 4.2	Memory

Incomplete SCRAM

Ability to operate and/or monitor the following as they apply to INCOMPLETE SCRAM:

RPS

A reactor scram signal has been received with the following indications for the scram group lights:

ON	OFF	OFF	ON
OFF	OFF	OFF	OFF

Which of the following indicates the MINIMUM actions required to de-energize the remaining RPS scram group lights?

Depress the _____ scram pushbutton(s).

A. A1 OR A2

B. A1 AND A2

C. B1 OR B2

D. B1 AND B2

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	APRM LP Ch. 49, p. 5, 13, 17	044.00.05	New	

Explanation:
The scram group lights are arranged with the A lights on top and the B lights on bottom. Either A pushbutton will de-energize all group lights.

Q# 48	BOTH	TIER 1	GROUP	RO 1 SRO 1	295015	AK3.01	RO 3.4	SRO 3.7	Memory

Incomplete SCRAM

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

Bypassing rod insertion blocks

During performance of LGA-NB-01, Alternate Rod Insert, Single Rod Insertion, the operator is directed to place the MODE SELECT switch in BYP for the Rod Worth Minimizer.

The above action bypasses ...

A. rod insert blocks to allow inward rod motion.

B. the settle function to speed the rate of rod insertion.

C. the single notch function to speed the rate of rod insertion.

D. nuclear Instrumentation rod blocks to allow all rod motion.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LGA-NB-01 Rev 6 pg. 11	045.00.05	LaSalle 1999 NRC Exam	

Explanation:
Placing the MODE SELECT switch in BYP will bypass the Rod Worth Minimizer bypassing all insert rod blocks. Response D is incorrect because rod withdraw blocks could still be generated by nuclear instrumentation. The RWM has no impact on the settle or single notch functions (of RMCS).

Q# 49	BOTH	TIER 1	GROUP	RO 2 SRO 1	295016	AA1.05	RO 2.8	SRO 2.9	Memory

Control Room Abandonment

Ability to operate and/or monitor the following as they apply to CONTROL ROOM ABANDONMENT:

D.C. electrical distribution

A fire in the Control Room has forced evacuation and control has been transferred to the Remote Shutdown panel.

Which of the following would indicate a loss of 121Y?

A. No position indication for "K" SRV.

B. "B" RHR flow indication downscale.

C. RCIC turbine trip and throttle valve indication.

D. RHR Service Water flow indication downscale.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	LOP-RI-01E	032.00.05	New	

Explanation:
RCIC is the only system listed that is affected by loss of 121Y.

Q# 50	BOTH	TIER 1	GROUP	RO 2 SRO 1	295017	AA1.02	RO 3.5	SRO 3.7	Memory

High Off-Site Release Rate

Ability to operate and/or monitor the following as they apply to HIGH OFF-SITE RELEASE RATE:

Off-gas system

Unit 1 is at 100% power.

Off-Gas Charcoal Adsorber Train Mode Switch in AUTO with the following lineup:

- 1N62-F043, Off Gas Charcoal Adsorber Bypass Valve is open.
- 1N62-F042, Off Gas Charcoal Adsorber Inlet Valve is closed.
- 1N62-F057 Off Gas System Discharge to Stack is open
- 1N62-F085A/B Holdup Line Drain Valve are open

What is the expected response of the Off Gas System to a valid Hi-Hi Post Treatment radiation condition?

A. No Off Gas Valves will auto position until a Hi-Hi-HI Rad signal is reached.

B. 1N62-F043 will close and 1N62-F042 will open.

C. 1N62-F043 will close; 1N62-F042 will open and 1N62-F057 will close.

D. 1N62-F043 will close; 1N62-F042 will open, 1N62-F057 will close and 1N62-F085A/B will close.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LOR 1N62-P600-B207, "OFF GAS POST-TRMT RAD HI"	080.00.05	New	

Explanation:
C and D do NOT occur until Hi-Hi-Hi setpoint is reached. A is incorrect because the Charcoal Adsorber Inlet and Bypass reposition.

Q# 51	BOTH	TIER 1	GROUP	RO 2 SRO 1	295017	AA1.09	RO 3.6	SRO 3.8	Higher

High Off-Site Release Rate

Ability to operate and/or monitor the following as they apply to HIGH OFF-SITE RELEASE RATE:

Standby gas treatment/FRVS

To reduce containment pressure, operators are venting primary containment using standby gas treatment system (SBGT) post-accident in accordance with LGA-VQ-01, "Containment Vent."

Reactor plant conditions are stable. Other plant conditions are as follows:

- -Unit 1 SBGT train is in operation
- -Unit 2 SBGT train is in standby
- -Radiation levels in primary containment are elevated

- -Primary containment pressure is 1.5 psig, decreasing
- -Primary containment temperature is 145 deg F, decreasing

If the discharge rate through the Unit 1 SBGT radiation monitor causes annunciator 1PM07J-A304, "SBGT WIDE RANGE GAS MONITOR TROUBLE" to alarm due to a high radiation release condition, the operator would be required to...

A. continue venting, no radiation release limits are imposed.

B. secure venting to prevent exceeding offsite release.

C. continue venting until General Emergency radiation limits are reached.

D. verify automatic shutdown of the Unit 1 SBGT.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LGA-VQ-01	427.00.01	Bank 2002 NRC Exam	

Explanation:
The above alarm indicates that the ODCM release rates have been exceeded, which is not authorized per LGA-VQ-01 (Limitation D.1) If this alarm is received, direction is provided to shutdown the VG train.

Q# 52	BOTH	TIER 1	GROUP	RO 2 SRO 2	295020	AK3.03	RO 3.2	SRO 3.2	High

Inadvertent Containment Isolation

Knowledge of the reasons for the following responses as they apply to INADVERTENT CONTAINMENT ISOLATION:

Drywell/containment temperature response

111Y has been lost.

How will this affect Unit 1 Drywell temperature?

Drywell temperature will ___(1)___ due to _____(2)_____.

A. (1) increase
   (2) outboard isolation valves closing.

B. (1) increase
   (2) inboard isolation valves closing.

C. (1) remain the same
   (2) outboard isolation valves failing "as is".

D. (1) remain the same
   (2) inboard isolation valves failing "as is".

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LOA-DC-101 p. 40	006.00.05	New	

Explanation:
Loss of 111Y will cause the VP outboard isolation valves to close, resulting in an increase in Drywell temp.

Q# 53	BOTH	TIER 1	GROUP	RO 3 SRO 1	295023	AK2.02	RO 2.9	SRO 3.2	Memory

Refueling Accidents

Knowledge of the interrelations between REFUELING ACCIDENTS and the following:

Fuel pool cooling and cleanup system

Unit 2 is in REFUEL with fuel movements in progress.

- While moving a fuel bundle from the reactor to the fuel pool, the bundle was dropped in the fuel pool.
- Several Refuel Floor ARM's were received along with an isolation of VR.
- Unnecessary personnel were evacuated from the refuel floor and reactor building.

Given the above conditions, what is the expected response of the Fuel Pool Cooling System?

A. No automatic actions.

B. Automatically isolates the Fuel Pool Cooling Demineralizer.

C. Automatically trips Fuel Pool Cooling Pumps and isolates system.

D. Automatically places the second Fuel Pool Cooling Filter Demineralizer in line.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LP 29 p. 28-31	029.00.05	New	

Explanation:
No automatic actions occur in the FC system based on the given conditions..

Q# 54	BOTH	TIER 1	GROUP	RO 2 SRO 1	295026	EK1.01	RO 3.0	SRO 3.4	High

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

Unit 1 has experienced a transient.

Suppression Pool Level is –15 feet.

Which of the following conditions could be expected to cause LPCS system damage? ***Provide LGA Fig NL***

	Suppression Chamber Pressure (psig)	Suppression Pool Temperature (°F)
A.	0	210
B.	5	215
C.	10	230
D.	15	245

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LGA Figure NL	413.00.04	New	

Explanation:
Only A will be above the LPCS NPSH limit.

Q# 55	BOTH	TIER 1	GROUP	RO 2 SRO 1	295026	EK2.02	RO 3.6	SRO 3.8	High

Suppression Pool High Water Temperature

Knowledge of the interrelations between SUPPRESSION POOL HIGH WATER TEMPERATURE and the following:

Suppression pool spray: Plant-Specific

Suppression Pool level: –6 feet

Suppression Chamber pressure: 15 psig

Which of the following is the HIGHEST Suppression Pool temperature that Suppression Chamber Sprays can be started without concerns of pump damage?

A. 235°F

B. 240°F

C. 245°F

D. 250°F

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LGA-003 **Provide Figure NR**	413.00.04	New	

Explanation:
Using Figure NR, RHR/LPCI NPSH Limit, Suppression Pool temperatures of 245°F and 250°F are in the shaded area for NPSH concerns. 240°F is in the shaded portion for pool levels between -13 feet and –18 feet. And 235°F is NOT in any shaded area. Therefore, 240°F is the highest temperature for the given conditions, that NPSH requirements are met.

Q# 56	BOTH	TIER 1	GROUP	RO 2 SRO 2	295028	EA1.04	RO 3.9	SRO 4.0	High

High Drywell Temperature

Ability to operate and/or monitor the following as they apply to HIGH DRYWELL TEMPERATURE:

Drywell pressure

Unit 1 Primary Containment Chillers A & C are off.
Unit 1 Primary Containment Chiller "B" trips.

Which below describes ...

(1) the status of containment cooling, AND
(2) the expected IMMEDIATE (within one minute) effect on Unit 1 Drywell pressure?

A. (1) All cooling is lost
(2) Drywell pressure will rise.

B. (1) All cooling is lost
(2) Drywell pressure will remain constant.

C. (1) Limited cooling is still maintained
(2) Drywell pressure will rise.

D. (1) Limited cooling is still maintained
(2) Drywell pressure will remain constant.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	LP 96, page 16 of 56	096.00.05	NEW	

Explanation:
When a chiller unit trips, the Holdup Tank will provide about 10 minutes of residual cooling. The drywell air temperature and pressure will slowly rise should remain steady while the Holdup Tank provides residual cooling.

Q# 57	BOTH	TIER 1	GROUP	RO 2 SRO 2	295029	EA1.04	RO 3.4	SRO 3.5	Memory

High Suppression Pool Water Level

Ability to operate and/or monitor the following as they apply to HIGH SUPPRESSION POOL WATER LEVEL:

RCIC: Plant-Specific

Unit 2 RCIC is in a normal standby lineup.

Leaking valves cause Suppression Pool Level to increase such that High Suppression Pool Water Level alarms are received on the 2H13-P601 panel.

Which one of the following describes the response of the RCIC system to this condition?

A. RCIC Suction from the Suppression Pool, 2E51-F031, will open and then RCIC Suction from the CY Tank, 2E51-F010, will close.

B. RCIC Suction from the CY Tank, 2E51-F010, will close and then RCIC Suction from the Suppression Pool, 2E51-F031, will open.

C. RCIC suctions will remain in standby configuration until a low CY Tank level condition occurs at which time they will transfer with 2E51-F031, RCIC Suction from the Suppression Pool, opening and then 2E51-F010, Suction from the CY Tank, closing.

D. RCIC suctions will remain in standby configuration until a low CY Tank level condition occurs at which time they will transfer with 2E51-F010, Suction from the CY Tank, closing and then 2E51-F031, RCIC Suction from the Suppression Pool, opening.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	RCIC LP 032, page 38 & 39 of 69	032.00.05	INPO Bank 766 Modified	

Explanation:
RCIC suctions will now only automatically swap on a low CY tank level.

Q# 58	BOTH	TIER 1	GROUP	RO 2 SRO 1	295030	EA1.03	RO 3.4	SRO 3.4	High

Low Suppression Pool Water Level

Ability to operate and/or monitor the following as they apply to LOW SUPPRESSION POOL WATER LEVEL:

HPCS: Plant-Specific

Unit 1 is shutdown with HPCS in standby.

Suppression pool water level is being lowered from normal level to –9 feet.

Predict the impact of this change on the High Pressure Core Spray (HPCS) discharge Line Pressure.

HPCS discharge line pressure will…

A. remain constant due to the water leg pump suction source.

B. remain constant due to the water leg pump check valve.

C. will decrease by 3-5 psig.

D. will decrease by 7-9 psig

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	GP GFES Chapter 6, Page 75 of 89	413.00.04	New	

Explanation:
As the SP Level Decreases, the HPCS Water Leg Pump suction pressure will decrease. Pump discharge head is directly related to pump suction head. ($H_P+\upsilon_{OUT}P_{IN} \alpha \upsilon_{OUT}P_{OUT}$). If suction head decreases, discharge head will decrease corresponding to that amount. Therefore, since there is ~.44 psig/foot in a column of water, if water level drops by 8 feet, C is the correct answer.

Q# 59	BOTH	TIER 1	GROUP	RO 1 SRO 1	295031	EA2.01	RO 4.6	SRO 4.6	High

Reactor Low Water Level

Ability to determine and/or interpret the following as they apply to REACTOR LOW WATER LEVEL:

Reactor water level

Drywell Temperature 310°F.
Reactor Building Ventilation has isolated.
Area Coolers are NOT able to maintain Reactor Building Temperatures.
Reactor Building Temperature 180°F.
Reactor Vessel Pressure 90 psig.
Cooldown Rate has NOT exceeded 100°F/hour.

Which of the following is a usable, on-scale level reading?

A. Shutdown Range level indication reading +80 inches.

B. Upset Range level indication +2 inches.

C. Narrow Range level indication reading +3 inches.

D. Fuel Zone level indication reading –310 inches.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LGA-001, Ref. K.	400.00.02	ILT Bank LGA-001 001	

Explanation:
D is correct because FZ level is indicating >-311 inches which is the minimum usable level with Reactor Building Temp< 200 degrees. S/D level can't be used because 80 is less than minimum usable level (85) with DW temp. 300-399 degrees. Upset level can't be used because it's less than minimum (84) for DW temp 300-399 degrees. NR can't be used because it's min level is +10 inches with Reactor Building Temp >150 degrees and DW temp. 300-399 degrees.

Q# 60	BOTH	TIER 1	GROUP	RO 3 SRO 2	295032	EK3.03	RO 3.8	SRO 3.9	High

High Secondary Containment Area Temperature

Knowledge of the reasons for the following responses as they apply to HIGH SECONDARY CONTAINMENT AREA TEMPERATURE:

Isolating affected systems

Unit 1 at 100% power.

Alarm 1H13-P601-D507, "RCIC PIPE RTE EQUIP AREA TEMP HI" received.

Actions should be taken to _____(1)_____ the RCIC pipe route area in order to maintain _____(2)_____.

A. (1) isolate any discharges into,
(2) RCIC operability.

B. (1) isolate any discharges into,
(2) equipment and access to areas needed for safe S/D.

C. (1) monitor temperatures until Max Safe Level is reached,
(2) RCIC operability.

D. (1) monitor temperatures until Max Safe Level is reached,
(2) equipment and access to areas needed for safe S/D.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LGA-002: LGA LP 6 p.2` 4	418.00.02	N	

Explanation:
Valid temperature places you in LGA-002 and requires you to isolate the affected discharge. Areas are monitored for equipment needed for safe S/D.

Q# 61	BOTH	TIER 1	GROUP	RO 2 SRO 2	295033	EK1.02	RO 3.9	SRO 4.2	Memory

High Secondary Containment Area Radiation Levels

Knowledge of the operational implications of the following concepts as they apply to HIGH SECONDARY CONTAINMENT AREA RADIATION LEVELS:

Personnel protection

Unit 1 has experienced a LOCA.

- LGA-004 has been performed based on the Pressure Suppression Pressure limit being exceeded.
- Containment Pressure is at 52 psig and increasing.
- LGA-VQ-02, Emergency Containment Vent has been directed.

Actions during the performance of this procedure should include …

A. shutdown of the Control Room Ventilation System.

B. shutdown of the Control Room Emergency Makeup train.

C. evacuation of the Reactor Building, Auxiliary Building, and Turbine Building in Unit 1 ONLY.

D. evacuation of the Reactor Building, Auxiliary Building, and Turbine Building in Unit 1 AND Unit 2.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LGA-VQ-02, rev 9, page 7 of 74	413.00.02	New	

Explanation:
D is correct due to the possible failure of ductwork in those areas during potentially contaminated venting at high pressures.

Q# 62	BOTH	TIER 1	GROUP	RO 1 SRO 1	295037	EA1.03	RO 4.1	SRO 4.1	High

SCRAM Condition Present and Reactor Power Above APRM Downscale or Unknown

ARI/RPT/ATWS: Plant-Specific

Ability to operate and/or monitor the following as they apply to SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN:

Unit 1 was operating at 100% power when both RR pumps spuriously tripped.

- Reactor Scram pushbuttons for both divisions have been armed and depressed.
- Mode Switch has been taken to SHUTDOWN.
- APRM Downscale lights are extinguished.
- RPS lights illuminated.
- Rods did NOT move.

The NEXT actions to be taken should be:

A. Initiate Alternate Rod Insertion.

B. Remove Scram solenoid fuses.

C. Maintain Reactor water level between +11.0 inches to +59.5 inches.

D. Maintain Reactor water level between –150 inches and +59.5 inches.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LGA-010	432.00.01	New	

Explanation:
A defines the next required action per LGA's. B is incorrect because ARI should be initiated first. C and D are NOT the next required actions and define an incorrect level band.

Q# 63	BOTH	TIER 1	GROUP	RO 1 SRO 1	295037	EK1.04	RO 3.4	SRO 3.6	High

SCRAM Condition Present and Reactor Power Above APRM Downscale or Unknown

Knowledge of the operational implications of the following concepts as they apply to SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN:

Hot shutdown boron weight: Plant-Specific

An ATWS has occurred.

- Only one quarter of the control rods are inserted.
- RPV water level is being maintained between -120 and -80 inches.
- Reactor pressure is being maintained between 900 and 1000 psig.
- Hot Shutdown Boron Weight has just been injected.

Under which condition below would you expect the reactor to go critical again?

A. Cooldown of the reactor.

B. Placing RCIC in service to maintain vessel level.

C. Placing RWCU in service to stabilize reactor pressure.

D. Decay of xenon over the next several hours.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LP 28, p.2: LP LGA-12(LGA-010 LP) p.34.	028.00.01	New	

Explanation:
Hot Shutdown Boron Weight implies that the reactor should be subcritical at rated pressures and temperatures. A cooldown may only be commenced if Cold Shutdown Boron Weight has been injected. RWCU may be utilized provided F/Ds are NOT used and it does NOT remove inventory.

Q# 64	BOTH	TIER 2	GROUP	RO 2 SRO 2	300000	K6.03	RO 2.7	SRO 2.7	High

Instrument Air System (IAS)

Knowledge of the effect that a loss or malfunction of the following will have on the INSTRUMENT AIR SYSTEM:

Temperature indicators

Which of the following would have the greatest impact on Instrument Air system operation?

A station air compressor's ...

A. lube oil temperature sensor failing low.

B. discharge air temperature sensor failing low.

C. air inlet differential pressure sensor failing high.

D. cooling water pressure sensor failing high.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LP 120 plant air systems, page 4 of 34	120.00.05a	New	

Explanation:
Low or high lube oil temperature will trip the station air compressor. Discharge air temperature will trip the compressor but only if high. Air inlet dP failing high will result in a warning light but does NOT trip the compressor. Cooling water pressure sensor failing high will NOT trip the compressor.

Q# 65	BOTH	TIER 1	GROUP	RO 2 SRO 2	600000	AK2.01	RO 2.6	SRO 2.7	Memory

Plant Fire On Site

Knowledge of the interrelations between PLANT FIRE ON SITE and the following:

Sensors, detectors and valves

A fire in the 1B Diesel Generator room has resulted in an automatic initiation of the CO2 Flooding System.

The CO2 system has NOT been reset, and the fire re-flashes.

Which of the following describes the actions and/or conditions required to re-actuate the system?

The CO2 system activation....

A. will occur automatically once the detectors reach their setpoint for initiation again.

B. can be performed via the Local Initiation Pushbutton in the Diesel Generator corridor.

C. will only occur if the detectors are reset AND temperatures reach initiation setpoint.

D. can only be performed manually, via the local manual lever from the control panel in the Diesel Generator Corridor, AND will automatically terminate after 15 seconds.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LP 125 –FP p. 22	125.00.06	New	

Explanation:
CO2 system automatically initiates for a certain time. Operation after auto initiation may be done via local pushbutton or manually. If manually performed, it must be manually secured.

Q# 66	BOTH	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.1.11	RO 3.0	SRO 3.8	High

Conduct of Operations

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

Unit 1 in MODE 2, withdrawing control rods.

- All IRM's on range 2.
- All SRM's are declared INOPERABLE.

Per Technical Specifications, operator action should include ...

A. Suspend control rod withdrawal.

B. Fully insert all control rods.

C. Place the Mode Switch in SHUTDOWN.

D. Continue rod withdrawals as IRM operability is met.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	T.S.3.3.1.2	041.00.016	New	

Explanation:
With three required SRM's INOP in Mode 2 with IRM's on Range 2 or below, control rod withdrawal should be suspended immediately.

Q# 67	BOTH	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.1.9	RO 2.5	SRO 4.0	Memory

Conduct of Operations

Ability to direct personnel activities inside the control room.

Which of the following tasks are responsibilities of a Reactor Operator per OP-AA-103-104, Reactivity Management Controls?

1. Coordinate the conduct of refueling activities and monitor nuclear instrumentation during refueling activities that could affect the reactivity of the core.

2. Verify critical steps of Emergency Operating Procedure Flowcharts during transients and accident conditions.

3. Ensure activities in the Control Room and plant are conducted in a professional manner, in accordance with approved procedures.

A. 1 and 2 ONLY

B. 2 and 3 ONLY

C. 1 and 3 ONLY

D. 1, 2 and 3

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	OP-AA-103-104 pp. 3 & 4	755.020	N	

Explanation:
2 is the NOT responsibility is NOT required of the Reactor Operator IAW OP-AA-103-104

Q# 68	BOTH	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.2.12	RO 3.0	SRO 3.4	Memory

Equipment Control

Knowledge of surveillance procedures.

Post maintenance testing of the RCIC system is required to be performed per LOS-RI-Q3, Reactor Core Isolation Cooling (RCIC) System Pump Operability and Valve Inservice Tests in Conditions 1, 2, and 3.

Which of the following is required to be performed concurrent with the RCIC run?

A. Chemistry analysis on the Suppression Pool water.

B. Suppression Pool Temperature Monitoring Checks.

C. RCIC Monthly Valve Operability on the RCIC Exhaust Rupture Diaphragm.

D. Remote Shutdown Panel Post Accident Instrumentation Operability Checks.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LOS-RI-Q3 Rev 31, page 6 of 49, D.3	032.00.20	LaSalle 1999 NRC Exam	

Explanation:
With RCIC System adding heat to the Suppression Pool, Suppression Pool temperatures must be verified less than or equal to 105°F at least once per 5 minutes and documented in LOS-AA-S101[201], Att G.

Q# 69	BOTH	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.2.34	RO 2.8	SRO 3.2	Memory

Equipment Control

Knowledge of the process for determining the internal and external effects on core reactivity.

A Reactivity Maneuver (ReMa) Form is required for which of the following activities?

A. Withdrawing control rods for a reactor startup.

B. Inserting flow control line rods to clear APRM Hi alarms.

C. Opening RR Flow Control Valves to compensate for xenon buildup.

D. Closing RR Flow Control Valves to compensate for a heater drain transient.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LAP-100-13, Rev 25, Page 10, B.7 and Attachment H.	300.00.01	Modified, LORT Exam Bank LAP-100-13 005	

Explanation:
'A' is required per LAP-100-13, Attachment H. Actions per LOA's and LOR's are permitted without the use of a ReMa, and a normal shutdown does not require a ReMa.

Q# 70	BOTH	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.3.2	RO 2.5	SRO 2.9	Memory

Radiological Controls

Knowledge of facility ALARA program.

Which of the following is the lowest level of authority authorized to waive Independent Verification of a valve position due to ALARA concerns?

A. Radiation Protection Shift Supervisor

B. Reactor Operator

C. Shift Manager

D. Plant Manager

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	HU-AA-101p.7	NGET	CPS ILT0101	

Explanation:
Shift Manager may waive per HU-AA-101.

Q# 71	BOTH	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.3.9	RO 2.5	SRO 3.4	High

Radiological Controls

Knowledge of the process for performing a containment purge.

Which of the following must be in service prior to performing a containment purge when the unit is at power?

A. ONLY the MCR Emergency Makeup Train

B. MCR AND AEER Emergency Makeup Trains

C. ONLY the MCR Recirculation Charcoal Filter Unit

D. MCR AND AEER Recirculation Charcoal Filter Units

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LOP-VQ-04, Rev 12, Sect D.3, Pg 8 of 51	93.00.20	LaSalle 1999 NRC Exam	

Explanation:
If the unit is in OC 1,2, or 3, BOTH MCR and AEER Recirculation Charcoal Filters are to be verified in service prior to purging the drywell.

Q# 72	BOTH	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.4.20	RO 3.3	SRO 4.0	Memory

Emergency Procedures and Plan

Knowledge of operational implications of EOP warnings, cautions, and notes.

During a casualty, an NSO opens an SRV to control pressure. The SRV is closed and manually opened 15 seconds later.

Which of the following describes the potential adverse consequences of this action?

A. SRV tailpipe damage due to excessive water level in the tailpipe.

B. Suppression pool wall damage to the due to cyclic dynamic loading.

C. SRV seat damage due to partial opening of the valve with limited air pressure.

D. ECCS pump damage due to the creation of a vortex in the suppression pool.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LGA-001 Lesson Plan IV.D.4.a).6) page 12 of 34	070.00.20	New	

Explanation:
Following the closure of an SRV, there is a certain amount of time require for the steam to condense in the tailpipe, the vacuum breaker in the tailpipe to open and the water level in the tailpipe to equalize with suppression pool level. Failure to allow the level to equalize could result in water hammer damage of the tailpipe.

Q# 73	BOTH	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.4.35	RO 3.3	SRO 3.5	Memory

Emergency Procedures and Plan

Knowledge of local auxiliary operator tasks during emergency operations including system geography and system implications.

The Unit Supervisor has directed performance of LGA-NB-01, "Venting CRD Withdrawal Line". In order to perform this task , the non-licensed operator will need a tygon hose, CRD vent valve wrenches , a crescent wrench and straps.

Tools and equipment required to perform this task are located in the...

A. Control Room LGA File Cabinet.

B. Reactor Building Supply Cabinet, 761' Reactor Building.

C. LGA Support Cabinet, 768' Turbine Building.

D. Main LGA Support Locker outside Unit 2 Aux. Electric Equip. room, 731' Aux. Building.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LGA-NB-01 p. 2 and 3.	2160.010	Dresden 2002 Modified	

Explanation:
D correctly states the location the equipment can be found.

Q# 74	BOTH	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.4.48	RO 3.5	SRO 3.8	High

Emergency Procedures and Plan

Ability to interpret control room indications to verify the status and operation of system, and understand how operator action s and directives affect plant and system conditions.

LGA-003, Primary Containment Control is in progress.

- Suppression Chamber and Drywell Sprays are both on.
- Drywell Pressure is 0.5 psig and decreasing at 0.25 psig/min.
- Suppression Chamber pressure is 0.9 psig and decreasing at 0.25 psig/min.

Which of the following describes the actions that should be taken NEXT, AND the reason for that action?

A. Secure Drywell Sprays to prevent exceeding drywell floor limit.

B. Secure Drywell Sprays to prevent raising oxygen levels in the Drywell.

C. Secure Suppression Chamber Sprays to prevent exceeding drywell floor limit.

D. Secure Suppression Chamber Sprays to prevent raising oxygen levels in the Drywell.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LGA Mod 007 – LGA-003 LP, p. 11	400.00.07	Modified, Dresden 1996 ILT Exam	

Explanation:
Stopping sprays before 0 psig prevents negative pressure in the containment. This prevents exceeding design criteria of the drywell.

Q# 75	BOTH	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.4.6	RO 3.1	SRO 4.0	Memory

Emergency Procedures and Plan

Knowledge symptom based EOP mitigation strategies.

Unit 2 is shutdown with the following conditions:

- A large LOCA has occurred.
- Containment pressure quickly exceeded the Pressure Suppression Pressure Limit.

Which of the following describes the sequence of steps to be attempted to mitigate the containment pressure increase?

A. Align RHR for Drywell Spray;
Align RHR for Suppression Chamber Spray;
Initiate ADS;
Align VQ for venting the Drywell.

B. Align VQ for venting the Drywell;
Align RHR for Suppression Chamber Spray;
Align RHR for Drywell Spray;
Initiate ADS.

C. Align RHR for Suppression Chamber Spray;
Align RHR for Drywell Spray;
Initiate ADS;
Align VQ for venting the Drywell.

D. Align VQ for venting the Drywell;
Align RHR for Drywell Spray;
Align RHR for Suppression Chamber Spray;
Initiate ADS.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	LGA-003 Rev 4	400.00.18	LaSalle 1999 NRC Exam	

Explanation:
Suppression chamber sprays are always attempted prior to DW sprays. ADS is always performed prior to venting per LGA-VQ-02. The initial venting of the containment to control pressure is LGA-VQ-01 and CANNOT be performed if VQ has isolated on high containment pressure.

Q# 76	SRO	TIER 2	GROUP	RO 1 SRO 1	202002	2.4.6	RO 3.1	SRO 4.0	High

Recirculation Flow Control System

Emergency Procedures and Plan

Knowledge symptom based EOP mitigation strategies.

Given the following conditions:

- Unit 1 has just experienced a scram due to high drywell pressure
- Several control rods remain at their original positions
- Reactor power is 48%
- ADS has been inhibited and ECCS has been prevented
- ARI has initiated

What is ...

(1) the next procedure step required, AND
(2) the bases for the action.

A. (1) Runback recirculation flow to minimum per LGA-010,
(2) to minimize swell caused by the reduction in power, thereby maintaining the main turbine as a heat sink.

B. (1) Runback recirculation flow to minimum per LGA-010,
(2) to rapidly reduce reactor power below 3%, thereby eliminating the need to trip the reactor recirculation pumps.

C. (1) Trip the Reactor Recirculation Pumps per LGA-010,
(2) to minimize the circulation of boron through the reactor, allowing it to concentrate in the fuel zone.

D. (1) Trip the Reactor Recirculation Pumps per LGA-010,
(2) to rapidly reduce reactor power to within the capacity of the turbine bypass valves.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LGA-010, Failure to Scram Lesson Plan, Page 7 of 39, Section IV.B.1.	400.00.14	New	

Explanation:
Once ARI is initiated, the next step in the LGA-010 power leg is to run recirc back to minimum. With a High Drywell signal, these valves are locked up and cannot be runback. Therefore the Recirc pumps should be tripped.

Q# 77	SRO	TIER 2	GROUP	RO 1 SRO 1	203000	2.2.25	RO 2.5	SRO 3.7	High

RHR/LPCI: Injection Mode (Plant Specific) Equipment Control

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

Unit 2 is in MODE 4. Average Reactor Coolant temperature is 110°F.

- 2A RHR loop is in the Shutdown Cooling (SDC) Mode of operation.
- 2E12-F004A, RHR Pump Suppression Pool Suction Valve, was vented with Average Reactor Coolant temperature at 120°F.
- Suppression Pool Temperature is 80°F.
- 242Y is deenergized for planned maintenance.

What is the affect, if any, of this evolution on the LPCI mode of operation for the 2A RHR system?

The LPCI mode of 2A RHR system is...

A. OPERABLE, provided the system is maintained capable of being realigned when required.

B. NOT affected, since it is NOT required to be operable with the current plant conditions.

C. INOPERABLE, since the minimum flow valve is deenergized closed for SDC Operations.

D. INOPERABLE, since the Suppression Pool Suction Valve CANNOT be opened due to the potential of thermal binding.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	TS Bases B.3.5.1	064.00.22	New	

Explanation:
RHR may be considered operable while the system is being aligned or operating in the shutdown cooling mode of operation, provided the system is capable of being realigned, either locally or remotely, and provided the RHR system is NOT inoperable for any other reasons.

This is a higher order question, since the mode of operation must be determined, and the cut-in permissive pressure must be recognized prior to answering the question.

Q# 78	SRO	TIER 2	GROUP	RO 1 SRO 1	209002	2.4.30	RO 2.2	SRO 3.6	High

High Pressure Core Spray System (HPCS) Emergency Procedures and Plan

Knowledge of which events related to system operations/status should be reported to outside agencies.

Unit 2 is operating at 100% power.

- HPCS inadvertently initiated and injected due to a contractor striking an instrument with a toolbox.
- HPCS secured per LOP-HP-04, Shutdown of High Pressure Core Spray System After An Automatic Initiation.

This situation is...

A. NOT reportable.

B. Reportable per SAF 1.4.

C. Reportable per SAF 1.5.

D. Reportable per SAF 1.7.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LS-AA-1110 p.11-28 **NEED TO PROVIDE**	755.020	New	

Explanation:
1.4 does NOT apply. 1.5 – the signal is NOT valid (p.17) 1.7 – see p. 27 of LS-AA-1110.

Q# 79	SRO	TIER 2	GROUP	RO 2 SRO 2	214000	2.1.33	RO 3.4	SRO 4.0	High

Rod Position Information System Conduct of Operations

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

Unit 1 is in Mode 5.

- Core offload is to begin in 1 hour.
- All control rods are verified by visual examination to be fully inserted.
- The RPIS connector cable for rod 22-43 is inadvertently disconnected.

Which of the following describes the impact and basis of the disconnected cable on the planned core unload?

Core offload ...

A. CAN continue as planned because adequate SDM is still maintained.

B. CANNOT be started because adequate SDM CANNOT be verified.

C. CANNOT be started because refueling interlocks would have to be declared INOPERABLE.

D. CANNOT be started because Rod Worth Minimizer interlocks would have to be declared INOPERABLE.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	T.S B.3.9.4 p. 3.9.4-2	ITS 3.9.4	New	

Explanation:
Correct answer per LCO bases as referenced.

Q# 80	SRO	TIER 2	GROUP	RO 3 SRO 3	233000	2.1.33	RO 3.4	SRO 4.0	Memory

Fuel Pool Cooling and Clean-up Conduct of Operations

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

Unit 1 is Refuel.

Spent fuel movements within the Unit 1 Spent fuel pool are in progress.

Which of the following is the minimum water level that would meet the requirements to perform this evolution?

_____ above the spent fuel seated in the fuel pool.

A. 20 feet

B. 21 feet

C. 22 feet

D. 23 feet

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	T.S. 3.7.8	ITS 34.4	N	

Explanation:
3.7.8 requires ≥ 21.4 feet above the spent fuel seated in the spent fuel pool storage racks.

Q# 81	SRO	TIER 2	GROUP	RO 2 SRO 2	286000	2.1.32	RO 3.4	SRO 3.8	High

Fire Protection System Conduct of Operations

Ability to explain and apply system limits and precautions.

Unit 1 has experienced a LOCA condition.

- Normal Injections systems are all running
- Reactor Vessel level is at –100 inches and dropping at 1 inch per minute.
- Reactor Vessel pressure is at 50 psig.
- Fire Protection has been directed as an Alternate Injection System.
- Concurrently, there is a fire in the 1A DG Day Tank Room and the Fire Protection system has actuated.
- All Fire Protection Pumps are running.
- Fire protection hoses have been connected to the 1A and 1B TDRFP suction lines.

As the US, direction at this point should be to…

A. Secure the FP supply to both TDRFP's, the FP system should be used for firefighting only.

B. Secure the FP supply to one of the TDRFP's in order to provide sufficient fire fighting capability.

C. Allow the FP supply to the TDRFP's to continue, the capacity is within requirements to feed the vessel and provide Fire Protection supply.

D. Allow the FP supply to the TDRFP's to continue, vessel level should be maintained regardless of Fire Protection requirements.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	LGA-FP-01, page 4 of 51 **PROVIDE LGA-FP-01 TABLES 1-4**	414.020	New	

Explanation:
The flow requirements are small for the DG Day Tank Room, as the room is relatively small compared to those provided as examples in the table, therefore fire protection should be allowed to be injected into the vessel.

Q# 82	SRO	TIER 1	GROUP	RO 2 SRO 2	295001	2.4.6	RO 3.1	SRO 4.0	High

Partial or Complete Loss of Forced Core Flow Circulation — Emergency Procedures and Plan

Knowledge symptom based EOP mitigation strategies.

An ATWS has occurred.

- Reactor Power is 20% and oscillating.
- SBLC is injecting.
- Turbine Bypass Valves are maintaining RPV pressure.
- Reactor level is +18 inches.

Which of the following is the required level band and why?

A. –150 inches to –60 inches, to decrease the Natural Circulation driving head and core flow.

B. –150 inches to –60 inches, to concentrate the boron, thus lowering the reactor power level.

C. –150 inches to +59.5 inches, to allow reactor pressure to decrease, which will add negative reactivity due to reduced moderator density.

D. –150 inches to +59.5 inches, to allow level control to be returned to automatic, thereby providing flexibility to perform other LGA actions.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LGA-010	433.00.01	Modified LORT LGA-010 022	

Explanation:
With power >3%, LGA-010 directs rapidly lowering level to –60 inches on WR and maintaining –150 to –60 inch band. This is to get level 24inches below feedwater nozzles and minimize natural circulation driving head and increasing voids.

Q# 83	SRO	TIER 1	GROUP	RO 2 SRO 2	295001	AA2.05	RO 3.1	SRO 3.4	High

Partial or Complete Loss of Forced Core Flow Circulation

Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF FORCED CORE FLOW CIRCULATION:

Jet pump operability: NOT-BWR-1&2

During a Unit 1 startup, with the reactor at 12% power, the A RR pump tripped.

Actions were completed in accordance with the Abnormal Operating Procedure and a single loop plant power ascension continued.

Repairs were performed on the 1A Reactor Recirc pump, with the following timeline:

- THERMAL POWER exceeded 25% RTP at 1200 on April 24.
- The idle recirculation loop was placed in service and loop flows were matched at 1400 on April 24.

Which of the following describes the **LATEST** time allowed by TS to perform SR 3.4.3.1 on the idle loop jet pumps?

SR 3.4.3.1 must be performed on the IDLE LOOP jet pumps by _____.

A. 1800 on April 24

B. 1200 on April 25

C. 1400 on April 25

D. 1800 on April 25

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	TS SR 3.4.3.1 **PROVIDE T.S.**	022.00.22	Modified from LORT Exam Bank ITS 3.4.3 003	

Explanation:

TS SR 3.4.3.1 This SR contains 2 notes.

1. NOT required until 4 hours after loop placed in operation.
2. NOT required to be performed until 24 hours after exceeding 25 % power.

At 1800, the 4 hour time had expired, however, the note 2 requirement is still in effect (24 hours from exceeding 25% power) Therefore, 1200 + 24 = 1200 on April 25. The surveillance time extension of 1.25 may NOT be applied in this instance since this is the first performance of the surveillance.

Also, SR 3.0.2 does NOT apply on the initial performance of the surveillance. Notes 1 and 2 waive the requirements of SR 3.0.4.

Q# 84	SRO	TIER 1	GROUP	RO 1 SRO 1	295006	AA2.03	RO 4.0	SRO 4.2	High

SCRAM

Ability to determine and/or interpret the following as they apply to SCRAM:

Reactor water level

Unit 1 has suffered a transient, which has resulted in RCIC tripping on low steam pressure.

- Drywell temperature is currently 310°F and steady.
- Suppression Pool Level is +4.0 inches.
- 1A CRD Pump is running and the scram has not been reset.
- Vessel level dropped to –135 inches and increasing 1 inch/min. on the wide range level instruments.

Based on the above information, reactor vessel level instruments are __(1)__ and ____(2)____ should be performed.

A. (1) NOT valid
(2) LGA-001, RPV Control

B. (1) NOT valid
(2) LGA-005, RPV Flooding

C. (1) valid
(2) LGA-001, RPV Control

D. (1) valid
(2) LGA-005, RPV Flooding

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	LGA-001, Detail I	413.00.03	Modified, LORT LGA-001 010	

Explanation:
All indications are may be considered VALID per Detail I. Water level is known since a CRD Pump injects approximately 200 gpm, which is equivalent to 1 inch/min increase in RPV Water level.

Q# 85	SRO	TIER 1	GROUP	RO 2 SRO 2	295012	AA2.02	RO 3.9	SRO 4.1	High

High Drywell Temperature

Ability to determine and/or interpret the following as they apply to HIGH DRYWELL TEMPERATURE:

Drywell pressure

Given the following conditions:

- Reactor pressure is 800 psig and stable
- Reactor water level is 12 inches and stable
- Drywell temperature is 300°F and increasing
- Drywell pressure is 3 psig and increasing
- Suppression pool temperature is 190°F and stable
- Suppression pool level is +1.0 inch
- 3 control rods at position 08
- RR Pumps are tripped
- RHR A and B running in suppression pool cooling

Which of the following actions should be directed next to control containment parameters?

A. Open turbine bypass valves, OK to exceed 100F/hr.

B. Blowdown per LGA-006, ATWS Blowdown.

C. Perform LGA-VP-01, Primary Containment Temperature Reduction.

D. Start Drywell Sprays.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LGA-003	400.00.12	New	

Explanation:
The DSL curve is violated, therefore DW Sprays should not be used.
Cannot use LGA-VP-01 since above the allowable drywell pressure.
Cannot use bypass valves during an ATWS.
Therefore, per the LGA-003 Drywell Temperature LEG, the next step is to blowdown.

Q# 86	SRO	TIER 1	GROUP	RO 2 SRO 1	295016	AA2.04	RO 3.9	SRO 4.1	Memory

Control Room Abandonment

Suppression pool temperature

Ability to determine and/or interpret the following as they apply to CONTROL ROOM ABANDONMENT:

The Main Control Room has been abandoned.

- Rx Pressure is 900 psig
- Suppression pool temperature is reported to be 122°F

(1) Where would this temperature be obtained, AND
(2) what is the concern with this temperature per Technical Specification Bases?

A. (1) local temperature indication
(2) unstable steam condensation during a blowdown

B. (1) Remote Shutdown Panel
(2) unstable steam condensation during a blowdown

C. (1) local temperature indication
(2) exceeding primary containment temperature and pressure limits

D. (1) Remote Shutdown Panel
(2) exceeding primary containment temperature and pressure limits

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	054 Lesson Plan pp 13 of 26, , T.S. Bases 3.6.2.1	054.00.07, 064.00.22	New	

Explanation:
The only locations for pool temperature indication are the MCR and the RSDP. The TS Bases for SP temperature are to prevent exceeding the primary containment design temperature and pressure limits.

Q# 87	SRO	TIER 1	GROUP	RO 2 SRO 2	295020	2.1.33	RO 3.4	SRO 4.0	High

Inadvertent Containment Isolation Conduct of Operations

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

Unit 1 is performing a core reload.

- The core reload is 50% complete.
- The 1B loop of RHR is inoperable and unavailable.
- The 1A RHR pump is in operation.

The inboard and outboard Shutdown Cooling isolation valves have inadvertently isolated and will NOT open.

Which of the following describes if fuel loading into the reactor core can be continued?

A. Yes. For up to 24 hours provided that reactor vessel water level remains at the current water level.

B. Yes. For up to one hour. Beyond one hour, fuel loading is permitted if another mechanism of decay heat removal is available.

C. No. One RHR shutdown cooling subsystem is required to be in operation when moving fuel.

D. No. Since no mechanism for decay heat removal is available, fuel loading must be suspended immediately.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	T.S. 3.9.8	064.00.22	LORT Bank ITS 3.9.8 001	

Explanation:
Requires 1 loop of SDC to be operable. If NOT, within 1 hour, an alternate method of decay heat removal must be available. Do NOT need to suspend loading immediately, since you are given 1 hour to suspend. Can use alternate method of DHR, therefore do NOT need SDC and the limit is 1 hour, NOT 24 hours.

Q# 88	SRO	TIER 1	GROUP	RO 1 SRO 1	295024	2.4.4	RO 4.0	SRO 4.3	High

High Drywell Pressure Emergency Procedures and Plan

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

Unit 1 has scrammed and the following conditions are present:

- 5 control rods remain at notch position 24
- All APRM's are downscale
- The reactor mode switch has been placed in shutdown
- During the scram, reactor water level dropped to 18 inches and then recovered
- All Unit 1 ECCS pumps have automatically started
- RCIC is in standby

The Unit Supervisor should direct the NSOs to perform actions IAW ...

A. LGP-3-2, Reactor Scram ONLY.

B. LGP-3-2, Reactor Scram, and LGA-NB-01, Alternate Rod Insertion.

C. LGA-001, RPV Control, and LGA-003, Primary Containment Control.

D. LGA-003, Primary Containment Control, and LGA-010, Failure to Scram.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LGA's	400.00.01	New	

Explanation:
The reactor has failed to scram, therefore since the mode switch has been taken to shutdown, subsequent LGA-001 directs exiting to LGA-010. All ECCS pumps are running, and level never dropped to the initiation setpoints, there high drywell pressure must have been received, requiring entry into LGA-003.

Q# 89	SRO	TIER 1	GROUP	RO 1 SRO 1	295025	EA2.06	RO 3.7	SRO 3.8	High

High Reactor Pressure

Reactor water level

Ability to determine and/or interpret the following as they apply to HIGH REACTOR PRESSURE:

An ATWS is in progress following a condenser boot rupture

- APRM downscales lights are NOT lit
- Suppression pool temperature is 118°F
- Lo-Lo Set is controlling reactor pressure
- Reactor pressure is 1020 psig

If the above parameters remain constant, what is the HIGHEST reactor water level that may be maintained?

A. +59.5 inches

B. –60 inches

C. –120 inches

D. –150 inches

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	LGA-010	434.000	New	

Explanation:
The given conditions meet all of the AND steps in the override, stating that level must be lowered to –120 inches, provided all other initial conditions remain stable.

Q# 90	SRO	TIER 1	GROUP	RO 2 SRO 2	295029	EA2.02	RO 3.5	SRO 3.6	High

High Suppression Pool Water Level

Ability to determine and/or interpret the following as they apply to HIGH SUPPRESSION POOL WATER LEVEL:

Reactor pressure

The unit has suffered a casualty.

- Both loops of RHR are unavailable.
- Suppression Pool temperature is 190°F.
- MSIVs are closed.

Which of the following sets of conditions would require a reactor blowdown?

	Reactor Pressure	Suppression Pool Level
A.	400 psig	-11 feet
B.	400 psig	+13 feet
C.	900 psig	-11 inches
D.	900 psig	+14 feet

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	LGA-003 LP p. 35	422.00.05	New	

Explanation:
If suppression pool level CANNOT be restored or held < SRVTPLL a BLOWDOWN is required. Using the SRVTPLL, D is above the curve.

Q# 91	SRO	TIER 1	GROUP	RO 2 SRO 2	295033	2.4.30	RO 2.2	SRO 3.6	High

High Secondary Containment Area Radiation Levels

Emergency Procedures and Plan

Knowledge of which events related to system operations/status should be reported to outside agencies.

Which of the following events would require notification to State and Local authorities and an ENS notification?

A. Loss of Drywell cooling and Drywell temperature at 320°F.

B. 125VDC bus 111Y at 104 volts for 30 minutes.

C. Unisolable steam leak in the RCIC room with radiation levels at 2 X 10^4 mr/hr.

D. Unisolable water leak from the spent fuel water level at 841'11".

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
C	EP-AA-1005 p. LS 3-6 to LS 3-13 and LGA-002		New	

Explanation:
C is the only condition requiring GSEP activation.

NEED TO SUPPLY EP-AA-1005 p. LS 3-6 to LS 3-13 and LGA-002

Q# 92	SRO	TIER 1	GROUP	RO 2 SRO 1	295038	2.2.25	RO 2.5	SRO 3.7	Memory

High Off-Site Release Rate Equipment Control

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

Which of the following describes an event the Limiting Condition for Operation for the Main Condenser Offgas system is based upon?

A. Rod Drop Accident

B. Holdup Line Rupture

C. Main Steam Line Rupture

D. Rod Withdrawal Accident

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	T.S. B.3.7.6	ITS 3.7.3	New	

Explanation:
The analysis assumes a gross failure in the Main Condenser Offgas System that results in the rupture of the Main Condenser Offgas system pressure boundary.

Q# 93	SRO	TIER 1	GROUP	RO 1 SRO 1	500000	2.2.25	RO 2.5	SRO 3.7	Memory

High Containment Hydrogen Concentration

Equipment Control

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

Technical Specifications require primary containment oxygen concentration to below 4 %/volume while the unit is operating in MODE 1.

The bases for this limit is to...

A. prevent the possibility of a combustible mixture of Hydrogen and Oxygen within the primary containment.

B. eliminate the possibility of a zirconium metal water reaction rate following a DBA LOCA.

C. prevent fires in the primary containment, due to the inability to combat a fire while the unit is in MODE 1.

D. eliminate the requirement for both Hydrogen recombiners to be operable while the unit is in MODE 1.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	B.3.6.3.2	090.00.22	New	

Explanation:
The specific value of 6% and 5% oxygen is the minimum which each will support deflagration. The Recombiner is S/D at this point to eliminate the Hydrogen Recombiner as a source of ignition.

Q# 94	SRO	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.1.5	RO 2.3	SRO 3.4	Memory

Conduct of Operations

Ability to locate and use procedures and directives related to shift staffing and activities.

You have been performing the duties of the Field Supervisor for the first 4 hours of the shift.

A casualty occurs, and you have been directed to relieve the Unit Supervisor on the affected unit.

Which of the following are required to be performed prior to assuming command and control of the main control room during the casualty situation?

1. Review appropriate abnormal conditions and initiating events.
2. Review the current status of the EOP flowcharts.
3. Receive permission from the Shift Manager.

A. 1 and 2 ONLY

B. 1 and 3 ONLY

C. 2 and 3 ONLY

D. 1, 2, and 3

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
D	OP-AA-112-101, Section 4.13	769.00.01	New	

Explanation:
D is correct per the reference.

Q# 95	SRO	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.1.7	RO 3.7	SRO 4.4	Memory

Conduct of Operations

Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.

A LOCA has occurred, with no injection sources available.
RPV Level is below the top of active fuel.

While reviewing electrical prints, it is determined that temporary wiring could be run to an ECCS pump in order to make it available for use.

Which of the following is required, at a MINIMUM, to permit this evolution?

A. Approval from One (1) Licensed SRO.

B. Approval from Two (2) Licensed SRO's

C. A 50.59 Safety Evaluation has been completed.

D. Approval from the NRC.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	HU-AA-104-101, Section 4.9.3.3	604.00.01	New	

Explanation:
One Licensed SRO must approve actions that deviate from the facility license, i.e. when invoking 50.54x.

Q# 96	SRO	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.2.10	RO 1.9	SRO 3.3	Memory

Equipment Control

Knowledge of the process for determining if the margin of safety, as defined in the basis of any technical specification is reduced by a proposed change, test or experiment.

Unit 2 is in Mode 3.

A new system engineer has requested that the Unit 1 HPCS pump be started with the full flow test valve throttled to 75% open to determine starting current.

The evolution is NOT described in current procedures, nor the Safety Analysis Report.

The Shift Manager may ...

A. NOT approve the test until a written safety evaluation has been performed and approved.

B. approve the evolution without restrictions.

C. ONLY approve the test if another SRO with an engineering degree agrees.

D. NOT approve the test under any conditions.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LS-AA-104	605.030	2001 Braidwood ILT Exam	

Explanation:
LS-AA-104-1000 Appendix 7 gives guidance to approval required.

Q# 97	SRO	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.2.18	RO 2.3	SRO 3.6	Memory

Equipment Control

Knowledge of the process for managing maintenance activities during shutdown operations.

In order to move fuel within the RPV, the fuel handling SRO must be ...

A. within phone contact.

B. on the refuel bridge.

C. at the refuel floor managers desk.

D. within 10 minutes of the refuel floor.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LFP 100-1, page 30 of 49, Attachment F	030.00.22	2002 LaSalle NRC ILT Exam	

Explanation:
LFP-100-1, states that the Refueling SRO/SROL must be directly supervising fuel movements from the refuel bridge.

Q# 98	SRO	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.3.6	RO 2.1	SRO 3.1	Memory

Radiological Controls

Knowledge of the requirements for reviewing and approving release permits.

LOP-WF-20, Radwaste Discharge Tank Discharge to the Lake Blowdown Line, requires the _____ to sign for FINAL AUTHORIZATION of the Radwaste Discharge.

A. Plant Manager

B. Shift Manager

C. Chemistry Manager

D. NPDES Coordinator

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LOP-WF-20, Rev 36, Att. A, Step 2.4	Task 121.032	NEW	

Explanation:
B (Shift Manager) is correct per the reference. All distracters are incorrect per the reference: although their signatures are required within the permit, the final authorization is required from the Shift Manager.

Q# 99	SRO	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.3.8	RO 2.3	SRO 3.2	Memory

Radiological Controls

Knowledge of the process for performing a planned gaseous radioactive release.

What is the relationship between the Station Emergency Director and the performance of an emergency containment vent per LGA-VQ-02, Emergency Containment Vent?

The Station Emergency Director…

A. must be informed prior to venting the containment

B. must direct the venting of the primary containment.

C. must approve the release permit for the emergency venting.

D. has NO responsibilities related to the emergency venting.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
A	LGA-VQ-02, Rev. 9, Page 1, Section B.1.	(task) 425.030	New	M

Explanation:
The unit supervisor has the authority to direct the actions per the LGA's. The Shift Emergency Director (previously entitled Acting Station Director) is required to be informed prior the evolution since there will be an unmonitored ground level release and the PARs determination may be affected. There is no release permit required for an emergency vent. The Emergency director is responsible for reporting the release to outside agencies.

Q# 100	SRO	TIER 3	GROUP	RO 1 SRO 1	GENERIC	2.4.26	RO 2.9	SRO 3.3	Memory

Emergency Procedures and Plan

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

A fire has occurred at the Unit 1 Hydrogen seal oil skid. The fire alarm has been initiated and an announcement made to assemble the Fire Brigade.

At the minimum, ___(1)____ members of the fire brigade should respond. Equipment should be obtained from the Fire Brigade Equipment Cage on _____(2)_____.

A. (1) 5
(2) 735 foot elevation of the Turbine Building near the F-15 line.

B. (1) 5
(2) 710 foot elevation of the Turbine Building near the V-15 line.

C. (1) 7
(2) 735 foot elevation of the Turbine Building near the F-15 line.

D. (1) 7
(2) 710 foot elevation of the Turbine Building near the V-15 line.

ANSWER:	Reference:	Task / Objective:	Question Source:	Question Difficulty:
B	LP 125;TRM 5.0.a	125.007	New	

Explanation:
A is the only correct answer per T.S.'s and procedures.

1. LaSalle Emergency Action Level Guidelines, EP-AA-1005, Revision 14, pages LS 3-6 through -13 (Abnormal Rad Levels/Effluents; Fission Product Barrier Degradation; Fission Product Barrier Matrix including Support Tables and Graphs; System Malfunctions; Hazards and Other Conditions);

2. LaSalle Technical Specification (TS) 3.1.3 Control Rod Operability, Amendment No. 147/133, pages 3.1.3-1 through -5;

3. LaSalle TS 3.1.4 Control Rod Scram Times, Amendment No. 147/133, pages 3.1.4-1 through -3;

4. LaSalle TS 3.2.2 Minimum Critical Power Ratio, Amendment No. 147/133, pages 3.2.2-1 through -2;

5. LaSalle TS 3.4.3 Jet Pumps, Amendment No. 147/133, pages 3.4.3-1 through -2;

6. LaSalle TS 3.9.8 Refueling Operations, Residual Heat Removal-High Water Level, Amendment No. 147/133, pages 3.9.8-1 through -3;

7. Reportability Reference Manual, LS-AA-1110, Revision 1, Reportable Event SAF 1.4: Degraded or Unanalyzed Condition, pages 11-13 of 134;

8. Reportability Reference Manual, LS-AA-1110, Revision 1, Reportable Event SAF 1.5: ECCS Injection/Actuation, pages 15-17 of 134;

9. Reportability Reference Manual, LS-AA-1110, Revision 1, Reportable Event SAF 1.6: RPS Actuation, pages 19-21 of 134;

10. Reportability Reference Manual, LS-AA-1110, Revision 1, Reportable Event SAF 1.7: System Actuation Not Including RPS, pages 23-27 of 134;

11. Guidance on Event-Driven Reporting Requirements, Revision 7, Reportable Event SAF 1.12, definition of "valid actuation" and "invalid actuation," page 5 of 13;

12. LAP-820-11TG, Revision 22, Attachment 1G, Max Normal and Max Safe U1 Reactor Building Vent & Area Radiation Limits (mr/hr), Water Level Limits (inches above floor) and Temperature Limits (degrees F), page 142 of 155;

13. LOS-DG-M2, Revision 54, Diesel Generator Load Limit Table (KW, KVAR, Amps, time rating) page 8 of 21;

14. Fire Protection (FP) System, LGA-FP-01, Revision 8, Max Jockey, Intermediate, and Fire Pump Flows, and FP Reactor Pressure Vessel (RPV) Injection Flow at Various RPV Pressures, pages 11-12 of 51;

15. Electrical Schematics for Main Steam Isolation Valves (1E-1-4203AB, -4203AC, -4203AD, -4203AE, -4203AF) and Moisture Separator Reheater First Stage Blanketing Steam Vent and Feed Valves (1E-1-4203AU);

16. LGA flowcharts with entry conditions and significant numbers removed (LGA-001 through 006, and LGA-009 through 011.