

**MASTER EXAMINATION AND ANSWER KEY  
LICENSED OPERATOR INITIAL TRAINING PROGRAM**

**Course: 2002 SROU Exam**

**Exam Activity Code:      Date Exam Prepared: 1 July 2002**

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**Prepared By**

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**Date**

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**Approved By**

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**Date**

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Question No. 1 Exam Bank Question No.: 1238 Revision: 1 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-900 Objective: SRO 2

Question Level: Comprehension

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Select the correct answer:

Reactor Power is 100% when an automatic scram signal is received. There is no rod movement but all other plant parameters remain normal. An EAL for a Site Area Emergency (SAE) requires "Automatic and Manual SCRAM signals present". Which of the following signals must also be tried and fail in order to declare a Site Area Emergency?

	Answer/Distractor	Justification
a.	Scram pushbuttons and ARI/RPT pushbuttons	Correct Response -
b.	Scram pushbuttons and mode switch to shutdown	Incorrect - The mode switch can not be thrown to insert a manual scram with power level greater than 40%.
c.	Automatic ARI/RPT signal and ARI/RPT pushbuttons	Incorrect - The failure of the automatic ARI/RPT is not considered in the EAL classification.
d.	Automatic ARI/RPT signal and mode switch to shutdown	Incorrect - The mode switch can not be thrown to insert a manual scram with power level greater than 40%.

References: K/A 295006

Higher Level: Must integrate the following:

- A SAE requires failure of manual scram signal
- Manual scram signals are only those that can be done by the 9-5 operator of the board
- The mode switch causes a manual scram signal
- The mode switch also causes a Group I isolation when > 40% steam flow and thus can not be done

Task Associations

Task Number	Task Title
3440190302/03	Classify Emergency Events Requiring Emergency Coordinator (Emergency Plan)

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295006	2.4.29	Knowledge of the emergency plan (CFR 43.5, 45.11)	2.6	4.0

Static Simulator Exams: None

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Question No. 2 Exam Bank Question No.: 3531 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-610 Objective: CRO 3

Question Level: Comprehension

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Select the correct answer:

A failure to scram has occurred and the crew is taking actions per EOP-2, ATWS RPV Control. The following conditions exist:

- RPV pressure being maintained 800-1000 psig with SRVs
- RPV level being maintained -22" to +90" with feedpumps
- 20% SLC Tank level has been injected into the RPV
- Rods are being inserted manually, 40 rods still at position 48

Which of the following statements is true?

	Answer/Distractor	Justification
a.	The reactor is shutdown and will remain shutdown if pressure is maintained within current limits.	Correct Response - Hot SD Boron Weight definition
b.	The reactor is not shutdown since more than one rod is not fully inserted.	Incorrect - Hot SD Boron Weight definition
c.	The reactor is shutdown and cooldown may now commence.	Incorrect - Cannot cooldown until CSDBW injected
d.	The reactor will not be shutdown until the Cold Shutdown Boron Weight has been injected.	Incorrect - At rated pressure the Rx is S/D with HSDBW

References: EOP-2

Used in LOI 1999 RO Exam - Bacala (5/99)

Must integrate the following:

- Vessel at normal pressure is considered hot
- Required percent boron weight for hot shutdown
- Definition of shutdown

Task Associations

Task Number	Task Title
2000200501	Respond to ATWS Event(s)

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295006	AK1.02	Shutdown margin	3.4	3.7

Static Simulator Exams: None

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Question No. 3 Exam Bank Question No.: 3930 Revision: 2 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-602 Objective: CRO-2, 3

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Given the following conditions:

- The plant is operating at 100% power
- Reactor pressure is slowly increasing
- The EPR is controlling reactor pressure

Select the FIRST action that should be taken by the CRO for these conditions.

	Answer/Distractor	Justification
a.	Manually scram the reactor.	Incorrect -
b.	Control pressure via the Bypass Valve Opening Jack.	Incorrect -
c.	Reduce the MPR setpoint.	Incorrect -
d.	Turn off power to the EPR.	Correct Response - OT 3116 I.A.

References: OT 3116, Reactor High Pressure

Task Associations

Task Number	Task Title
2000180501	Respond to High Reactor Pressure

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295007	AK1.04	Turbine load	2.7	2.8

Static Simulator Exams: None

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Question No. 4 Exam Bank Question No.: 1821 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-205 Objective: 2

Question Level: Comprehension

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Select the most correct answer:

The plant is shutdown with the "A" RHR loop in shutdown cooling. The SW system is lost and Reactor Pressure rises to 160 psig. How will the RHR system respond?

	Answer/Distractor	Justification
a.	RHR 17 & 18 will close, RHR 13A & 13C will open, and the RHR pump will continue to run.	Incorrect -
b.	RHR 17 & 18 will close and the Loop A RHR pump will trip.	Correct Response
c.	RHR 17 & 18 will remain open and the RHR pump will trip.	Incorrect -
d.	RHR 17 & 18 will close and the RHR pump will continue to run.	Incorrect -

References: OP 2124

Must integrate the following:

- High pressure causes a Group 4 isolation
- Suction valves closing causes a pump trip

Task Associations

Task Number	Task Title
2057090101	Operate the RHR System in the Shutdown Cooling Mode

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295007	AK3.05	Low pressure system isolation	3.0	3.2

Static Simulator Exams: None

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Question No. 5 Exam Bank Question No.: 1390 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-202 Objective: 7

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

With the plant at 100% power a total loss of feedflow occurs. As vessel level starts to drop the Reactor Recirculation pumps runback to 20% speed. The reason for this runback is to prevent:

	Answer/Distractor	Justification
a.	stress on CRD stub tubes and incore housing welds.	Incorrect - stress caused when starting an idle pump.
b.	flow induced vibration of LPRMs and TIP tubes.	Incorrect - vibration occurs under high flows during refueling outages.
c.	cavitation of the recirculation pumps.	Correct Response
d.	exceeding core thermal limits.	Incorrect - thermal limits are protected through the use of scrams.

References: OP 2110

Task Associations

Task Number	Task Title
2020020101	Adjust the Recirculation System Flow Using Individual Manual Control

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295009	AK3.01	Recirculation pump run back: Plant-Specific	3.2	3.3

Static Simulator Exams: None

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Question No. 6 Exam Bank Question No.: 3897 Revision: 3 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-205 Objective: CRO 2

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

A LOCA has occurred and due to a high temperature, torus cooling is required. To accomplish this the "CTMT SPRAY VLV LPCI SIG BYPASS" (pistol grip) switch has to be placed in MANUAL to:

	Answer/Distractor	Justification
a.	allow the RHR Heat Exchanger Bypass Valve (RHR-65A/B) to be closed	Incorrect - this is auto-bypassed 1 minute after the LOCA signal
b.	allow the Low Pressure Coolant Injection (LPCI) injection valves to be closed.	Incorrect - The UPS Bypass switch in block allows this function for the 27A/B.
c.	allow starting of the RHRSW Pumps.	Incorrect - The RHRSW pumps have a keylock switch that allows this.
d.	allow the RHR System to be realigned to torus cooling if reactor water level is above -48 inches.	Correct Response

References: OP 2124, Residual Heat Removal System

Task Associations

Task Number	Task Title
2057080101	Startup the RHR System in the Torus Spray Mode
2057190101	Startup the RHR System in the Torus Cooling Mode
2057220101	Startup the RHR System in the Drywell Spray Mode

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295013	AK2.01	Suppression pool cooling	3.6	3.7

Static Simulator Exams: None

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Question No. 7 Exam Bank Question No.: 5566 Revision: 4 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-205 Objective: CRO 2

Question Level: Comprehension

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Select the correct answer:

A small break LOCA occurs with the following parameters:

- DW Pressure 8 psig
- RPV Water Level 135"
- RPV Pressure 860 psig

RHR Pump "A" is placed in torus cooling due to a high torus temperature. A large break LOCA occurs resulting in an RPV water level of -200".

What is the status of RHR-65A, Hx Bypass Valve, and the torus cooling lineup?

	Answer/Distractor	Justification
a.	RHR-65A opens and torus cooling lineup isolated	Incorrect -
b.	RHR-65A opens and torus cooling lineup unaffected	Incorrect -
c.	RHR-65A remains closed and torus cooling lineup isolated	Correct Response
d.	RHR-65A remains closed and torus cooling lineup unaffected	Incorrect -

References: OP 2124

Must integrate the following:

- 65A previously overridden and closed (1 min)
- Torus cooling valves previously overridden open
- Torus valves driven closed on -48"

Task Associations

Task Number	Task Title
2057190101	Startup the RHR System in the Torus Cooling Mode

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295013	AA1.01	Suppression pool cooling	3.9	3.9

Static Simulator Exams: None

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Question No. 8 Exam Bank Question No.: 5598 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-202 Objective: CRO 3h

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The plant is operating at 100% power when the A Recirc pump ramps up to 100% speed. The thermal limit that is most significantly challenged by this event is:

	Answer/Distractor	Justification
a.	LHGR	Incorrect -
b.	MCPR	Correct Response
c.	APLHGR	Incorrect -
d.	MFLPD	Incorrect -

References: OP 2429

Task Associations

Task Number	Task Title
2027050101	Local Scoop Tube Positioner Control
3452010102/03	Use ERFIS to Monitor Thermal Limits

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295014	AA2.04	Violation of fuel thermal limits	4.1	4.4

Static Simulator Exams: None

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Question No. 9 Exam Bank Question No.: 1272 Revision: 0 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-212 Objective: SRO 3

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Which one of the following reactor scrams occurs in anticipation of a positive reactivity addition?

	Answer/Distractor	Justification
a.	Low Vessel level	Incorrect -
b.	Turbine Stop Valve closure	Correct Response
c.	High Drywell pressure	Incorrect -
d.	High Scram Discharge Volume	Incorrect -

References: Tech Spec Bases

Task Associations

Task Number	Task Title
3410330302/03	Evaluate Plant Conditions and Coordinate Appropriate Actions per Plant Technical Specifications/TRM in the Event a Limiting Safety System Setting is reached and/or exceeded

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295014	AK3.01	Reactor SCRAM	4.1	4.1

Static Simulator Exams: None

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Question No. 10 Exam Bank Question No.: 3941 Revision: 0 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-612 Objective: A4

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

While performing the initial actions of OP 3126 (Shutdown Using Alternate Shutdown Methods) from 75% power, the Operator is directed to place the "A" RHR Pump control switch in PULL-TO-LOCK.

Considering that this pump will be used for reactor water level control and/or shutdown cooling, which of the following is the reason for this switch manipulation prior to leaving the Control Room?

The Control Room switch for the "A" RHR Pump is placed in PULL-TO-LOCK...

	Answer/Distractor	Justification
a.	to meet the interlock for the RHR Alternate Shutdown Transfer Switches required for local control.	Incorrect -
b.	to ensure that the pump does not start and meet the logic for Automatic Depressurization System actuation.	Incorrect -
c.	to prevent pump starts until the RHR Shutdown Cooling Isolation Valves (RHR-17 / 18) are open for a suction path.	Incorrect -
d.	to ensure that the pump does not start without minimum flow protection during transfer to local control.	Correct Response

References: OP 3126, Shutdown Using Alternate Shutdown Methods

Task Associations

Task Number	Task Title
2000680504	Perform Shutdown Using Alternate Shutdown Methods
3440420302/03	Direct Corrective Actions to Mitigate the Consequences of an Off Normal Event

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295016	AK3.03	Disabling control room controls	3.5	3.7

Static Simulator Exams: None

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Question No. 11 Exam Bank Question No.: 3539 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-612 Objective: A5

Question Level: Comprehension

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Select the correct answer:

The control room has been abandoned and a shutdown is being conducted from outside the control room. Reactor pressure is currently 800 psig. A direction is given to commence a cooldown. The correct method to accomplish this is to:

(OP 3126, App C, fig. 1, is enclosed)

	Answer/Distractor	Justification
a.	Reduce pressure gradually over the next hour by opening SRVs. At the end of the hour, pressure should be 325 psig.	Incorrect - Don't reduce press gradually
b.	Reduce pressure gradually over the next hour by opening SRVs. At the end of the hour, pressure should be 250 psig.	Incorrect - Don't reduce press gradually and wrong pressure-exceeds 100°F/hr
c.	Reduce pressure to 250 psig by opening an SRV and maintain pressure 250 psig +100/-0 psig.	Incorrect - Press exceeds 100°F/hr
d.	Reduce pressure to 325 psig by opening an SRV and maintain pressure 325 psig +100/-0 psig.	Correct Response - Per OP 3126 App C

References: OP 3126 Appendix C

Used in LOI 1999 RO Exam - Bacala (5/99)

Must integrate the following:

- Determine 100°F limit applies
- Calculate current temp and temp at cooldown

Task Associations

Task Number	Task Title
2007400501	Control RPV Pressure Using Bypass Valves, HPCI, RCIC, SRVS, RWCU, Steam Line Drains

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295016	AA2.03	Reactor pressure	4.3	4.4

Static Simulator Exams: None

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Question No. 12 Exam Bank Question No.: 3312 Revision: 3 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-611 Objective: SCRO 3

Question Level: Comprehension

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Select the correct answer:

Given the following conditions:

- A fuel leak occurs and as a result the reactor is manually scrammed.
- Due to the fuel leak, ARM #6 and ARM #7 areas radiation levels reach 1200 mR/hr and 1250 mR/hr respectively.
- The south Scram Discharge Volume vent and drain valves have failed open and cannot be closed.

(EOP-4 is a required student reference.)

Under these conditions, Emergency RPV depressurization is:

	Answer/Distractor	Justification
a.	not required since the CRD HCU north and south areas are considered the same area.	Incorrect - Different areas
b.	required in order to limit the release of radioactivity into the secondary containment.	Correct Response - Two areas above max safe from a primary system requires an RPV-ED
c.	required to allow the scram to be reset and the primary system leak isolated.	Incorrect - Scram reset is not dependent on RPV-ED
d.	not required since there is no primary system discharging into secondary containment.	Incorrect - Primary system directly connected to RPV

References: EOP-4

Must integrate the following:

- Requires procedure implementation of EOP-4, multiple decisions
- Requires correct reading of Table "O" of EOP-4
- Recognize SDV drains to RB Equip drain sump which is in Secondary Containment

Task Associations

Task Number	Task Title
3440420302/03	Direct Corrective Actions to Mitigate the Consequences of an Off Normal Event

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295017	2.4.07	Knowledge of event based EOP mitigation strategies (CFR 41.10, 43.5, 45.13)	3.1	3.8

Static Simulator Exams: None

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Question No. 13 Exam Bank Question No.: 3954 Revision: 4 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-611 Objective: SRO 4

Question Level: Comprehension

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Select the correct answer:

Given the following conditions:

- The plant is operating at 75% power
- Radioactivity is being released from a primary leak into secondary containment
- EOP-4 (Secondary Containment Control) has been entered

Which one of the following EOP-4 actions would send unfiltered water/air to the environment?

	Answer/Distractor	Justification
a.	Operating available sump pump	Incorrect -
b.	Operating available RRUs	Incorrect -
c.	Restarting TB HVAC	Incorrect -
d.	Restarting RB HVAC	Correct Response

References: EOP Study Guide (EOP-4)

K/A 295017

2000 SRO Audit Exam and 1999 NRC SRO Exam

Must integrate the following:

Leakage into secondary containment would be into the Rx Bldg sumps and air. The Rx Bldg RRUs only circulate air internally. The sump pumps would discharge to radwaste. Only normal ventillation discharges to the outside.

Task Associations

Task Number	Task Title
2000170501	Respond to Containment Isolations
3440420302/03	Direct Corrective Actions to Mitigate the Consequences of an Off Normal Event

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295017	AK1.02	Protection of the general public	3.8	4.3

Static Simulator Exams: None

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Question No. 14 Exam Bank Question No.: 1343 Revision: 2 Point Value: 1  
 SRO Only: No Instructor Guide: LOT-00-234 Objective: CRO 4; SCRO 6  
 Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Which conditions listed below require evacuation of the Refueling Floor?

1. Doubling of SRM counts.
2. A dropped fuel assembly.
3. High airborne activity alarms in the reactor building on the 345 level.
4. Unanticipated decrease in Reactor Cavity level.
5. High radiation alarms on the Rx Building 303 level area rad monitors.

	Answer/Distractor	Justification
a.	1, 2 and 5.	Incorrect -
b.	1, 4 and 5.	Incorrect -
c.	3, 4 and 5.	Incorrect -
d.	2, 3 and 4.	Correct Response

References: OP 1101

Task Associations

Task Number	Task Title
2997270301	Follow Operating Instructions and Procedures
3410290302/03	Supervise Refueling Operations as SRO on Refuel Floor

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295023	AK1.01	Radiation exposure hazards	3.6	4.1

Static Simulator Exams: None

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Question No. 15 Exam Bank Question No.: 3900 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-234 Objective: CRO-1

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The plant is shutdown for refueling, with the Mode Switch in REFUEL. Which of the following describes the interlocks associated with rod withdrawal during refueling activities?

	Answer/Distractor	Justification
a.	Control rod withdrawal is prevented anytime the Refueling Platform is over the core.	Incorrect -
b.	A control rod withdrawal block will be inserted if one rod is fully withdrawn (Notch 48), and a second rod is withdrawn past Notch 02.	Incorrect -
c.	A control rod withdrawal block will be inserted anytime one rod is not fully inserted and a second rod is selected.	Correct Response
d.	With the Reactor Mode Switch transferred to STARTUP/HOT STANDBY, no control rod withdrawal interlocks would be in effect.	Incorrect -

References: None

Task Associations

Task Number	Task Title
2010030201	Conduct Refueling Interlocks Functional Test/CRD Maintenance

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295023	AK2.04	RMCS/Rod control and information system	3.2	3.4

Static Simulator Exams: None

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Question No. 16 Exam Bank Question No.: 5567 Revision: 3 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-607 Objective: SRO 4

Question Level: Comprehension

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Select the correct answer:

The plant is in the EOPs with the following conditions:

- Torus level - 11 ft
- DW Temp 150°F
- Drywell/Torus pressure is increasing

Which one of the following would be the first Drywell/Torus pressure where containment integrity could no longer be assured?

	Answer/Distractor	Justification
a.	+2 psid DW/Torus Differential Pressure	Incorrect -
b.	10 psig DW pressure	Incorrect -
c.	25 psig Torus pressure	Incorrect -
d.	65 psig Torus pressure	Correct Response

References: EOP 3 Basis document

Must integrate the following:

- PCPL-A graph maintains containment integrity
- Utilizing the PCPL-A graph determines we are in the unsafe region

Task Associations

Task Number	Task Title
3440420302/03	Direct Corrective Actions to Mitigate the Consequences of an Off Normal Event

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295024	EK1.01	Drywell integrity: Plant-specific	4.1	4.2

Static Simulator Exams: None

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Question No. 17 Exam Bank Question No.: 3563 Revision: 0 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-261 Objective: CRO 1

Question Level: Comprehension

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Select the correct answer:

A small steam leak inside the drywell has caused the following plant conditions to exist:

Drywell Pressure: 3.1 psig, rising slowly

Drywell Temperature: 167°F, rising slowly

Reactor Water Level: 142", steady

Reactor Building Ventilation Exhaust Radiation: 1.2 mr/hr, steady

Assuming all plant equipment operated as designed, what is the present status of Secondary Containment Atmosphere?

	Answer/Distractor	Justification
a.	At a positive pressure, being exhausted through a filtered and monitored path.	Incorrect -
b.	At a negative pressure, being exhausted through a filtered and monitored path.	Correct Response
c.	At a positive pressure, being exhausted through an unfiltered and unmonitored path.	Incorrect -
d.	At a negative pressure, being exhausted through an unfiltered and unmonitored path.	Incorrect -

References: OP 2117

OP 4116

1999 NRC RO Exam - Bacala

Must integrate the following:

DW press above 2.5 psig results in RB HVAC being isolated and SGT running with suction on the RB. SGT is designed to maintain a negative pressure in the RB and it's discharge is filtered and monitored.

Task Associations

Task Number	Task Title
2000070501	Respond to Containment Hi Pressure
2000170501	Respond to Containment Isolations

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295024	EK2.17	Auxiliary building isolation logic: Plant-specific	3.0	3.3

Static Simulator Exams: None

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Question No. 18 Exam Bank Question No.: 221 Revision: 4 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-212 Objective: 3

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Which of the following plant conditions will result in an automatic ARI/RPT actuation?

	Answer/Distractor	Justification
a.	RPV Pressure - 1100 psig for 10 seconds Rx Power - 30%	Incorrect -
b.	RPV Pressure - 850 psig for 5 seconds RPV Water Level - 88 inches for 10 seconds	Incorrect -
c.	RPV Water Level - 80 inches for 5 seconds Rx Power - 2%	Incorrect -
d.	RPV Pressure - 1200 psig for 3 seconds RPV Water Level - 86 inches for 5 seconds	Correct Response

References: OP 2110

Task Associations

Task Number	Task Title
2000330501	Respond to a Reactor SCRAM

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295025	EA1.07	ARI/RPT/ATWS: Plant-specific	4.1	4.1

Static Simulator Exams: None

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Question No. 19 Exam Bank Question No.: 3548 Revision: 1 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-607 Objective: SRO 3

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

If torus temperature or RPV pressure cannot be maintained below the Heat Capacity Temperature Limit, EOP-3, Primary Containment Control, requires RPVED. This action is performed to avoid:

	Answer/Distractor	Justification
a.	damaging SRV downstream piping during RPV Emergency Depressurization.	Incorrect - Unrelated to SRV tailpipes
b.	loss of all RPV level instruments after RPV Emergency Depressurization.	Incorrect - Level instrumentation affected by drywell temp
c.	overpressurizing the Primary Containment during RPV Emergency Depressurization.	Correct Response - Highest torus temp which does not exceed PCPL-A on RPVED
d.	excessive hydrodynamic loading on downcomer piping during RPV Emergency Depressurization.	Incorrect - Hydrodynamic loading on downcomers not relevant to HCTL

References: EOP 3 Study Guide

Task Associations

Task Number	Task Title
2000190501	Respond to High Torus Water Temperature
3440420302/03	Direct Corrective Actions to Mitigate the Consequences of an Off Normal Event

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295026	EK2.03	Suppression chamber pressure: Mark-I&II	3.2	3.6

Static Simulator Exams: None

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Question No. 20 Exam Bank Question No.: 5557 Revision: 2 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-308 Objective: SRO 1

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

During normal operations the Tech Spec torus maximum temperature limit is \_\_\_\_\_ °F. This limit insures the suppression pool doesn't approach \_\_\_\_\_ °F following a DBA LOCA.

	Answer/Distractor	Justification
a.	90; 170	Correct Response
b.	90; 212	Incorrect -
c.	120; 170	Incorrect -
d.	120; 212	Incorrect -

References: Tech Spec 3.7.A

K/A 295026

Task Associations

Task Number	Task Title
3410320302/03	Evaluate Plant System Performance and Coordinate Appropriate Actions per Technical Specifications in the Event A Limiting Condition for Operation is Entered or not Satisfied

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295026	2.1.33	Ability to recognize indications for system operating parameters which are entry-level conditions for Technical Specifications (CFR 43.2, 43.3, 45.3)	3.4	4.0

Static Simulator Exams: None

Last Revised: 06/26/2002 7:21:08 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 21 Exam Bank Question No.: 3861 Revision: 1 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-610 Objective: SRO 3

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Given the following conditions:

- The plant has experienced a failure to scram (ATWS)
- Reactor water level is being deliberately lowered to reduce power

Regardless of reactor power, level must NOT be lowered less than \_\_\_\_\_ to ensure \_\_\_\_\_ .

	Answer/Distractor	Justification
a.	+6"; thermal hydraulic instabilities (oscillations) will not occur	Incorrect -
b.	+6"; inadvertent low pressure ECCS starts will not occur	Incorrect -
c.	-22"; adequate core cooling is maintained during the ATWS	Correct Response
d.	-22"; the narrow range water level variable leg instrument tap is not uncovered	Incorrect -

References: EOP Study Guide (EOP-2)

Task Associations

Task Number	Task Title
2000310501	Respond to Low Reactor Water Level
3107120502/03	Direct Terminate and Prevent Injection into RPV from all Sources

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295031	EA2.02	Reactor power	4.0	4.2

Static Simulator Exams: None

Last Revised: 07/09/2002 2:46:31 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 22 Exam Bank Question No.: 3603 Revision: 2 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-622 Objective: CRO 1a

Question Level: Comprehension

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Select the correct answer:

A LOCA has occurred and all rods are in. Reactor water level is low and can not be maintained in the normal band. The crew has entered the EOPs and are attempting to achieve Adequate Core Cooling (ACC). Which one of the following ensures ACC?

	Answer/Distractor	Justification
a.	LPCI injecting at 7,000 gpm and vessel level is at -28".	Incorrect -
b.	C.S. injecting at 3,300 gpm and vessel level is at -40".	Correct Response
c.	HPCI injecting at 4,000 gpm and vessel level is at -47".	Incorrect -
d.	RCIC injecting at 400 gpm and vessel level is at -6".	Incorrect -

References: EOP Study Guide Definitions

Justification: A C.S. System must be injecting at > 3250 gpm and level > -48" for ACC.

Regardless of injection flow, TAF is ACC. TAF is now defined at +6". ACC for steam cooling is -22".

Task Associations

Task Number	Task Title
2000310501	Respond to Low Reactor Water Level

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295031	EK3.03	Spray cooling	4.1	4.4

Static Simulator Exams: None

Last Revised: 07/09/2002 2:46:43 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 23 Exam Bank Question No.: 5558 Revision: 3 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-610 Objective: SRO 3

Question Level: Comprehension

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Select the correct answer:

The SCRO has entered EOP 2 for an ATWS. After repeated manual scrams the rods are partially inserted. There has been no boron injected and the SS wants to start a cooldown. Which one of the following can be used to determine the reactor is shutdown?

	Answer/Distractor	Justification
a.	APRM downscale lights	Incorrect - APRM downscale lights indicate less than or equal to 2% power but not a shutdown condition.
b.	Fully withdrawn SRMs, decreasing count rates and a negative period	Correct Response
c.	LPRM downscale lights	Incorrect -
d.	Fully withdrawn IRMs, decreasing count rates and range switches on range 8	Incorrect - With IRMs withdrawn, the point of adding heat (Range 7) can not be determined.

References: EOP 2 Basis document

Must integrate the following:

The APRM/LPRM downscale lights come on at low powers, will be on when shutdown, but don't indicate a shutdown condition. The IRMs must be below the point of adding heat which can not be determined when withdrawn.

Task Associations

Task Number	Task Title
3440380302/03	Direct Shift Personnel Actions to Ensure Plant Safety During off Normal Conditions

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295037	EA1.06	Neutron monitoring system	4.1	4.1

Static Simulator Exams: None

Last Revised: 07/01/2002 1:02:22 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 24 Exam Bank Question No.: 1059 Revision: 1 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-611 Objective: SRO 3

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

A steam leak is reported in the Heater Bay which has set off the Stack Gas Rad Mon Sys Trbl Alarm. While attempting to determine if actions to isolate the leak have been successful, a report is received that the Turbine Building HVAC is shutdown.

Which of the following should be performed?

	Answer/Distractor	Justification
a.	Leave the Turbine Building HVAC shutdown to minimize the release from the Turbine Building.	Incorrect -
b.	Leave the Turbine Building HVAC shutdown since no direction is provided.	Incorrect -
c.	Restart the Turbine Building HVAC to filter the turbine building atmosphere and minimize radiological release.	Incorrect -
d.	Restart the Turbine Building HVAC to provide a monitored, elevated radiological release.	Correct Response

References: EOP-4

Task Associations

Task Number	Task Title
3440420302/03	Direct Corrective Actions to Mitigate the Consequences of an Off Normal Event

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295038	2.4.07	Knowledge of event based EOP mitigation strategies (CFR 41.10, 43.5, 45.13)	3.1	3.8

Static Simulator Exams: None

Last Revised: 07/09/2002 2:47:09 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 25 Exam Bank Question No.: 5559 Revision: 0 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-607 Objective: SRO 3

Question Level: Comprehension

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Select the correct answer:

The EOPs have been entered and the following steady state conditions exist:

Drywell O<sub>2</sub> - unavailable

Drywell H<sub>2</sub> - 0.7%

Torus O<sub>2</sub> - 5%

Torus H<sub>2</sub> - 0.4%

Using the attached EOP-3, the containment should be purged with nitrogen:

	Answer/Distractor	Justification
a.	Immediately based upon current conditions	Correct Response
b.	After sampling results for Drywell O <sub>2</sub> are obtained	Incorrect -
c.	After Torus H <sub>2</sub> exceeds 0.5%	Incorrect -
d.	Before Torus H <sub>2</sub> exceeds 0.5%	Incorrect -

References: EOP 3

Must integrate the following:

The request for DW O<sub>2</sub> results is not a hold point. The procedure is held for a combination of H<sub>2</sub> and O<sub>2</sub>. Even without the DW O<sub>2</sub>, the hold point criteria is met, which requires purge.

Task Associations

Task Number	Task Title
3450150102/03	Direct Purge/Vent of the Containment Building

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
500000	EA2.02	Oxygen monitoring system availability	3.0	3.5

Static Simulator Exams: None

Last Revised: 06/28/2002 8:03:32 AM by Fagan, Frank N.

2002 SROU Exam

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Question No. 26 Exam Bank Question No.: 5560 Revision: 2 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-01-624 Objective: SRO 2

Question Level: Comprehension

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Select the correct answer:

The SAGs have been entered and the containment has the following conditions:

Drywell H2 - 5%

Drywell O2 - 5%

Torus H2 - 7%

Torus O2 - 4%

Utilizing the attached SAG-2, determine which, if any, action level is required for the drywell.

	Answer/Distractor	Justification
a.	No action	Incorrect -
b.	Action 1	Incorrect -
c.	Action 2	Incorrect -
d.	Action 3	Correct Response

References: SAG-2

Must integrate the following:

Oxygen concentration meets the threshold of greater than or equal to 5%. With Torus H2 greater than or equal to 6% Action 3 is required regardless of drywell H2 concentration.

Task Associations

Task Number	Task Title
3100080502/03	Implement SAG-1 and SAG-2

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
500000	EA1.06	Drywell sprays	3.3	3.4

Static Simulator Exams: None

Last Revised: 06/26/2002 8:06:47 AM by Fagan, Frank N.

2002 SROU Exam

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Question No. 27 Exam Bank Question No.: 3538 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-602 Objective: CRO 2

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The following conditions exist:

Main condenser backpressure: 5.4" Hg and rising rapidly  
 Circ water in OPEN cycle  
 CRO is reducing Reactor Power with recirc flow at 9%/min  
 Annunciator 9-5-K-8, "STOP/CTRL VLV FAST CLOSURE BYP" is energized  
 TB AO reports visible damage to the LP turbine exhaust boot and the sound of air rushing through  
 The SCRO directs the crew to transfer station loads, scram the reactor, then trip the turbine.

These actions are required because:

	Answer/Distractor	Justification
a.	The resulting backpressure-induced vibration will cause rotor bowing.	Incorrect -
b.	An automatic turbine trip, due to high backpressure, will cause a scram in this condition.	Incorrect - A turbine trip will not cause a scram
c.	Turbine blade damage may result from excessive exhaust pressure.	Correct Response - Per GEK
d.	Maintaining backpressure ≤ 14" HgA will preserve the main condenser as a heat sink.	Incorrect - The MSIVs will be shut with backpressure above 12" HgA

References: OT 3120

1999 NRC RO Exam - Bacala

Task Associations

Task Number	Task Title
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2000080501	Respond to a Loss of Condenser Vacuum
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Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295002	2.1.06	Ability to supervise and assume a management role during plant transients and upset conditions (CFR 43.5, 45.12, 45.13)	2.1	4.3

Static Simulator Exams: None

Last Revised: 07/09/2002 2:47:35 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 28 Exam Bank Question No.: 3544 Revision: 2 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-602 Objective: CRO 1, 4

Question Level: Comprehension

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Select the correct answer:

The ACRO notes the following indications in the Control Room:

- EPR and MPR white lights on CRP 9-7 OFF
- Feed pump recirc valve position indication on CRP 9-6 OFF
- Main transformer cooling indicating lights on CRP 9-7 OFF
- RCIC system valve position indication on CRP 9-4 OFF

Select the most appropriate operator action and basis from the list below.

	Answer/Distractor	Justification
a.	A reactor scram will be required to unload the transformers before they overheat.	Correct Response - Actions based upon loss of DC-2 & DC-3
b.	An SAE must be declared due to a sustained loss of CR annunciators.	Incorrect -
c.	The "A" and "B" Feed Pumps must be tripped locally since they receive their power from Bus 1.	Incorrect -
d.	The MSIVs shall be closed immediately to control pressure since both MPR and EPR will fail due to the low pressure condition.	Incorrect -

References: OT 3160

Must integrate the following:

-Synthesize the above indications to determine a loss of DC-2 occurred and comply with loss of DC-2 procedure

Task Associations

Task Number	Task Title
2000320501	Respond to a Loss of DC-1, 2, 3

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295004	AA2.04	System lineups	3.2	3.3

Static Simulator Exams: None

Last Revised: 07/09/2002 2:47:49 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 29 Exam Bank Question No.: 5568 Revision: 2 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-263 Objective: CRO 6

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The plant is at 100% power with the following conditions:

- RHR "A" Pump inop, in PTL (Pull to Lock)
- RHR "B" Pump running in Torus cooling
- RHRSW "D" Pump running in Torus cooling
- RHRSW "D" Pump has just lost DC control power

If an LNP were to occur, what is the status of the RHRSW "D" Pump breaker?

	Answer/Distractor	Justification
a.	Breaker will trip, because AC control power is still available.	Incorrect -
b.	Breaker will trip, because the breaker charging springs remain charged.	Incorrect -
c.	Breaker will not trip, because RHR "A" Pump is in PTL.	Incorrect -
d.	Breaker will not trip, because it requires DC control power.	Correct Response

References: None

Task Associations

Task Number	Task Title
2627390401	Respond to Loss of DC Control Power to a 4KV Bus

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295004	AK3.01	Load shedding: Plant-Specific	2.6	3.1

Static Simulator Exams: None

Last Revised: 06/26/2002 8:25:50 AM by Fagan, Frank N.

2002 SROU Exam

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Question No. 30 Exam Bank Question No.: 5584 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-610 Objective: CRO 2 & 3

Question Level: Comprehension

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Select the correct answer:

The plant is at 100% power when a scram signal is received. The CRO reports RPS failed to deenergize, the scram valves remain shut, no rod motion occurred and power remains at 100%.

Which one of the following EOP actions for control rod insertion will result in a turbine/generator trip?

	Answer/Distractor	Justification
a.	App D, Vent the Scram Air header	Correct Response - Causes turbine trip on low air pressure
b.	App E, Individual Control Rod Scrams	Incorrect -
c.	App G, Manual Insertion of Individual Control Rods	Incorrect -
d.	App BB, Increase CRD Cooling Water Pressure	Incorrect -

References: Must integrate the following:

- Affect on Turbine with respect to OE 3107 appendices
- Scram Air Header trip on turbine

Task Associations

Task Number	Task Title
3101070502/03	Direct Bypassing of Group I Isolation Signals

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295005	2.4.07	Knowledge of event based EOP mitigation strategies (CFR 41.10, 43.5, 45.13)	3.1	3.8

Static Simulator Exams: None

Last Revised: 07/09/2002 2:48:07 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 31 Exam Bank Question No.: 1127 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-01-262 Objective: CRO 8

Question Level: Comprehension

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Select the correct answer:

A reactor startup is in progress with the generator synchronized to the grid and operating at 40% power. Computer point D619 (Bus 1 Sync-check relay) prints out in the alarm (LOSS) state. Ten minutes later, the main generator trips and locks out.

In this condition:

	Answer/Distractor	Justification
a.	Recirc MG B drive motor breaker will trip, on bus undervoltage.	Incorrect - Powered from Bus 2. Fast transfer of Bus 2 is satisfactory.
b.	Bus 1 Residual bus transfer will occur.	Correct Response - Residual transfer does not require the sync-check.
c.	Reactor Feedwater Pump A will trip when Bus 1 voltage decays to 1000 volts, after a 5 second time-delay.	Incorrect - Trips in 0.3 sec
d.	Bus 1 Automatic fast transfer will occur.	Incorrect - Requires sync-check relay

References: OP 2142

Must integrate the following:

- Know the start of transfer logic
- Know sync check is required for fast transfer
- Understand residual bus transfer does not require a sync check

Task Associations

Task Number	Task Title
2627400401	Respond to Loss of Fast Transfer SYNCHRO Check Relay

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295005	AK2.08	A.C. electrical distribution	3.2	3.3

Static Simulator Exams: None

Last Revised: 07/09/2002 2:48:24 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 32 Exam Bank Question No.: 5563 Revision: 4 Point Value: 1

SRO Only: No Instructor Guide: LOT-01-223 Objective: CRO 4

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The plant is at 100% power when the FW reg valves lockup. The valves drift open and level increases. The RFPs fail to trip. After tripping the RFPs, water level continues to rise.

What is the required action on the rising water level?

	Answer/Distractor	Justification
a.	When level reaches 177", shut HPCI/RCIC 15 and 16.	Incorrect -
b.	When level reaches 200", shut all MSIVs.	Correct Response
c.	When level reaches 200", shut HPCI/RCIC 15 and 16.	Incorrect -
d.	When level reaches 230", shut all MSIVs and shut HPCI/RCIC 15 and 16.	Incorrect -

References: None

Task Associations

Task Number	Task Title
2000170501	Respond to Containment Isolations
2047110401	Respond to Automatic RWCU System Isolation

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295008	AK2.04	PCIS/NSSSS: Plant-Specific	3.1	3.3

Static Simulator Exams: None

Last Revised: 07/01/2002 8:56:34 AM by Fagan, Frank N.

2002 SROU Exam

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Question No. 33 Exam Bank Question No.: 5569 Revision: 2 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-206 Objective: CRO 5

Question Level: Comprehension

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Select the correct answer:

The plant is at 100% power when a loss of feedwater occurs. Level drops to 82.5" and level is automatically restored. As level rises, HPCI fails to trip on high reactor water level. All other systems respond normally.

Which of the following could become flooded if HPCI continues to inject?

	Answer/Distractor	Justification
a.	Main Turbine Casing	Incorrect - Group 1 isolated turbine
b.	RCIC Turbine Casing	Incorrect - RCIC tripped on Hi level
c.	SRVs	Correct Response - SRVs used for pressure control
d.	SJAEs	Incorrect - Group 1 isolated SJAe

References: Must integrate the following:

At 82.5" a Group 1 isolation occurs and isolates the MSIVs. Both SJAEs and Main Turbine are isolated by MSIV closure. RCIC tripped at 177" and isolated itself from flooding. Only the SRVs can be flooded since they are used for pressure control.

Task Associations

Task Number	Task Title
2067100401	Maintain Reactor Water Level with HPCI

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295008	AK3.05	HPCI turbine trip: Plant-Specific	3.5	3.6

Static Simulator Exams: None

Last Revised: 06/26/2002 8:35:26 AM by Fagan, Frank N.

2002 SROU Exam

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Question No. 34 Exam Bank Question No.: 2387 Revision: 1 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-607 Objective: 3

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

In the PC pressure leg of EOP-3, operators are instructed to spray the DW when torus pressure exceeds 10 psig. The reason DW sprays are initiated beyond this pressure is to:

	Answer/Distractor	Justification
a.	Ensure DWSIL curve is not exceeded.	Incorrect -
b.	Ensure PCPLA is not exceeded.	Incorrect -
c.	Prevent chugging in the downcomer.	Correct Response
d.	Ensure enough time is available to prepare to RPVED if sprays are not effective.	Incorrect -

References: EOP-3; EOP Study Guide

Task Associations

Task Number	Task Title
2000070501	Respond to Containment Hi Pressure
3450120102/03	Direct Manual Initiation of Containment Spray

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295012	AA2.02	Drywell pressure	3.9	4.1

Static Simulator Exams: None

Last Revised: 07/09/2002 2:48:48 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 35 Exam Bank Question No.: 3936 Revision: 2 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-216 Objective: CRO-11d

Question Level: Comprehension

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Select the correct answer:

During a loss of coolant accident, the following conditions exist:

- Reference leg temperature is 350°F
- Reactor pressure is 50 psig

Which one of the following describes the accuracy and trending capabilities of reactor water level indication for the given conditions?

Water level indication is:

	Answer/Distractor	Justification
a.	NOT providing accurate reactor water level NOR level trend information.	Correct Response
b.	providing accurate reactor water level AND level trend information.	Incorrect -
c.	NOT providing accurate reactor water level, BUT level trend is reliable.	Incorrect -
d.	providing accurate reactor water level, BUT level trend is NOT reliable.	Incorrect -

References: EPG/SAG Caution 1

Used in LOI 2000 SRO Audit Exam (8/00)  
and 1999 NRC SRO Exam

Must integrate the following:

- Calculate the saturation conditions in the drywell
- Utilize caution #1 to determine level accuracy

Task Associations

Task Number	Task Title
2000210501	Respond to High Drywell Temperature

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295012	AK1.01	Pressure/temperature relationship	3.3	3.5

Static Simulator Exams: None

Last Revised: 07/02/2002 9:38:59 AM by Fagan, Frank N.

2002 SROU Exam

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Question No. 36 Exam Bank Question No.: 5583 Revision: 1 Point Value: 1  
 SRO Only: No Instructor Guide: LOT-00-276 Objective: CRO 1  
 Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

A SW break has occurred and SW header pressure falls to 30 psig. Which of the following loads will be isolated?

	Answer/Distractor	Justification
a.	RBCCW Heat Exchangers and Generator Hydrogen Coolers	Incorrect -
b.	RBCCW Heat Exchangers and Steam Tunnel RRUs	Incorrect -
c.	RR MG Set Lube Oil Coolers and Generator Hydrogen Coolers	Correct Response
d.	RR MG Set Lube Oil Coolers and Steam Tunnel RRUs	Incorrect -

References: OP 2181; ON 3148

Must integrate the following:

- Low service header pressure causes an isolation
- The isolation removes only certain components

Task Associations

Task Number	Task Title
2000300501	Respond to a Loss of Service Water

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295018	AA1.03	Affected systems so as to isolate damaged portions	3.3	3.4

Static Simulator Exams: None

Last Revised: 06/28/2002 8:15:29 AM by Fagan, Frank N.

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Question No. 37 Exam Bank Question No.: 1344 Revision: 5 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-601 Objective: 3

Question Level: Comprehension

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Select the most correct answer:

A loss of shutdown cooling has occurred due to a loss of all available RHR pumps. SDC restart is unsuccessful.

In accordance with ON 3156, "Loss of Shutdown Cooling", what mode of operation for the RWCU system is required?

	Answer/Distractor	Justification
a.	RWCU Return to RHR SDC Suction Line Operation	Incorrect -
b.	Reactor Letdown	Correct Response
c.	Reactor Bottom Head Drain Line flush	Incorrect -
d.	RCU Filter Demin Bypass with Return to Vessel	Incorrect -

References: ON 3156

Task Associations

Task Number	Task Title
2000150501	Respond to a Loss of Shutdown Cooling

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295021	AK3.04	Maximizing reactor water cleanup flow	3.3	3.4

Static Simulator Exams: None

Last Revised: 07/09/2002 2:49:13 PM by Fagan, Frank N.

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Question No. 38 Exam Bank Question No.: 3946 Revision: 0 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-205 Objective: CRO-2

Question Level: Comprehension

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Select the correct answer:

Given the following conditions:

- The plant is in Cold Shutdown
- Reactor coolant temperature is 190°F
- The reactor vessel head is installed
- The RHR lineup is as follows:
  - The "A" Loop is in shutdown cooling with the "C" RHR Pump in service
  - The "B" Loop is in torus cooling with the "D" RHR Pump in service
  - The "A" and "B" RHR Pumps are NOT available
- Reactor water level is lowering, and has reached 77 inches

Assuming no Operator actions are taken, what is the expected response of the RHR and RHRSW to these conditions?

	Answer/Distractor	Justification
a.	Both RHR and RHRSW pumps trip.	Incorrect -
b.	The "C" RHR and both RHRSW pumps trip. The "D" RHR pump continues to operate.	Correct Response
c.	The "C" RHR and its associated RHRSW pump trip. The "D" RHR and its associated RHRSW pump continue to operate.	Incorrect -
d.	Both RHR and RHRSW pumps continue to operate.	Incorrect -

References: OP 2124, Residual Heat Removal System

Must integrate the following:

- A level of 127" causes a Group IV isolation
- RHR 17 & 18 valves go closed
- Any RHR pump without a clear suction path trips (RHR C)
- 82.5" is a LOCA signal if Rx <350#
- LOCA signal trips RHRSW

Task Associations

Task Number	Task Title
2000150501	Respond to a Loss of Shutdown Cooling

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295021	AK2.04	Component cooling water systems: Plant-Specific	3.0	3.1

Static Simulator Exams: None

Last Revised: 07/09/2002 2:49:26 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 39 Exam Bank Question No.: 3948 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-601 Objective: CRO-3

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Given the following conditions:

- The plant is conducting a startup, with the Mode Switch in STARTUP/HOT STBY
- Plant pressure is 700 psig
- Control Rod 34-35 (at "Notch 10") has an Accumulator Trouble alarm in due to accumulator low pressure
- The "B" CRD Pump is tagged out
- The "A" CRD Pump has just tripped
- An additional accumulator trouble alarm comes in (NOT within a 9 rod array for 34-35)

What, if any, are the required actions for these conditions?

	Answer/Distractor	Justification
a.	No actions required	Incorrect -
b.	Place the plant in Hot Shutdown within 12 hours	Incorrect -
c.	Place the plant in Cold Shutdown within 24 hours	Incorrect -
d.	Insert a manual reactor scram	Correct Response

References: ON 3145, Loss of CRD Regulating Function

Task Associations

Task Number	Task Title
2007280501	Respond to Loss of CRD Regulating Malfunction

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295022	AK1.01	Reactor pressure vs. rod insertion capability	3.3	3.4

Static Simulator Exams: None

Last Revised: 07/09/2002 2:49:48 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 40 Exam Bank Question No.: 1818 Revision: 3 Point Value: 1  
 SRO Only: Yes Instructor Guide: LOT-01-624 Objective: SRO/DM 4; TSC/EOF 4  
 Question Level: Comprehension

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Select the correct answer:

An accident occurred 3 hours ago, and the following conditions exist:  
 (Students will be given EOP-3)

- RPV pressure is 50 psig and steady
- All SRV switches are in OPEN
- Drywell pressure is 3 psig and steady
- Drywell temperature is 275°F and rising slowly

Based upon these plant conditions, what adverse conditions could result from drywell spray initiation?

	Answer/Distractor	Justification
a.	The evaporative cooling pressure drop may result in drywell pressure going to atmospheric.	Correct Response - DWSIL allows this limit but will not exceed it.
b.	The evaporative cooling pressure drop may result in exceeding design differential pressure between the torus and drywell.	Incorrect - DWSIL prevents exceeding this limit
c.	The steam produced by initiating drywell sprays could over-pressurize the containment.	Incorrect - Sprays condense steam and reduce pressure.
d.	Spraying into such a hot environment may cause brittle fracture of the containment liner.	Incorrect - Brittle fractures occur with cold temperatures.

References: EOP Study Guide

Must integrate the following:

- Utilizing the DWSIL graph recognizes DW pressure is in unsafe region
- If sprayed in unsafe region we would create an evaporative cooling effect

Task Associations

Task Number	Task Title
3100080502/03	Implement SAG-1 and SAG-2

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295028	EA1.01	Drywell spray: Mark-I&II	3.8	3.9

Static Simulator Exams: None

Last Revised: 07/09/2002 2:50:02 PM by Fagan, Frank N.

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Question No. 41 Exam Bank Question No.: 5585 Revision: 3 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-607 Objective: CRO 2

Question Level: Comprehension

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Select the correct answer:

The plant is at 100% power with all systems operational and in a normal lineup. A LOCA occurs, all systems respond as designed and initiate injection into the vessel.

The following conditions exist:

- Torus level 15 ft and rising
- RPV pressure 35 psig and lowering
- RPV water level 95 inches and rising slowly

What system should be terminated to prevent a continued torus level increase?

	Answer/Distractor	Justification
a.	HPCI	Incorrect - Isolates on low RPV pressure
b.	RCIC	Incorrect - Isolates on low RPV pressure
c.	Condensate	Correct Response - Outside source of injection
d.	Core Spray	Incorrect - Not aligned to CST normally

References: EOP 3

Justification:

Must integrate the following:

Level rise must be coming from outside sources. HPCI & RCIC are isolated on low pressure. CS can be aligned to outside source but normally done only in outages. Only Condensate is aligned to an outside source of water.

Task Associations

Task Number	Task Title
2000230501	Respond to High Torus Water Level

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295029	EA2.03	Drywell/containment water level	3.4	3.5

Static Simulator Exams: None

Last Revised: 07/02/2002 9:39:19 AM by Fagan, Frank N.

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Question No. 42 Exam Bank Question No.: 3906 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-261 Objective: CRO-7, 8

Question Level: Comprehension

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Select the correct answer:

Given the following conditions:

- The plant is operating at 70% power
- HPCI is running for a surveillance test
- The "A" SBTG train is running to support HPCI operation
- The "B" SBTG train was secured after HPCI was started
- A valid Refuel Floor High Radiation signal is received
- All plant systems respond as designed
- No Operator actions are taken

Which of the following is the expected response of SBTG for these conditions?

	Answer/Distractor	Justification
a.	The "B" SBTG Train will not start. The "A" SBTG Train will begin processing the Reactor Building atmosphere after the HPCI Gland Seal Exhauster discharge isolates.	Incorrect -
b.	The "B" SBTG Train will not start. The "A" SBTG Train will begin processing the Reactor Building atmosphere along with the HPCI Gland Seal Exhauster discharge.	Correct Response
c.	The "B" SBTG Train starts and begins processing the Reactor Building atmosphere. The "A" SBTG Train will trip and isolate as part of the HPCI Gland Seal Exhauster discharge isolation.	Incorrect -
d.	The "B" SBTG Train starts and begins processing the Reactor Building atmosphere. The "A" SBTG Train will divert to process the HPCI Gland Seal Exhauster discharge exclusively.	Incorrect -

References: OP 2117, Standby Gas Treatment

Must integrate the following:

- Only way to shutdown train with an auto signal is to place in P-T-L
- P-T-L disables all other starts
- The HPCI flowpath does not isolate on a radiation auto start

Task Associations

Task Number	Task Title
2610010101	Perform Lineups on the SBTG System

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295033	EK1.03	Radiation releases	3.9	4.2

Static Simulator Exams: None

Last Revised: 07/09/2002 2:50:24 PM by Fagan, Frank N.

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Question No. 43 Exam Bank Question No.: 5587 Revision: 3 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-062 Objective: 1

Question Level: Comprehension

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Select the correct answer:

Reactor Building ventilation has isolated on high exhaust radiation levels. All valves have isolated but the status of "A" Rx Bldg Supply Fan can not be determined. There are no red/green indications in the control room nor locally. Using the attached CWD Sheet 1394, determine that cause for the loss of all indication could come from an open breaker at \_\_\_\_\_ or \_\_\_\_\_.

	Answer/Distractor	Justification
a.	MCC 7D; one blown fuse at coordinates F-3	Incorrect -
b.	MCC 7D; two blown resistors at coordinates A/B-3/4	Incorrect -
c.	MCC 10A; one blown fuse at coordinates F-3	Correct Response
d.	MCC 10A; two blown resistors at coordinates A/B-3/4	Incorrect -

References: K/A 295034

Must integrate the following:

Light indication is powered through resistors but each set of lights has its own resistors. A loss of one set would not affect the other lights. The fuse would interrupt the control power that feeds all light indications. Also, while 2 MCCs are indicated, only one shows breaker contacts. The other is an interlock with the B fan.

Task Associations

Task Number	Task Title
2887210401	Respond to a Loss of Reactor Building Ventilation

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295034	2.2.15	Ability to identify and utilize as-built and configuration change documentation to ascertain expected current plant configuration and operate the plant (CFR 43.3, 45.13)	2.2	2.9

Static Simulator Exams: None

Last Revised: 06/28/2002 8:23:53 AM by Fagan, Frank N.

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Question No. 44 Exam Bank Question No.: 3311 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-602 Objective: CRO 2

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

A trip of the "A" Reactor Recirculation Pump has occurred. The plant is operating in the Buffer Region of the Power/Flow Map, the "B" Reactor Recirculation Pump is at 70% speed and Solomon is NOT available.

Which ONE of the following is REQUIRED?

Exit the Buffer Region by:

	Answer/Distractor	Justification
a.	manually scrambling the reactor.	Incorrect -
b.	inserting control rods using the spiral outward pattern.	Incorrect -
c.	increasing the speed of the "B" Reactor Recirculation Pump.	Incorrect -
d.	inserting control rods using the Rapid Shutdown Sequence.	Correct Response

References: Pilgrim 97 NRC Exam  
OT 3117

Task Associations

Task Number	Task Title
2010100101	Operate the Control Rod Drive System to Shut Down the Reactor

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
202002	K1.10	Rod pattern	2.5	2.6

Static Simulator Exams: None

Last Revised: 07/01/2002 9:32:25 AM by Fagan, Frank N.

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Question No. 45 Exam Bank Question No.: 5586 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-205 Objective: CRO 2, 4

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The RHR system is operating in LPCI mode due to a LOCA. \_\_\_\_\_ is required by the RRU to cool the pump room and \_\_\_\_\_ is required to cool the pump seals.

	Answer/Distractor	Justification
a.	RBCCW; RBCCW	Incorrect -
b.	RBCCW; Service Water	Incorrect -
c.	Service Water; RBCCW	Correct Response
d.	Service Water; Service Water	Incorrect -

References: None

Task Associations

Task Number	Task Title
2050010101	Perform Lineups of the Residual Heat Removal System

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
203000	K1.16	Component cooling water systems	3.1	3.2

Static Simulator Exams: None

Last Revised: 07/01/2002 1:17:37 PM by Fagan, Frank N.

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Question No. 46 Exam Bank Question No.: 1183 Revision: 2 Point Value: 1  
 SRO Only: No Instructor Guide: LOT-00-205 Objective: CRO 2 / SE 2  
 Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The plant has experienced a DBA LOCA concurrent with an LNP. The Emergency Diesel Generators have just powered busses 3 and 4. It is expected that RHR system response will be:

	Answer/Distractor	Justification
a.	RHR pumps A & D start immediately, C & B start 5 seconds later.	Correct Response
b.	RHR pumps C & B start immediately, A & D start 10 seconds later.	Incorrect -
c.	RHR pumps A & C start immediately, B & D start 5 seconds later.	Incorrect -
d.	RHR pumps A & D start immediately, C & B start 10 seconds later.	Incorrect -

References: OT 3122

Task Associations

Task Number	Task Title
2057160101	Shut Down the RHR System after LPCI Initiation

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
203000	K6.01	A.C. electrical power	3.6	3.7

Static Simulator Exams: None

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Question No. 47 Exam Bank Question No.: 1851 Revision: 5 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-209 Objective: 1,7,8

Question Level: Comprehension

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The "A" core spray loop is running in the full flow test mode for a scheduled surveillance test. A major leak develops in one loop of the recirculation system, the reactor quickly depressurizes to approximately 500 psig and DW pressure increases to 20 psig.

Determine the "A" Core Spray response to the above conditions.

	Answer/Distractor	Justification
a.	Core Spray Injection valve (CS-12A) will open, Test Bypass valve (CS-26A) will close, and Minimum Flow valve (CS-5A) will open.	Incorrect -
b.	Core Spray Injection valve (CS-12A) will remain closed, Test Bypass valve (CS-26A) will close, and Minimum Flow valve (CS-5A) will open.	Correct Response
c.	Core Spray Injection valve (CS-12A) will open, Test Bypass valve (CS-26A) will close, and Minimum Flow valve (CS-5A) will remain closed.	Incorrect -
d.	Core Spray Injection valve (CS-12A) will remain closed, Test Bypass valve (CS-26A) will close, and Minimum Flow valve (CS-5A) will remain closed.	Incorrect -

References: OP 2123

Must integrate the following:

A DW press of greater than or equal to 2.5 psig causes an initiation signal. The system realigns to inject but the injection valve must also see less than or equal to 350 psig to open. With the 12A and 26A closed, the 5A will meet its permissive of less than 300 gpm with an auto initiation signal present.

Task Associations

Task Number	Task Title
2090020201	Perform ECCS Integrated Initiation Test

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
209001	K4.05	Pump minimum flow	2.6	2.6

Static Simulator Exams: None

Last Revised: 07/09/2002 2:51:11 PM by Fagan, Frank N.

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Question No. 48 Exam Bank Question No.: 5564 Revision: 3 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-209 Objective: CRO 1c

Question Level: Comprehension

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Select the correct answer:

With the plant operating at 100% power, the following occurs:

- "B" CORE SPRAY HEADER d/p HIGH annunciates.
- Core Spray leak detection indication reads +4 psid.

All other plant parameters are normal

A short time later a Main Steam Line break occurs. Inventory loss is occurring at a rate of 3000 gpm. If "B" Core Spray was used to ensure Adequate Core Cooling (ACC), it would be:

	Answer/Distractor	Justification
a.	ineffective for both core submergence and spray cooling.	Incorrect -
b.	effective for core submergence only.	Correct Response
c.	effective for both core submergence and spray cooling.	Incorrect -
d.	effective for spray cooling only.	Incorrect -

References: LOT-00-209

Must integrate the following:

The alarm indicates a break between the shroud and vessel. The spray header can not be relied on for ACC. However, with a MSL break CS can be used to flood up the shroud, jet pumps and thus the core. The leak of 3000 gpm is less than the CS capability.

Task Associations

Task Number	Task Title
2097010401	Maintain Reactor Water Level with Core Spray

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
209001	K5.04	Heat removal (transfer) mechanisms	2.8	2.9

Static Simulator Exams: None

Last Revised: 07/01/2002 12:48:36 PM by Fagan, Frank N.

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Question No. 49 Exam Bank Question No.: 3664 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-610 Objective: CRO 1

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The following plant conditions exist:

- SLC System 1 injecting to the RPV
- RPV pressure is 1100 psig and dropping slowly
- 4 SRVs open
- RWCU in service
- All rods at position 48
- MSIVs closed

The CRO must immediately:

	Answer/Distractor	Justification
a.	drive control rods.	Incorrect - Must wait for SCRO direction to drive control rods
b.	reduce pressure with bypass valves.	Incorrect - MSIVs shut
c.	isolate RWCU.	Correct Response - RWCU should be isolated automatically
d.	start SLC System 2.	Incorrect - It is possible that the RWCU isolation failure was caused by the SLC switch and using SLC 2 might work, but it would require securing SLC injection which is undesirable

References: EOP-2

K/A 211000

Used in LOI 1999 RO Exam - Bacala (5/99)

Task Associations

Task Number	Task Title
2000200501	Respond to ATWS Event(s)
2110050101	Inject Poison Solution into the Reactor Vessel

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
211000	2.4.16	Knowledge of EOP implementation hierarchy and coordination with other support procedures (CFR 41.10, 43.5, 45.13)	3.0	4.0

Static Simulator Exams: None

Last Revised: 07/09/2002 2:51:31 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 50 Exam Bank Question No.: 3512 Revision: 2 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-211 Objective: 2b, 2d

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

A failure to SCRAM coincident with a loss of Bus 9 occurs. The SCRO has ordered Standby Liquid Control (SLC) injected. The CRO positions the SLC initiation switch to SYS 1. Predict the expected SLC system response.

	Answer/Distractor	Justification
a.	SLC-14A squib valve will fire and the "A" SLC pump will start	Incorrect -
b.	SLC-14A squib valve will fire and the "A" SLC pump will not start	Incorrect -
c.	SLC-14A squib valve will not fire and the "A" SLC pump will start	Incorrect -
d.	SLC-14A squib valve will not fire and the "A" SLC pump will not start	Correct Response

References: None

Task Associations

Task Number	Task Title
2110050101	Inject Poison Solution into the Reactor Vessel

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
211000	K2.02	Explosive valves	3.1	3.2

Static Simulator Exams: None

Last Revised: 06/26/2002 7:25:55 PM by Fagan, Frank N.

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Question No. 51 Exam Bank Question No.: 3892 Revision: 0 Point Value: 1

SRO Only: No Instructor Guide: LOT-05-215 Objective: CRO 2d, 5

Question Level: Comprehension

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Select the correct answer:

Given the following conditions:

- A plant startup is in progress
- The Recirc flow input signal to the APRMs is 25%
- As Recirc flow is raised, the "B" Flow Converter/Comparator output remains at 25%
- Actual recirculation loop flows respond as expected

What will be the FIRST effect on plant operation as recirculation flow continues to be raised?

	Answer/Distractor	Justification
a.	A full scram will occur due to flow biased neutron flux high.	Incorrect -
b.	A control rod block will occur due to a flow converter/comparator out of limits trip.	Correct Response
c.	A control rod block will occur due to a flow converter/comparator unit "inop" signal.	Incorrect -
d.	A half scram will occur due to flow biased neutron flux high.	Incorrect -

References: Must integrate the following:

An increase in actual flow will increase the output of the "A" Flow Converter/Comparator. The lowest point a flow biased rod block could happen would be 42%. When flow increases to approximately 32%, the comparators will have a 7% mismatch. The mismatch causes an out of limits trip which causes a rod block. The inop is only caused by a loss of power.

Task Associations

Task Number	Task Title
2157150401	Respond to APRM System Alarms

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
215005	A3.06	Maximum disagreement between flow comparator channels: Plant-Specific	3.0	3.1

Static Simulator Exams: None

Last Revised: 07/09/2002 2:51:50 PM by Fagan, Frank N.

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Question No. 52 Exam Bank Question No.: 3522 Revision: 2 Point Value: 1

SRO Only: No Instructor Guide: LOT-05-215 Objective: CRO 5

Question Level: Comprehension

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Select the correct answer:

The reactor is operating at 50% power with the following LPRM status for "E" APRM:

- A Level LPRMs 3
- B Level LPRMs 5
- C Level LPRMs 2
- D Level LPRMs 3

LPRM 5B-08-09 which is assigned to "E" APRM fails downscale. I&C recommends bypassing the failed LPRM.

Predict the plant response when the LPRM is bypassed.

	Answer/Distractor	Justification
a.	"LPRM DOWNSCALE" alarm clears only	Incorrect -
b.	Control Rod Block only	Incorrect -
c.	Half Scram only	Incorrect -
d.	Control Rod Block and a Half Scram	Correct Response

References: T.S. Table 3.1.1 and 3.2.5

Must integrate the following:

- Calculate the # of LPRMs
- Determine B & E APRMs require 13 (others need 8)
- Less than 13 LPRMs causes an Inop
- An Inop causes both a 1/2 scram and rod block

Task Associations

Task Number	Task Title
2150230101	Operate the Neutron Monitoring System

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
215005	A4.04	LPRM back panel switches, meters and indicating lights	3.2	3.2

Static Simulator Exams: None

Last Revised: 07/09/2002 2:52:02 PM by Fagan, Frank N.

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Question No. 53 Exam Bank Question No.: 5573 Revision: 1 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-405 Objective: CRO 8

Question Level: Comprehension

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Select the correct answer:

RCIC has been periodically tripping on a spurious high level signal. I&C desires to disable this signal for approximately a year until the next outage. During the 10CFR50.59 screening process, it should be determined that it \_\_\_\_\_ require a change to Tech Specs and the final approval authority would be the \_\_\_\_\_ .

	Answer/Distractor	Justification
a.	does; NRC	Correct Response
b.	does; Plant Manager	Incorrect -
c.	does not; NRC	Incorrect -
d.	does not; Plant Manager	Incorrect -

References: K/A 217000

AP 6002

Must integrate the following:

177" is a Tech Spec required setpoint for the high level trip. If disabled, RCIC would be declared inoperable in 24 hours. RCIC would be in a 14 day LCO. A longer period of time requires a Tech Spec change. The NRC has final approval authority for Tech Spec changes.

Task Associations

Task Number	Task Title
3410390302/03	Authorize or Effect Setpoint Changes

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
217000	2.2.10	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 (CFR 43.3, 45.13)	1.9	3.3

Static Simulator Exams: None

Last Revised: 06/25/2002 11:57:50 AM by Fagan, Frank N.

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Question No. 54 Exam Bank Question No.: 5575 Revision: 3 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-610 Objective: SRO 3

Question Level: Comprehension

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Select the correct answer:

The plant has the following conditions:

- All rods in
- Main Steam line break in the Turbine Bldg
- MSIVs have failed to isolate
- Rx Level +82.5" and decreasing at 5"/min
- Rx Pressure - 900 psig

ADS will initiate after \_\_\_\_\_ and the RO should be directed to \_\_\_\_\_ ADS initiation.

	Answer/Distractor	Justification
a.	2 minutes; inhibit	Incorrect -
b.	2 minutes; allow	Incorrect -
c.	10 minutes; allow	Incorrect -
d.	10 minutes; inhibit	Correct Response -

References: EOP-1

Must integrate the following:

Break outside of containment enables 8 minute timer. 2 minute timer enabled after 8 minute timer. Level at +30" when 2 min timer starts. EOP-1 directs ADS timer inhibited. RPVED doesn't occur until +6".

Task Associations

Task Number	Task Title
3101100502/03	Inhibit Auto Initiation of ADS

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
218000	A2.02	Large break LOCA	3.5	3.6

Static Simulator Exams: None

Last Revised: 06/26/2002 7:27:25 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 55 Exam Bank Question No.: 3951 Revision: 2 Point Value: 1

SRO Only: No Instructor Guide: LOT-01-288 Objective: CRO-5

Question Level: Comprehension

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Select the correct answer:

Given the following conditions:

- Drywell pressure is 2.0 psig and slowly rising due to a small leak
- Drywell cooling has been maximized IAW OT-3111 (High Drywell Pressure)
- Eight drywell RRUs are currently running
- Drywell pressure subsequently reaches 2.5 psig and an LNP occurs

The RRUs will:

	Answer/Distractor	Justification
a.	automatically shift to 1A/B & 2A/B running, and 3A/B & 4A/B off, and may be shifted to all eight running after a time delay.	Incorrect -
b.	trip and can be restarted by the Operator after bypassing/resetting trip logics.	Correct Response
c.	continue to run until manually shifted by the Operator.	Incorrect -
d.	trip and cannot be restarted until drywell pressure is lowered to less than 2.0 psig.	Incorrect -

References: OP 2115, Primary Containment

Used in LOI 2000 RO Audit Exam (8/00)

Must integrate the following:

- LNP causes loss of power to Buses 8 & 9
- Buses 8 & 9 supply DW RRUs
- Diesels repower Buses 8 & 9
- RRUs trip on 2.5 psig and load shed on LNP

Task Associations

Task Number	Task Title
2000070501	Respond to Containment Hi Pressure

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
223001	K2.08	Containment cooling air handling units: Plant-Specific	2.7	3.0

Static Simulator Exams: None

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2002 SROU Exam

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Question No. 56 Exam Bank Question No.: 495 Revision: 3 Point Value: 1  
 SRO Only: No Instructor Guide: LOT-00-229 Objective: CRO 2,5,8,10,11  
 Question Level: Comprehension

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Select the correct answer:

During normal plant operation at 100% power, drywell-to-torus dP has reached 1.9 psid and is rising slowly. No indications of coolant leakage are present, and the dP rise is attributed to the Nitrogen Supply System. Which of the following conditions would cause the rising dP?

	Answer/Distractor	Justification
a.	The nitrogen purge supply pressure control valve (PCV-1-156-10) is too far open and needs throttling in the CLOSE direction.	Incorrect -
b.	The nitrogen purge supply pressure control valve (PCV-1-156-10) is not open far enough and needs throttling in the OPEN direction.	Incorrect -
c.	The nitrogen makeup pressure control valve (PCV-1-156-3) is too far open and needs throttling in the CLOSE direction.	Correct Response
d.	The nitrogen makeup pressure control valve (PCV-1-156-3) is not open far enough and needs throttling in the OPEN direction.	Incorrect -

References: OP 2119

Must integrate the following:

During normal operations PCV-1-156-10 is kept closed and the line isolated. PCV-1-156-3 is normally kept throttled and the pressure control is on the supply line rather than the vent line, thus it must be throttled closed.

Task Associations

Task Number	Task Title
2230030101	Perform Containment Makeup

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
223001	K6.08	Containment atmospheric control	3.3	3.4

Static Simulator Exams: None

Last Revised: 07/09/2002 2:52:36 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 57 Exam Bank Question No.: 5600 Revision: 1 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-900 Objective: SRO 2

Question Level: Comprehension

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Select the correct answer:

Following a power transient a line break occurs downstream of RV-39 and RV-40, Sample Isolation Valves. The reactor is scrammed and EOPs are entered to mitigate the event.

The following conditions exist:

- Containment radiation - 1200 R/hr
- RV-39 and RV-40 fail to isolate
- Multiple RB ARMs are alarming

Determine the highest EAL that applies to this condition.

	Answer/Distractor	Justification
a.	Declare an Alert (A-1-b)	Incorrect -
b.	Declare a Site Area Emergency (S-2-a)	Incorrect -
c.	Declare a Site Area Emergency (S-3-a)	Incorrect -
d.	Declare a General Emergency (G-2-a)	Correct Response - 3 barrier loss

References: OP 2113

Must integrate the following:

- All three barriers lost
- Correctly apply AP 3125

Task Associations

Task Number	Task Title
2000170501	Respond to Containment Isolations
2997270301	Follow Operating Instructions and Procedures

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
223002	K1.06	Recirculation system	2.9	3.2

Static Simulator Exams: None

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Question No. 58 Exam Bank Question No.: 1081 Revision: 3 Point Value: 1

SRO Only: No Instructor Guide: LOT-01-223 Objective: 6, 10, 11,

Question Level: Comprehension

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Select the correct answer:

A refuel floor high radiation has been received. The refuel floor radiation monitor indicates a reading of 120 mr/hr.

Using ERFIS the "ISOL" icon is demanded and the "ISOLATION GROUPS AND VALVES DISPLAY" is displayed.

EFIS should show a Group 3A/B indication color of \_\_\_\_\_ and a Group 3A/B valves indicating \_\_\_\_\_.

	Answer/Distractor	Justification
a.	RED; GREEN	Correct Response - Group displays change to RED when signal is present, back panel valve icons change from red (open) to green (closed) following isolation
b.	GREEN; RED	Incorrect -
c.	GREEN; GREEN	Incorrect -
d.	RED; RED	Incorrect -

References: OP 2115

Must integrate the following:

The setpoint for a Group 3 isolation is 100 mr/hr. When ERFIS receives an isolation signal, it turns from green to red. The valves indicate as they normally would, green for shut and red for open. A Group 3 signal causes the valves to go closed so they should indicate green.

Task Associations

Task Number	Task Title
2000170501	Respond to Containment Isolations

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
223002	A1.03	SPDS/ERIS/CRIDS/GDS: Plant-Specific	2.5	2.8

Static Simulator Exams: None

Last Revised: 07/09/2002 2:53:16 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 59 Exam Bank Question No.: 3859 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: Objective:

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

A fully qualified Vermont Yankee radiation worker with all previous exposure history on file has received 2355 mrem through the month of September for 2001.

Which of the following is the remaining Total Effective Dose Equivalent (TEDE) exposure this individual is allowed to receive during the final quarter (three months) of 2001? Assume no authorizations to exceed Vermont Yankee administrative limits have been received.

	Answer/Distractor	Justification
a.	1145 mrem	Incorrect -
b.	1645 mrem	Incorrect -
c.	2145 mrem	Correct Response
d.	2645 mrem	Incorrect -

References: AP 0506, Personnel Monitoring, (Discussion Section)

K/A 226001

Used in LOI 2000 RO Audit Exam (8/00)

and 1999 NRC RO Exam

Task Associations

Task Number	Task Title
2990100301	Apply Radiation and Contamination Safety Procedures

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
226001	2.3.02	Knowledge of facility ALARA program (CFR 41.12, 43.4, 45.9, 45.10)	2.5	2.9

Static Simulator Exams: None

Last Revised: 07/09/2002 2:53:29 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 60 Exam Bank Question No.: 3694 Revision: 5 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-249 Objective: CRO 4

Question Level: Comprehension

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Select the correct answer:

The plant is operating normally at 100% power when the Speed Load Changer fails in the lower direction.

With this failure Reactor power will \_\_\_\_\_ due to a(n) \_\_\_\_\_ in feedwater heating.

	Answer/Distractor	Justification
a.	increase; decrease	Correct Response -
b.	increase; increase	Incorrect -
c.	decrease; decrease	Incorrect -
d.	decrease; increase	Incorrect -

References: Must integrate the following:

Control valves will close and the bypass valves will open. With the bypass valves open, FW heating will decrease resulting in colder FW and a positive reactivity addition.

Task Associations

Task Number	Task Title
2450120101	Shutdown the Turbine Generator

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
241000	K3.01	Reactor power	4.1	4.1

Static Simulator Exams: None

Last Revised: 07/09/2002 2:53:46 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 61 Exam Bank Question No.: 5576 Revision: 2 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-261 Objective: CRO 4

Question Level: Comprehension

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Select the correct answer:

A Group 3 isolation signal is received and then clears. SBTs start and all Group 3 valves close. The Group 3 valves are backed up, including the Rx Bldg HVAC supply and exhaust dampers (HVAC-9, 10, 11 and 12). The SBT-1A/B control switches are left in Auto/Close. If you attempted to reset the Group 3 isolation you would expect the isolation to \_\_\_\_\_ and Rx Bldg DP to \_\_\_\_\_.

	Answer/Distractor	Justification
a.	NOT reset; decrease	Incorrect -
b.	NOT reset; remain the same	Incorrect -
c.	reset; decrease	Correct Response -
d.	reset; remain the same	Incorrect -

References: Must integrate the following:

A Group 3 causes a trip of normal RBHVAC. SBT 1A & 1B come open upon a Group 3 signal but are normally closed. They are not part of the Group 3 reset IOPL logic and thus the Group 3 can be reset. Once reset the valves go closed. With no RBHVAC and SBT no longer drawing a suction then Rx Bldg DP decreases.

Task Associations

Task Number	Task Title
2610020101	Place the SBT System in Standby Readiness

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
261000	A1.04	Secondary containment differential pressure	3.0	3.3

Static Simulator Exams: None

Last Revised: 06/28/2002 8:36:33 AM by Fagan, Frank N.

2002 SROU Exam

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Question No. 62 Exam Bank Question No.: 5565 Revision: 0 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-261 Objective: CRO 8

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The SBGT system is in normal standby lineup when a total loss of air occurs. If a SBGT auto initiation occurs, you would expect the air operated SBGT valves to be:

	Answer/Distractor	Justification
a.	lined up properly.	Correct Response
b.	failed as is.	Incorrect -
c.	all closed.	Incorrect -
d.	all open.	Incorrect -

References: None

Task Associations

Task Number	Task Title
2610010101	Perform Lineups on the SBGT System

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
261000	A3.03	Valve operation	3.0	2.9

Static Simulator Exams: None

Last Revised: 07/09/2002 2:54:07 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 63 Exam Bank Question No.: 5577 Revision: 2 Point Value: 1  
 SRO Only: Yes Instructor Guide: LOT-00-263 Objective: SRO 1; CRO 7d  
 Question Level: Comprehension

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Select the correct answer:

The plant is in normal 100% power operations. A loss of AC electrical power occurs for the "B" Main Station Battery Charger (BC-1-1B). It is determined this charger will require 7 days to repair. This loss affects battery bus \_\_\_\_\_ and will require \_\_\_\_\_ .

	Answer/Distractor	Justification
a.	DC-3; a 3 day LCO and plant shutdown	Incorrect -
b.	DC-3; a 3 day LCO until the spare charger is placed in service	Correct Response - Charger feeds DC-2 which normally feeds DC-3. Tech Specs requires only one charger for Bus DC-2.
c.	DC-1AS; a 3 day LCO and plant shutdown	Incorrect -
d.	DC-1AS; a 3 day LCO until the spare charger is placed in service	Incorrect -

References: Tech Specs; OP 2145

Must integrate the following:

BC-1-1B feeds DC-2 which normally feeds DC-3. Tech Specs requires a charger for "B" Batteries but there is a spare charger available.

Task Associations

Task Number	Task Title
3410320302/03	Evaluate Plant System Performance and Coordinate Appropriate Actions per Technical Specifications in the Event A Limiting Condition for Operation is Entered or not Satisfied

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
262001	K3.03	D.C. electrical distribution	2.9	3.2

Static Simulator Exams: None

Last Revised: 07/01/2002 1:21:30 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 64 Exam Bank Question No.: 3157 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-262 Objective: CRO 1d

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

During normal power operation, the outside operator informs the Control Room that the "High Pressure Cylinder" pressure on ATB 79-40 is 390 psig and decreasing with the compressor running. WHICH ONE (1) of the following states the consequences of this condition?

	Answer/Distractor	Justification
a.	Breaker will trip and lockout if pressure continues to fall.	Incorrect -
b.	Breaker will respond to manual trip signals but fail to respond to automatic trip signals.	Incorrect -
c.	Breaker will respond to automatic trip signals but fail to respond to manual trip signals.	Incorrect -
d.	Breaker has lost all tripping capability.	Correct Response

References: OP 2140 APP A

Task Associations

Task Number	Task Title
2627330401	Respond to Automatic Operation of Components in the 345KV Switchyard

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
262001	K5.02	Breaker control	2.6	2.9

Static Simulator Exams: None

Last Revised: 06/26/2002 11:54:07 AM by Fagan, Frank N.

2002 SROU Exam

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Question No. 65 Exam Bank Question No.: 1166 Revision: 2 Point Value: 1  
 SRO Only: No Instructor Guide: LOT-02-224 Objective: CRO/SE 2; FND1,2  
 Question Level: Comprehension

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Select the correct answer:

The Reactor Building Exhaust Fan trips the standby exhaust fan fails to start and the supply fan fails to trip.

Predict the response of the Reactor Building to this condition.

	Answer/Distractor	Justification
a.	The personnel access doors which will blow open during an overpressure condition.	Incorrect - Personnel access doors are designed to stay closed to maintain secondary containment integrity and are not designed to provide overpressure protection.
b.	The building is designed for this condition.	Incorrect -
c.	SBG T initiates and maintains a negative pressure.	Incorrect -SBGT will not initiate automatically.
d.	The blowout panels in the refuel floor walls blow out.	Correct Response

References: FSAR Ch. 5.3

Must integrate the following:

- An overpressure condition will occur
- Press > Blowout Panels setpoint of 0.5 psig

Task Associations

Task Number	Task Title
2007260501	Respond to Natural Phenomena

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
290001	K4.02	Protection against overpressurization: Plant-System	3.4	3.5

Static Simulator Exams: None

Last Revised: 07/01/2002 8:19:08 AM by Fagan, Frank N.

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Question No. 66 Exam Bank Question No.: 1409 Revision: 2 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-611 Objective: 2

Question Level: Comprehension

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Select the correct answer:

EOP-4, Secondary Containment Control, provides the following direction:

IF Reactor Building HVAC isolates AND Reactor Building vent exhaust is less than 14 mr/hr THEN restart Reactor Building HVAC defeating interlocks (Appendix AA).

Appendix AA is implemented and RB Ventilation is restored. Predict the response to vent exhaust reading of 30 mr/hr and the status of secondary containment pressure.

	Answer/Distractor	Justification
a.	RB HVAC will trip and isolate, secondary containment will remain negative.	Correct Response - Appendix AA does not bypass vent rad monitor isolation. SBTGT will start and maintain secondary containment
b.	RB HVAC will trip and isolate, secondary containment will remain positive.	Incorrect -
c.	RB HVAC will continue to operate isolation bypassed, secondary containment will remain negative.	Incorrect -
d.	RB HVAC will continue to operate isolation bypassed, secondary containment will remain positive.	Incorrect -

References: EOP-4

Must integrate the following:

- Appendix AA does not bypass rad isolation
- 30 mr/hr exceeds rad isolation
- SBTGT maintains negative environment

Task Associations

Task Number	Task Title
2887210401	Respond to a Loss of Reactor Building Ventilation
3105010502/03	Direct Response to Secondary Containment Unexpected area Temperature Above Max Normal Operating Temperature
3105020502/03	Direct the Response to Reactor Building Ventilation Exhaust Radiation Level Above 14 MR/HR

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
290001	A2.04	High airborne radiation	3.4	3.7

Static Simulator Exams: None

Last Revised: 07/09/2002 2:54:31 PM by Fagan, Frank N.

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Question No. 67 Exam Bank Question No.: 5591 Revision: 2 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-610 Objective: SRO 4

Question Level: Comprehension

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Select the correct answer:

The plant is in an ATWS at 40% power and EOP 2 has been entered. The crew is implementing Appendix G, "Manually Insert Individual Control Rods.", but is unable to bypass the RWM because of a mechanical problem with the keylock switch.

Predict the effect this will have on future rod motion.

	Answer/Distractor	Justification
a.	Rod motion will be permitted without interruption.	Incorrect -
b.	Rod motion will be blocked immediately.	Incorrect -
c.	Rod motion will continue as the Rapid Shutdown Sequence is used during Appendix G.	Incorrect -
d.	Rod motion will be blocked when reactor power is less than 20% power.	Correct Response

References: K/A 201001

Must integrate the following:

At less than 20% power the RWM enforces rod blocks. These blocks only affect the directional control valves on the HCU's. Scram venting and cooling water pressure do not go through the directional control valves.

Task Associations

Task Number	Task Title
3101010502/03	Direct Rod Insertion IAW EOP-2

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
201001	2.2.33	Knowledge of procedures and limitations involved in initial core loading (CFR 43.6)	2.2	2.9

Static Simulator Exams: None

Last Revised: 07/01/2002 10:38:48 AM by Fagan, Frank N.

2002 SROU Exam

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Question No. 68 Exam Bank Question No.: 709 Revision: 4 Point Value: 1  
 SRO Only: No Instructor Guide: LOT-02-201 Objective: CRO 1h, 3; FND 2  
 Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Select the condition which will cause the full core display DRIFT light to illuminate.

	Answer/Distractor	Justification
a.	When driving in a rod using Emergency IN	Incorrect -
b.	Scramming a rod from 9-16	Correct Response
c.	Driving a rod in and Rod Sequence Timer Stalls	Incorrect -
d.	While driving out a rod using notch override	Incorrect -

References: None

Task Associations

Task Number	Task Title
2010050401	Respond to Rod Drift Alarm

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
214000	K5.01	Reed switches	2.7	2.8

Static Simulator Exams: None

Last Revised: 07/09/2002 2:54:49 PM by Fagan, Frank N.

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Question No. 69 Exam Bank Question No.: 3470 Revision: 5 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-205 Objective: CRO 2

Question Level: Comprehension

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Select the correct answer:

Given the following conditions:

- RHR Loop B (pump D) is in torus cooling
- Indicated flow is 5800 gpm
- The minimum flow valve has just failed open due to a short

Actual total flow to the torus is expected to \_\_\_\_\_ and total cooling to the torus is expected to \_\_\_\_\_.

ASSUME NO OPERATOR ACTIONS

	Answer/Distractor	Justification
a.	decrease; remain the same	Incorrect -
b.	decrease; decrease	Incorrect -
c.	remain the same; remain the same	Incorrect -
d.	remain the same; decrease	Correct Response

References: Drawing G-191172  
OP 2124

Must integrate the following:

The minimum flow valve comes before the heat exchanger and thus decreases available cooling flow but returns flow to the torus and thus doesn't change total flow.

Task Associations

Task Number	Task Title
2057190101	Startup the RHR System in the Torus Cooling Mode

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
219000	K4.05	Pump minimum flow protection	3.0	3.2

Static Simulator Exams: None

Last Revised: 07/09/2002 2:55:01 PM by Fagan, Frank N.

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Question No. 70 Exam Bank Question No.: 3750 Revision: 2 Point Value: 1  
 SRO Only: Yes Instructor Guide: LOT-02-224 Objective: SRO 1 (LOT-00-308)  
 Question Level: Comprehension

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Select the correct answer:

Which of the below would require the immediate suspension of fuel handling activities?

	Answer/Distractor	Justification
a.	The loss of one train of SBGT for greater than 12 hours	Incorrect - The loss of one SBGT would restrict fuel movement only after 7 days. (TS 3.7.B.3.b)
b.	The loss of one power supply to Reactor Building Exhaust radiation monitor	Incorrect - The loss of a power supply to Rx Bldg Vent Rad monitor will cause a GP 3 isolation. This will not restrict fuel handling activities.
c.	Loss of both Reactor Building exhaust fans due to a spurious Group 3 isolation	Incorrect - The loss of both Rx Bldg fans would result in the isolation of HVAC 9, 10, 11, 12. Not a restriction on fuel handling activities.
d.	Both Railroad door airlock gaskets being declared inoperable	Correct Response- Both RR airlock gaskets being declared inoperable would result in a loss of secondary containment which would result in the immediate cessation of fuel handling activities.

References: TS 3.7.C is a required reference for this question.

Must integrate the following:

The Railroad doors are part of secondary containment and are required for operability of secondary containment. In turn the seals are required for the doors to be operable. A loss of seals thus causes a loss of secondary containment. With secondary containment lost, all fuel movements must stop.

Task Associations

Task Number	Task Title
2237660204	Perform Reactor Building Railroad Airlock Air System Leakage Test
2617040204	Perform Secondary Containment Capacity Test

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
234000	2.1.11	Knowledge of less than one hour technical specification action statements for systems (CFR 43.2, 45.13)	3.0	3.8

Static Simulator Exams: None

Last Revised: 07/09/2002 2:55:13 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 71 Exam Bank Question No.: 5578 Revision: 2 Point Value: 1  
 SRO Only: No Instructor Guide: LOT-00-602 Objective: CRO 2  
 Question Level: Comprehension

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Select the correct answer:

The plant is at normal 100% power operations. RFP "C" is tagged out for maintenance but all other equipment is operable. Which of the following describes the appropriate immediate actions if a loss of Bus 1 were to occur?

	Answer/Distractor	Justification
a.	Insert a Manual Scram	Correct Response -
b.	Close RR "A" Pump Discharge Valve RV-53A	Incorrect -
c.	Reduce "B" Recirc speed to 70%	Incorrect -
d.	Initiate stability monitoring	Incorrect -

References: OT 3113

Must integrate the following:

Loss of Bus 1 causes a loss of RFP A & B. RFP C is tagged out and does not auto start. OT 3113 requires a scram as an immediate action. Other choices are not immediate actions.

Task Associations

Task Number	Task Title
2000270501	Respond to a Loss of Feedwater
3440370302/03	Analyze Indications to Determine that an Off Normal Plant Event is in Progress

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
259001	A2.06	Loss of A.C. electrical power	3.2	3.2

Static Simulator Exams: None

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Question No. 72 Exam Bank Question No.: 3562 Revision: 2 Point Value: 1

SRO Only: No Instructor Guide: LOT-01-259 Objective: CRO 5f

Question Level: Comprehension

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Select the correct answer:

A failure to scram has occurred and the crew is taking actions per EOP-2, ATWS RPV control. Reactor water level has been reduced to less than 90" using OE 3107, appendix GG, Terminate and Prevent. The master feedwater level controller and both individual feedwater regulating valve controllers were left in BALANCE.

What is the expected position of the feedwater regulating valves (FW-12A/B) in this condition?

	Answer/Distractor	Justification
a.	Oscillating between full open and full shut as a result of steam pressure fluctuations.	Incorrect - Level below 127" is the dominant effect
b.	Open as a result of feed flow being terminated and prevented.	Correct Response
c.	Locked in mid position due to loss of signal while terminated and prevented.	Incorrect -
d.	Shut in accordance with OE 3107, appendix GG	Incorrect - App GG does not address FRVs

References: OE 3107 app GG

Must integrate the following:

Terminate and prevent closes the blocking valves. The FRVs will not have flow through them but will still respond as if they controlled flow. With level normally set at 160" there is a 70" difference between setpoint and actual level. Additionally, the controller would still be in 3 element control and the steam flow to feed flow mismatch would be 100%. All these would drive the FRVs open.

Task Associations

Task Number	Task Title
2000310501	Respond to Low Reactor Water Level

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
259001	A3.07	FWRV position	3.2	3.2

Static Simulator Exams: None

Last Revised: 07/09/2002 2:55:30 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 73 Exam Bank Question No.: 5579 Revision: 2 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-612 Objective: A.3

Question Level: Comprehension

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Select the correct answer:

RCIC is operating to make up water to the vessel when a loss of DC-2 occurs. What is the RCIC response?

	Answer/Distractor	Justification
a.	RCIC isolation logic activates, RC-15 closes	Incorrect -
b.	RCIC controller fails low, injection ceases	Incorrect -
c.	RCIC continues to inject, all RCIC trips are lost except overspeed and low oil pressure	Correct Response
d.	RCIC Turbine trips on overspeed	Incorrect -

References: Must integrate the following:

- DC-2 supplies RCIC valves and trip logic
- RCIC valves are motor operated
- The RCIC controller is from vital AC
- Oil pressure and overspeed trips are mechanical

Task Associations

Task Number	Task Title
2177030101	Operate RCIC System from RCIC Alternate Shutdown Panel CP-82-1

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
263000	K3.03	Systems with D.C. components (i.e. valves, motors, solenoids, etc.)	3.4	3.8

Static Simulator Exams: None

Last Revised: 07/01/2002 9:41:39 AM by Fagan, Frank N.

2002 SROU Exam

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Question No. 74 Exam Bank Question No.: 3153 Revision: 2 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-271 Objective: SCRO1,2 SE 4

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

WHICH ONE (1) of the following actions is required if BOTH of the Plant Stack radiation monitors, RM-17-156/157, fail DOWNSCALE?

	Answer/Distractor	Justification
a.	Releases may continue for up to 72 hours provided the AOG system is not bypassed AND the AOG system noble gas activity monitor is operable.	Incorrect -
b.	Releases may continue provided that grab samples are taken once each 12 hours and the samples are analyzed within 24 hours.	Correct Response
c.	Releases may continue for 30 days provided the AOG system is not bypassed AND the AOG system noble gas activity monitor is operable.	Incorrect -
d.	Releases may continue for up to 7 days provided that grab samples are taken once each 12 hours and the samples are analyzed within 24 hours, and these samples indicate that releases remain below .16 Ci/sec and boundary doses remain below 500 mRem/yr whole body and 3000 mRem/year skin.	Incorrect -

References: TS Table 3.9.2, Note 2

Task Associations

Task Number	Task Title
3410320302/03	Evaluate Plant System Performance and Coordinate Appropriate Actions per Technical Specifications in the Event A Limiting Condition for Operation is Entered or not Satisfied

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
271000	A4.05	Station radioactive release rate	3.2	3.9

Static Simulator Exams: None

Last Revised: 07/09/2002 2:55:48 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 75 Exam Bank Question No.: 3914 Revision: 4 Point Value: 1  
 SRO Only: No Instructor Guide: LOT-00-273 Objective: CRO 2b  
 Question Level: Comprehension

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Select the correct answer:

Given the following conditions:

- The plant is operating at 100% power
- The keylock bypass switch for "AOG Inlet to Final Delay Pipe Rad Monitor," RAN-OG-3128, is in BYPASS
- RAN-OG-3127 has lost power and failed downscale
- Both "AOG Start-up Bypass Valves," AOG-145/146, are closed

The Main Stack Isolation valve (FCV-11) will:

	Answer/Distractor	Justification
a.	not isolate with RAN-OG-3128 in BYPASS	Incorrect -
b.	begin to isolate in 2 minutes.	Incorrect -
c.	begin to isolate in 30 minutes.	Correct Response
d.	begin to isolate in 45 minutes.	Incorrect -

References: OP 2150, Advanced Off Gas System and Air Evacuation Equipment

Must integrate the following:

Only one monitor is required for an isolation. A failed downscale monitor is an isolation signal. If the bypass valves were open a 2 minute timer would activate. However, if the bypass valves are closed, a 30 minute timer activates.

Task Associations

Task Number	Task Title
2737060101	Respond to Automatic Actions from Local Monitors

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
272000	K2.03	Stack gas radiation monitoring system	2.5	2.8

Static Simulator Exams: None

Last Revised: 07/09/2002 2:56:00 PM by Fagan, Frank N.

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Question No. 76 Exam Bank Question No.: 3590 Revision: 1 Point Value: 1  
 SRO Only: No Instructor Guide: LOT-00-272 Objective: CRO 2; SCRO 2; SE 2; AO 2  
 Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The ARM DNSCL and the TURBINE BLDG RAD HI annunciators have just alarmed. ARM #24, TURBINE BLDG TURBINE DECK, has both its upscale and downscale lights energized. No other ARM's are alarming. This situation indicates that:

	Answer/Distractor	Justification
a.	the installed bug source is exposed.	Incorrect -
b.	the indicator/trip unit has been placed to ZERO.	Incorrect -
c.	there was a momentary loss of power to the indicator/trip unit.	Correct Response
d.	the detector has lost argon gas pressure.	Incorrect -

References: OP 2135

Task Associations

Task Number	Task Title
2727150401	Respond to ARM Alarms

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
272000	K6.03	A.C. power	2.8	3.0

Static Simulator Exams: None

Last Revised: 07/09/2002 2:56:16 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 77 Exam Bank Question No.: 5590 Revision: 3 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-286 Objective: CRO 2d

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

A Control Room fire panel alarm for the Hydrogen shed and a visual report of a fire in the Hydrogen shed are received. Upon Shift Supervisor instructions, manual spray is initiated from which of the following locations?

	Answer/Distractor	Justification
a.	Remote pull box outside of Control Room	Correct Response
b.	Remote pull box inside of Control Room	Incorrect -
c.	Remote pull box outside South wall of new warehouse	Incorrect -
d.	Remote pull box inside South wall of new warehouse	Incorrect -

References: None

Task Associations

Task Number	Task Title
2867290401	Respond to Pyrotronics Panel Alarms
3440140302/03	Coordinate Response to a Fire Emergency

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
286000	K1.05	Main generator hydrogen system: Plant-Specific	3.1	3.1

Static Simulator Exams: None

Last Revised: 06/28/2002 9:02:56 AM by Fagan, Frank N.

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Question No. 78 Exam Bank Question No.: 3591 Revision: 3 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-286 Objective: 2b

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The Fire Brigade is fighting a fire in the south warehouse. The Electric Fire Pump started and immediately tripped on overcurrent. The Diesel Fire Pump is running and supplying the fire system with system pressure at 90 psig.

The overcurrent trip of the Electric Fire Pump is reset. Which one of the following describes the system response?

	Answer/Distractor	Justification
a.	The Electric Fire Pump starts and the Diesel Fire Pump continues to run.	Incorrect -
b.	The Electric Fire Pump starts and the Diesel Fire Pump stops.	Incorrect - .
c.	The Electric Fire Pump remains in standby and the Diesel Fire Pump continues to run.	Correct Response
d.	The Electric Fire Pump remains in standby and the Diesel Fire Pump stops.	Incorrect -

References: OP 2186

Task Associations

Task Number	Task Title
2990090301	Report Abnormal Parameters or Conditions
3447100302/03	Initiate Investigation of Abnormal and Emergency Conditions

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
286000	K5.05	Diesel operators	3.0	3.1

Static Simulator Exams: None

Last Revised: 07/09/2002 2:56:35 PM by Fagan, Frank N.

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Question No. 79 Exam Bank Question No.: 3679 Revision: 2 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-601 Objective: CRO 2

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Control room ventilation is in a normal lineup with Control Room Supply Fan SAC-1A running. A rupture of the instrument air system occurs. Instrument air header pressure has dropped to 0 psig.

How will control room ventilation respond?

	Answer/Distractor	Justification
a.	SAC-1A will trip and its discharge damper remains open.	Incorrect -
b.	SAC-1A will continue to run and its discharge damper fails shut.	Correct Response
c.	SAC 1A will continue to run and its discharge damper remains open.	Incorrect -
d.	SAC-1A will trip and its discharge damper fails shut.	Incorrect -

References: ON 3146

1999 NRC RO Exam - Bacala

Task Associations

Task Number	Task Title
2000130501	Respond to a Loss of Instrument Air Pressure

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
290003	A1.04	Control room pressure	2.5	2.8

Static Simulator Exams: None

Last Revised: 07/09/2002 2:56:47 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 80 Exam Bank Question No.: 1136 Revision: 2 Point Value: 1

SRO Only: No Instructor Guide: LOT-04-215 Objective: 4

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The reactor operator has just received a SCRAM on Rx low level and noticed a red light for the TIP system on the mimic on CRP 9-3. This is:

	Answer/Distractor	Justification
a.	a normal condition since the ball valves are normally open.	Incorrect -
b.	a normal condition since the shear valves are normally open.	Incorrect -
c.	an abnormal condition since the ball valves should be closed.	Correct Response
d.	an abnormal condition since the shear valves should be closed.	Incorrect -

References: None

Task Associations

Task Number	Task Title
2000170501	Respond to Containment Isolations

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
215001	K6.04	Primary containment isolation system: Mark-I&II (Not-BWR1)	3.1	3.4

Static Simulator Exams: None

Last Revised: 07/09/2002 2:56:59 PM by Fagan, Frank N.

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Question No. 81 Exam Bank Question No.: 5581 Revision: 4 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-233 Objective: CRO 1E

Question Level: Comprehension

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Select the correct answer:

A seismic event has caused a loss of the Vernon Dam. For the next 7 days, what systems are used for cooling the fuel pool?

	Answer/Distractor	Justification
a.	RBCCW through the Normal Fuel Pool Cooling System	Incorrect -
b.	RBCCW through the Standby Fuel Pool Cooling System	Incorrect -
c.	RHRSW through the Normal Fuel Pool Cooling System	Incorrect -
d.	RHRSW through the Standby Fuel Pool Cooling System	Correct Response

References: OP 2179

Must integrate the following: Loss of the Vernon Dam means river water is lost, results in loss of SW and loss of RBCCW. RHRSW available through suction from deep basin and can supply SDC and FPC together.

Task Associations

Task Number	Task Title
2337180104	Place the SFPC System in Operation

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
233000	K4.07	Supplemental heat removal capability	2.7	2.9

Static Simulator Exams: None

Last Revised: 07/01/2002 8:15:29 AM by Fagan, Frank N.

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Question No. 82 Exam Bank Question No.: 3172 Revision: 4 Point Value: 1  
 SRO Only: No Instructor Guide: LOT-00-239 Objective: CRO 1b  
 Question Level: Fundamental Knowledge/Memory

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Select the correct answer.

Electrical Maintenance desires to deenergize the DC-1 power supplies to the MSIVs for troubleshooting.

WHICH ONE (1) of the following would be the effect of a loss of DC on the MSIVs?

	Answer/Distractor	Justification
a.	All 4 inboard MSIVs will drift closed over the next 5 minutes.	Incorrect -
b.	All MSIVs will close in 3-5 seconds	Incorrect -
c.	All MSIVs will operate normally	Correct Response
d.	All 4 outboard MSIVs will drift closed over the next 5 minutes.	Incorrect -

References: K/A 239001

Task Associations

Task Number	Task Title
2390030101	Operate the Main Steam Isolation Valves

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
239001	2.2.17	Knowledge of the process for managing maintenance activities during power operations (CFR 43.5, 45.13)	2.3	3.5

Static Simulator Exams: None

Last Revised: 07/09/2002 2:57:17 PM by Fagan, Frank N.

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Question No. 83 Exam Bank Question No.: 5597 Revision: 6 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-256 Objective: CRO 1o

Question Level: Comprehension

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Select the correct answer:

A plant startup is underway. The Turbine/Generator has just been synched to the grid. The Generator is loaded and reactor power is 15%.

If a Turbine trip were to occur the reactor would \_\_\_\_\_ and condensate quench spray valve would \_\_\_\_\_.

	Answer/Distractor	Justification
a.	scram, open	Incorrect -
b.	scram, remain closed	Incorrect -
c.	remain operating, open	Incorrect -
d.	remain operating, remain closed	Correct Response

References: OP 0105

Must integrate the following: A turbine trip causes a C.V. fast closure. A fast closure scrams the reactor when  $\geq 30\%$  power. The closure of the CVs will cause the BVs to open. Each BV can pass 10% steam flow and are staged. Only #1 and #2 BVs open and quench spray does not open until #5 BV opens. #1-#4 BVs discharge under the water and won't affect vacuum.

Task Associations

Task Number	Task Title
2997270301	Follow Operating Instructions and Procedures

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
256000	A1.10	Condenser vacuum	3.1	3.1

Static Simulator Exams: None

Last Revised: 07/01/2002 3:56:37 PM by Fagan, Frank N.

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Question No. 84 Exam Bank Question No.: 5593 Revision: 0 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-262 Objective: SRO 1

Question Level: Comprehension

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Select the correct answer:

While operating at 95% power, the unit auxiliary transformer and the 4160 volt tie line to Vernon Hydroelectric Station become INOPERABLE. WHICH ONE of the following describes the maximum length of time allowed before a Tech Spec required action must be taken?

	Answer/Distractor	Justification
a.	1 hour	Correct Response
b.	24 hours	Incorrect -
c.	7 days	Incorrect -
d.	Indefinitely	Incorrect -

References: TS 4.10.B.3.a

Must integrate the following: the aux transformer is an offsite power source and the Vernon tie line is not (for the purposes of Tech Specs). The loss of one off-site source requires the verification of the other source (plus other components).

Task Associations

Task Number	Task Title
2627330401	Respond to Automatic Operation of Components in the 345KV Switchyard
3410320302/03	Evaluate Plant System Performance and Coordinate Appropriate Actions per Technical Specifications in the Event A Limiting Condition for Operation is Entered or not Satisfied

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.1.11	Knowledge of less than one hour technical specification action statements for systems (CFR 43.2, 45.13)	3.0	3.8

Static Simulator Exams: None

Last Revised: 07/09/2002 2:57:37 PM by Fagan, Frank N.

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Question No. 85 Exam Bank Question No.: 1795 Revision: 4 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-264 Objective: SRO 1b

Question Level: Comprehension

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Select the correct answer:

The plant is at 100% power. The "A" RHR pump has been inoperable for the past three (3) days. The "B" Diesel Generator has just failed its monthly surveillance.

Determine which one of the following statements describes the most limiting conditions for operation imposed by the situation outlined above?

	Answer/Distractor	Justification
a.	The reactor can continue operations for four (4) days, then must be placed in COLD SHUTDOWN in 24 hours.	Incorrect -
b.	The reactor can continue operations for seven (7) days, then must be placed in COLD SHUTDOWN in 24 hours.	Incorrect -
c.	A reactor shutdown shall be initiated, and the reactor shall be in COLD SHUTDOWN in 24 hours.	Correct Response
d.	The reactor can continue operations for the next seven (7) days, provided at least one off-site transmission line, one startup transformer, and the Vernon line remain operable.	Incorrect -

References: T.S. 3.5.H

Must integrate the following:

The "A" RHR Pump is supplied by Bus 4. Bus 4 is supplied by the "A" DG. Tech Specs requires the associated LPCI/Cont Spray systems to be operable.

Task Associations

Task Number	Task Title
3410320302/03	Evaluate Plant System Performance and Coordinate Appropriate Actions per Technical Specifications in the Event A Limiting Condition for Operation is Entered or not Satisfied

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.1.33	Ability to recognize indications for system operating parameters which are entry-level conditions for Technical Specifications (CFR 43.2, 43.3, 45.3)	3.4	4.0

Static Simulator Exams: None

Last Revised: 07/01/2002 1:22:30 PM by Fagan, Frank N.

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Question No. 86 Exam Bank Question No.: 3720 Revision: 3 Point Value: 1

SRO Only: No Instructor Guide: LOT-01-201 Objective: 5

Question Level: Comprehension

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Select the correct answer:

The 'A' CRD pump is operating normally and the flow control valve is in AUTO. Which of the following best describes the changes in CRD system if controller malfunction causes the Flow Control Valve to fail closed?

	Answer/Distractor	Justification
a.	Charging water pressure and drive water pressure increase.	Incorrect -
b.	Charging water pressure and drive water pressure decrease.	Incorrect -
c.	Drive water pressure and cooling water pressure increase.	Incorrect -
d.	Drive water pressure and cooling water pressure decrease.	Correct Response

References: Must integrate the following:

- Water and drive water come downstream of the FCV
- Both CW and DW pressures are manually controlled
- A change in total flow affects pressure

Task Associations

Task Number	Task Title
2010090101	Position Control Rods as Directed by SS at Power

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.1.28	Knowledge of the purpose and function of major system components and controls (CFR 41.7)	3.2	3.3

Static Simulator Exams: None

Last Revised: 07/09/2002 2:57:56 PM by Fagan, Frank N.

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Question No. 87 Exam Bank Question No.: 3853 Revision: 1 Point Value: 1  
 SRO Only: No Instructor Guide: LOT-01-400 Objective: CRO 9  
 Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Which of the following shall be documented on a Lineup Deviation Form?

The "A" RHR Heat Exchanger Inlet Valve (RHR-23A) has been repositioned:

	Answer/Distractor	Justification
a.	as required and documented by a Caution Tagging Order.	Correct Response
b.	as required and directed by a surveillance test.	Incorrect -
c.	as required and documented by a White Tagging Order.	Incorrect -
d.	by an AO who is standing by to return the valve to its original position in accordance with the system operating procedure.	Incorrect -

References: AP 0155, Current System Valve and Breaker Lineup and Identification

Used in LOI 2000 RO Audit Exam (8/00)  
 and 1999 NRC RO Exam

Task Associations

Task Number	Task Title
2050010101	Perform Lineups of the Residual Heat Removal System

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.1.29	Knowledge of how to conduct and verify valve lineups (CFR 41.10, 45.1, 45.12)	3.4	3.3

Static Simulator Exams: None

Last Revised: 07/09/2002 2:58:08 PM by Fagan, Frank N.

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Question No. 88 Exam Bank Question No.: 5555 Revision: 4 Point Value: 1  
 SRO Only: No Instructor Guide: LOT-00-300 Objective: CRO 3; SCRO 2, 6  
 Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

A coupling check is performed whenever a rod is initially withdrawn to position 48. Which one of the following is an indication of an uncoupled rod during this check?

	Answer/Distractor	Justification
a.	The 48 indication disappears and the rod display window goes dark.	Correct Response: OP 0105
b.	The 48 indication disappears and the rod display window goes to double red dash.	Incorrect - Window turns green when rod is full in.
c.	The 48 indication flashes and the rod display window goes to double red dash.	Incorrect - The 48 will never flash, and the window turns green when full in.
d.	The 48 indication flashes and the rod display goes dark.	Incorrect - The 48 never flashes.

References: OP 0105

Task Associations

Task Number	Task Title
2010060101	Operate Control Rods Using Notch Override
2010060201	Conduct Control Rod Coupling Integrity Test

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.1.23	Ability to perform specific system and integrated plant procedures during different modes of plant operation (CFR 45.2, 45.6)	3.9	4.0

Static Simulator Exams: None

Last Revised: 07/09/2002 2:58:27 PM by Fagan, Frank N.

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Question No. 89 Exam Bank Question No.: 3856 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-308 Objective: CRO 3,5

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Which of the following combinations of reactor power and pressure indicate violation of a Safety Limit?

	Answer/Distractor	Justification
a.	Reactor power 38% Reactor pressure 850 psig	Incorrect - allowed to exceed 25% power when greater than 800 psia (785.3 psig).
b.	Reactor power 30% Reactor pressure 820 psig	Incorrect - allowed to exceed 25% power when greater than 800 psia (785.3 psig).
c.	Reactor power 28% Reactor pressure 780 psig	Correct Response
d.	Reactor power 20% Reactor pressure 750 psig	Incorrect - can not exceed 25% power if less than 800 psia (785.3 psig)

References: VY Tech Specs

Used in LOI 2000 RO Audit Exam (8/00)  
and 1999 NRC RO Exam

Task Associations

Task Number	Task Title
2990150301	Apply Tech Spec Requirements

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.2.22	Knowledge of limiting conditions for operations and safety limits (CFR 43.2, 45.2)	3.4	4.1

Static Simulator Exams: None

Last Revised: 07/01/2002 10:49:39 AM by Fagan, Frank N.

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Question No. 90 Exam Bank Question No.: 146 Revision: 4 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-239 Objective: SRO 1

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

An MSIV surveillance results in a full closure time for MS-80A of 2.8 seconds.

Which one of the following is correct in regards to this time?

	Answer/Distractor	Justification
a.	The time is acceptable since it is faster than required to limit offsite release.	Incorrect -
b.	The time is unacceptable since it is too slow to limit offsite release.	Incorrect -
c.	The time is acceptable since it is slow enough to limit the pressure rise on a closure of all MSIVs.	Incorrect -
d.	The time is unacceptable since it is too fast to limit the pressure rise on a closure of all MSIVs.	Correct Response

References: FSAR Chapter 14  
Tech Spec 3.7.1.2

Task Associations

Task Number	Task Title
2007200501	Respond to Reactor Instability
2390030101	Operate the Main Steam Isolation Valves

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.2.25	Knowledge of bases in technical specifications for limiting conditioned for operations and safety limits (CFR 43.2)	2.5	3.7

Static Simulator Exams: None

Last Revised: 07/09/2002 2:58:46 PM by Fagan, Frank N.

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Question No. 91 Exam Bank Question No.: 3587 Revision: 3 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-234 Objective: CRO 1

Question Level: Comprehension

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Select the correct answer:

The plant is in a refueling outage with the mode switch in refuel and all rods inserted. The refuel bridge crew has used the grapple to pick up a fuel bundle. They start to move towards the core when the control room operator withdraws a control rod. When the bridge reaches the core area:

	Answer/Distractor	Justification
a.	the bridge stops and a hoist raise block is generated.	Correct Response
b.	the bridge stops and a hoist lower block is generated.	Incorrect -
c.	the bridge continues but a hoist raise block is generated.	Incorrect -
d.	the bridge continues and the hoists remain operable.	Incorrect -

References: Justification: Higher Level

The conditions for a platform travel block and a hoist block coincide in this case with the conditions of: any grapple/hoist loaded, not all rods in and platform near/over the core. The grapple is loaded with the weight of the fuel bundle. The platform travel stops since it is moving towards the core. If the platform was moving away from the core then travel would continue.

Task Associations

Task Number	Task Title
2347110201	Perform Functional Test of Refueling Interlocks

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.2.27	Knowledge of the refueling process (CFR 43.6, 45.13)	2.6	3.5

Static Simulator Exams: None

Last Revised: 07/09/2002 2:58:56 PM by Fagan, Frank N.

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Question No. 92 Exam Bank Question No.: 3852 Revision: 1 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-00-402 Objective: SCRO 4

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

A Temporary Modification (TM) has been approved and installed on a plant system. Eight weeks later, it has been determined that changes to the modification are needed.

Which of the following describes how this change shall be accomplished?

	Answer/Distractor	Justification
a.	The current TM shall be restored (removed) and a new TM incorporating the changes shall be approved and installed.	Incorrect -
b.	After determining the level of the required change (minor or major), the current TM shall be modified.	Correct Response
c.	The current TM shall be restored (removed) and a Minor Modification incorporating the changes shall be approved and installed.	Incorrect -
d.	After determining the level of the required change, an Vermont Yankee Design Change (VYDC) shall be approved and initiated.	Incorrect -

References: AP 0020, Control of Temporary and Minor Modifications

Task Associations

Task Number	Task Title
3410110302/03	Approve Temporary Modifications

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.2.11	Knowledge of the process for controlling temporary changes (CFR 41.10, 43.3, 45.13)	2.5	3.4

Static Simulator Exams: None

Last Revised: 06/26/2002 7:50:49 PM by Fagan, Frank N.

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Question No. 93 Exam Bank Question No.: 3336 Revision: 0 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-404 Objective: SCRO 16

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Which of the following describes the personnel frisking requirements while working in a Zone 3 Hot Particle Area?

	Answer/Distractor	Justification
a.	Personnel working in the area must perform a frisk every half hour and may continue work indefinitely if survey readings are satisfactory.	Incorrect -
b.	Personnel working in the area must perform a frisk at least every hour and may continue working indefinitely if survey readings are satisfactory.	Incorrect -
c.	Personnel working in the area must perform a frisk after one hour and must exit after two hours and perform a whole body frisk in the nearest PCM-1B.	Correct Response - Actions in AP 0517
d.	Personnel working in the area must perform a frisk every two hours and must exit after four hours and perform a whole body frisk in the nearest PCM-1B.	Incorrect -

References: AP 0517

Task Associations

Task Number	Task Title
2990100301	Apply Radiation and Contamination Safety Procedures

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.3.10	Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure (CFR 43.4, 45.10)	2.9	3.3

Static Simulator Exams: None

Last Revised: 07/09/2002 2:59:15 PM by Fagan, Frank N.

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Question No. 94 Exam Bank Question No.: 5595 Revision: 2 Point Value: 1  
 SRO Only: No Instructor Guide: LOT-00-266 Objective: SRO 2  
 Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Per OP 2610, "Liquid Waste Disposal", which one of the following would require the Shift Supervisor's or SCRO's permission to be granted and noted on the Discharge Permit?

	Answer/Distractor	Justification
a.	Routine House Heating Boiler Blowdowns	Incorrect -
b.	MUD System Filter Discharges	Incorrect -
c.	Continuous Discharge of RWCU Demins to the Waste Sample Tanks	Incorrect -
d.	Batch Discharge of Waste Sample Tanks to the Condensate Storage Tank	Correct Response

References: OP 2610

Task Associations

Task Number	Task Title
3410120302/03	Approve Radioactive Waste Discharge/Release Permits

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.3.06	Knowledge of the requirements for reviewing and approving release permits (CFR 43.4, 45.10)	2.1	3.1

Static Simulator Exams: None

Last Revised: 06/28/2002 9:55:37 AM by Fagan, Frank N.

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Question No. 95 Exam Bank Question No.: 1772 Revision: 1 Point Value: 1

SRO Only: Yes Instructor Guide: LOT-02-400 Objective: SCRO 3

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Which one of the following are responsible for administrative control of the keys to locked high radiation doors?

	Answer/Distractor	Justification
a.	Shift Supervisor and the Radiation Protection Manager	Correct Response
b.	Security Shift Supervisor and Radiation Protection Manager	Incorrect - per DP 0161 it is the Shift Supervisor and the Radiation Protection Manager
c.	Security Shift Supervisor and the Senior RP Technician	Incorrect -per DP 0161 it is the Shift Supervisor and the Radiation Protection Manager
d.	Shift Supervisor and the Senior RP Technician	Incorrect -per DP 0161 it is the Shift Supervisor and the Radiation Protection Manager

References: DP 0161

Tech. Specs. Paragraph 6.5.B

Task Associations

Task Number	Task Title
3420090302/03	Approve Radiation Work Permits

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.3.01	Knowledge of 10 CFR 20 and related facility radiation control requirements (CFR 41.12, 43.4, 45.9, 45.10)	2.6	3.0

Static Simulator Exams: None

Last Revised: 01/16/2002 3:39:16 PM by Fagan, Frank N.

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Question No. 96 Exam Bank Question No.: 5588 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-404 Objective: SRO 1

Question Level: Comprehension

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Select the correct answer:

An AO has a routine plant task that requires him to be in a 50 mr/hr field for 30 minutes. Which one of the following would result in the greatest reduction in total man-rems for this job?

	Answer/Distractor	Justification
a.	Use 2 AOs working 15 minutes each	Incorrect - 2 AOs would still pick up 25 mr total
b.	Install 2" of lead shielding that reduces radiation levels by 1/2 for each inch of lead	Correct Response - 1" reduces total to 12.5 mr; 2nd inch reduces total to 6.25 mr
c.	Install valve reach rods that would allow the AO to work in a 25 mr/hr field for 30 minutes	Incorrect - 25 mr/hr x 0.5 hrs = 12.5 mr
d.	Utilize remote operated valves that would reduce his stay time to 12 minutes in a 50 mr/hr field	Incorrect - 50 mr/hr x 1 hr/60 min x 12 min = 10 mr

References: AP 6047

Must integrate the following:

The concepts of time, distance and shielding must be analyzed to determine how each applies in the ability to reduce the total man rems for a job as opposed to an individual.

Task Associations

Task Number	Task Title
3410380302/03	Interpret and Ensure Compliance with Plant Administrative Procedures During Normal and off Normal Plant Operations

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.3.02	Knowledge of facility ALARA program (CFR 41.12, 43.4, 45.9, 45.10)	2.5	2.9

Static Simulator Exams: None

Last Revised: 06/28/2002 9:56:46 AM by Fagan, Frank N.

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Question No. 97 Exam Bank Question No.: 2692 Revision: 0 Point Value: 1

SRO Only: No Instructor Guide: LOT-01-626 Objective: CRO 5

Question Level: Comprehension

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Select the correct answer:

During an RPV-ED, the SRV's failed to open. The SCRO directs the BOP to implement Appendix "CC" RPV Venting via MSIVs.

During the implementation of Appendix "CC", the BOP fails to place the control switches for RV-39 and RV-40 to CLOSE. As a result the Group I SYS 1 and SYS 2 Reset Permissive lights on CRP 9-5 are not lit. The remaining steps involving jumper installation are completed correct.

Will the MSIVs and the MSL Drain Valves open in this condition?

	Answer/Distractor	Justification
a.	MSIVs can be opened, MSL Drain Valves can not be opened.	Incorrect -
b.	MSIVs can be opened, MSL Drain Valves can be opened.	Correct Response
c.	MSIVs can not be opened, MSL Drain Valves can be opened.	Incorrect -
d.	MSIVs can not be opened, MSL Drain Valves can not be opened.	Incorrect -

References: EOP-3, OE 3107 Appendix CC

Task Associations

Task Number	Task Title
2007730501	Perform RPV Venting Via MSIV'S

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.4.08	Knowledge of how the event-based emergency/abnormal operating procedures are used in conjunction with the symptom-based EOPs (CFR 41.10, 43.5, 45.13)	3.0	3.7

Static Simulator Exams: None

Last Revised: 07/09/2002 2:59:44 PM by Fagan, Frank N.

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Question No. 98 Exam Bank Question No.: 675 Revision: 3 Point Value: 1  
 SRO Only: No Instructor Guide: LOT-00-602 Objective: CRO/SE Obj. 1  
 Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The plant has experienced a Recirc Pump trip. The RO reports APRMs are oscillating between 62% and 77% power. Which of the following should be directed?

	Answer/Distractor	Justification
a.	Increase running Recirc Pump speed	Incorrect -
b.	Decrease running Recirc Pump speed	Incorrect -
c.	Insert rods per rapid shutdown sequence	Incorrect -
d.	Insert rods by manual scram	Correct Response

References: OT 3117

Task Associations

Task Number	Task Title
2007200501	Respond to Reactor Instability

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.4.11	Knowledge of abnormal condition procedures (CFR 41.10, 43.5, 45.13)	3.4	3.6

Static Simulator Exams: None

Last Revised: 07/01/2002 9:48:38 AM by Fagan, Frank N.

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Question No. 99 Exam Bank Question No.: 3865 Revision: 0 Point Value: 1

SRO Only: No Instructor Guide: LOT-01-400 Objective: CRO-1

Question Level: Comprehension

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Select the correct answer:

Given the following conditions:

- The plant is operating at 100% power
- A feedwater level control malfunction has resulted in lowering reactor water level
- Reactor water level has reached +120 inches
- There has been NO response from the Reactor Protection System (RPS)

What are the EXPECTED Control Room Operator actions for these conditions?

	Answer/Distractor	Justification
a.	Insert a manual scram while concurrently informing the Supervisory Control Room Operator (SCRO) of the actions being taken.	Correct Response
b.	Insert a manual scram only after verifying the RPS failure using two separate indications.	Incorrect -
c.	Inform the Supervisory Control Room Operator (SCRO) of the condition, and insert a manual scram when directed.	Incorrect -
d.	Perform an immediate power reduction to raise reactor water level to above the scram setpoint as soon as possible.	Incorrect -

References: DP 0166, Operations Standards

Used in LOI 2000 RO Audit Exam (8/00)  
and 1999 NRC RO Exam

Task Associations

Task Number	Task Title
2997270301	Follow Operating Instructions and Procedures

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.4.15	Knowledge of communication procedures associated with EOP implementation (CFR 41.10, 45.13)	3.0	3.5

Static Simulator Exams: None

Last Revised: 07/09/2002 3:00:01 PM by Fagan, Frank N.

2002 SROU Exam

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Question No. 100 Exam Bank Question No.: 5596 Revision: 1 Point Value: 1

SRO Only: No Instructor Guide: LOT-00-239 Objective: CRO 5

Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

A reactor scram and MSIV isolation have occurred. Torus cooling is in service and the SRVs are being cycled to control reactor pressure. Which one of the following alarms would be unexpected and indicate a problem?

	Answer/Distractor	Justification
a.	Rx Relief/Safety Vlv Temp Hi (3-B-4)	Incorrect - SRV tail pipe temp of 230°F
b.	ADS Permissive RHR/CS Running (3-A-7)	Incorrect - RHR running for torus cooling, activates on pressure
c.	Rx Relief Vlv Open (3-A-1)	Incorrect - 2 of 3 tailpipe pressure switches activate at 40 psig
d.	Rx Relief Vlv Bellows Leakage (3-B-1)	Correct Response - Crack in bellows allowing it to pressurize. May not open SRV automatically on a high reactor pressure.

References: Alarm Response Sheets

Task Associations

Task Number	Task Title
2007400501	Control RPV Pressure Using Bypass Valves, HPCI, RCIC, SRVS, RWCU, Steam Line Drains

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.4.46	Ability to verify that the alarms are consistent with the plant conditions (CFR 43.5, 45.3, 45.12)	3.5	3.6

Static Simulator Exams: None

Last Revised: 07/01/2002 10:51:37 AM by Fagan, Frank N.