MASTER EXAMINATION AND ANSWER KEY

LICENSED OPERATOR INITIAL TRAINING PROGRAM

Course: Draft SRO NRC Exam 2003

Exam Activity Code: **Date Exam Prepared: 9 July 2003**

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Prepared By **Date**

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Approved By **Date**

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Question No. 1 Exam Bank Question No.: 5614 Revision: 2 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-202 Objective: CRO 3j
Question Level: Analysis

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Select the correct answer:

While operating at full power, you observe the following parameter changes:

MWe net 520 to 472
Turbine Control valves step change in the close direction
Reactor Pressure 1010 to 998 psig
Core Plate D/P 16 to 14 psid
Core Flow 47 mlbs/hr to 48 mlbs/hr

Based on these indications, your action should be to enter the procedure for:

	Answer/Distractor	Justification
a.	Inadvertent opening of an SRV.	Incorrect - Increasing flow and decreasing power can only be caused by a jet pump failure.
b.	Positive reactivity insertion from recirc flow increase.	Incorrect - Increasing flow and decreasing power can only be caused by a jet pump failure.
c.	Jet pump failure.	Correct Response - These indications are scaled data from the Quad Cities jet pump failure that occurred in 2002. These parameters closely match ON 3141 symptoms, but not identical. On 3141 requires the J.P. Surveillance be performed.
d.	Reactor low pressure from EPR failure.	Incorrect - Increasing flow and decreasing power can only be caused by a jet pump failure.

References: LOT-00-601 CRO Obj. 1, 3

ON 3141, rev 8
Quad Cities J.P. Failure 2002
New

Task Associations

Task Number	Task Title
2000090501	Respond to Jet Pump Failure

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295001	AA2.05	Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF FORCED CORE FLOW CIRCULATION:(CFR 41.10, 43.5, 45.13): Jet pump operability: Not-BWR-1&2	3.1	3.4

Static Simulator Exams: None
Last Revised: 08/20/2003 8:50:07 AM by Hallonquist, Nora E.

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Question No. 2 Exam Bank Question No.: 5615 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-01-262 Objective: CRO 6
Question Level: Analysis

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Select the correct answer:

Off-site power has been lost (LNP) and a large break LOCA has occurred. The "A" EDG failed to start. Reactor pressure is 50 psig and lowering. Reactor level is off scale low.

EOPs require you to confirm or initiate:

	Answer/Distractor	Justification
a.	HPCI, RCIC, 2 RHR pumps, 1 CS pump injecting.	Incorrect - HPCI and RCIC have isolated on low steam supply pressure and can not inject.
b.	4 RHR pumps, 2 CS pumps injecting.	Incorrect - The "A" EDG start failure causes a loss of 4 KV Bus 4, and 3 of 6 low pressure ECCS pumps are without power.
c.	2 RHR pumps, 1 CS pump injecting.	Correct Response - The "B" EDG starts and powers 4 KV Bus 3. Two RHR and 1 CS pump are powered from this bus. HPCI and RCIC have isolated on low steam supply pressure.
d.	1 RHR pump, 1 CS pump injecting.	Incorrect - There is one RHR pump in each RHR loop powered from each EDG, 2 RHR pumps will be running and injecting.

References: EOP-1, rev 2
OT 3122, rev 19
New

Must integrate: Bus 4 is deenergized, all ECCS and RCIC have start signals, HPCI & RCIC have isolated on low steam supply pressure. Both RHR and one core spray injection valves have power available.

Task Associations

Task Number	Task Title
2000310501	Respond to Low Reactor Water Level

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295003	2.4.01	Knowledge of EOP entry conditions and immediate action steps (CFR 41.10, 43.5, 45.13)	4.3	4.6

Static Simulator Exams: None
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Question No. 3 Exam Bank Question No.: 5616 Revision: 3 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-601 Objective: CRO 2, 3, 4
Question Level: Comprehension

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Select the correct answer:

A reactor startup is in progress. Plant electrical loads are still on the startup transformers. Breaker #13 on 125 VDC Bus 1 has tripped causing a loss of control power to 4 KV Bus 1. A reactor scram occurs and after the initial shrink RPV level is 177" and rising. Reactor Feed Pumps A & C are running.

Reactor Feed Pump breakers will respond as follows:

	Answer/Distractor	Justification
a.	A & C will trip.	Incorrect - A has no control power and will not trip.
b.	C will trip.	Correct Response - High level trip logic is powered from DC-1C/DC-2C and is functional. A Reactor Feed Pump is powered from 4 KV Bus 1 and there is no control power. High RPV trip logic can not trip the A RFP breaker. C RFP breaker control power is available and will trip C RFP on high RPV level.
c.	A will trip.	Incorrect - A has no control power and will not trip.
d.	None will trip.	Incorrect - C has control power and will trip.

References: ON 3159, rev 4, page 4 note, third bullet
New

Must integrate: 173" high level trip will be reached. A RFP is powered from 4 KV Bus 1 and with no control power available can not be tripped by the high RPV level signal.

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	AA1.03	Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF D.C. POWER: (CFR 41.7, 45.6): A.C. electrical distribution	3.4	3.6

Static Simulator Exams: None
Last Revised: 08/12/2003 3:05:38 PM by Hallonquist, Nora E.

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Question No. 4 Exam Bank Question No.: 5617 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-249 Objective: CRO 8
Question Level: Comprehension

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Select the correct answer:

345 KV Breaker 81-1T is open and white tagged for maintenance during full power operation. A large air leak occurs on 345 KV Breaker 1T and it trips open on low air pressure.

The Reactor Protection System (RPS) will:

	Answer/Distractor	Justification
a.	not initiate a scram.	Incorrect - A scram will occur above 30% reactor/turbine power and a load reject.
b.	initiate a scram on control valve fast closure.	Correct Response - With 81-1T open and 1T then tripping, a complete load reject occurs. The acceleration relay actuates to control turbine speed and sends a scram signal to RPS. The scram is armed when operating above 30% power.
c.	initiate a scram on stop valve closure.	Incorrect - The turbine stop valves will be open, the control valves will shut rapidly to control turbine speed, a reactor scram will occur, turbine first stage pressure will decrease to < 30% load and bypass the stop valve closure scram and 30 seconds later low scram air header pressure will trip the turbine, shutting the stop valves.
d.	initiate a scram on stop valve closure and control valve fast closure.	Incorrect - The stop valve closure scram will be bypassed before the stop valves are tripped shut.

References: LOT-00-212 Obj. CRO 3
ON 3154 rev 10
New

Task Associations

Task Number	Task Title
2007300501	Respond to Generator Load Reject

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295005	AK2.01	Knowledge of the interrelations between and the following MAIN TURBINE TRIP: (CFR 41.7, 45.8): RPS	3.8	3.9

Static Simulator Exams: None
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Question No. 5 Exam Bank Question No.: 5618 Revision: 2 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-129 Objective: 31
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The reactor has been operating at 100% power for 300 days. An I&C Technician causes a full reactor scram during testing due to a human performance error. (Scram discharge instrument volume high)

Fission product decay heat after the prompt drop will equal approximately _____ % core thermal power and will be removed by the _____ .

	Answer/Distractor	Justification
a.	14%, safety and relief valves	Incorrect - Decay heat value is too high. SRV lift setpoint will not be reached.
b.	14%, bypass valves	Incorrect - Decay heat value is too high.
c.	7%, safety and relief valves	Incorrect - SRV lift setpoints will not be reached.
d.	7%, bypass valves	Correct Response - Decay heat after the prompt drop is approximately 6 to 7% CTP after long periods of full power operation. EPR is in service and will control reactor pressure dissipating the decay heat at a reactor pressure of ~932 psig.

References: EOP-1, rev 2
OT 3100, rev 7
New

Task Associations

Task Number	Task Title
2000330501	Respond to a Reactor SCRAM

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295006	AK1.01	Knowledge of the operational implications of the following concepts as they apply to SCRAM: (CFR 41.8 to 41.10): Decay heat generation and removal	3.7	3.9

Static Simulator Exams: None
Last Revised: 07/31/2003 10:08:31 AM by Hallonquist, Nora E.

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Question No. 6 Exam Bank Question No.: 5619 Revision: 2 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-612 Objective: A2, A4
Question Level: Analysis

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Select the correct answer:

RCIC is in operation from the alternate shutdown panel due to a large fire in the cable vault.

As torus pressure rises, RCIC:

	Answer/Distractor	Justification
a.	will trip on high exhaust pressure.	Incorrect - High back pressure (exhaust) is bypassed when operating from the alternate shutdown panel.
b.	operation is unaffected by backpressure.	Incorrect -RCIC operation is negatively affected by high torus pressure and will not provide adequate feed to the RPV at high backpressures.
c.	operation may be affected and if it is SRV 71A & B should be opened and RPV level restored with RHR.	Correct Response - OP 2126
d.	operation may be affected and if it is SRV 71A & B should be opened and RPV level restored with core spray.	Incorrect - Core Spray can not be operated at the alternate shutdown panels.

References: OP 3126 rev 16, Appendix C, page 5 caution, Appendix A, page 3 of 7
New

Task Associations

Task Number	Task Title
2007170501	Perform Shutdown from Outside the Control Room

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295016	AA2.07	Ability to determine and/or interpret the following as they apply to CONTROL ROOM ABANDONMENT :(CFR 41.10, 43.5, 45.13): Suppression chamber pressure	3.2	3.4

Static Simulator Exams: None
Last Revised: 07/31/2003 10:09:39 AM by Hallonquist, Nora E.

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Question No. 7 Exam Bank Question No.: 5620 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-603 Objective: CRO 3g
Question Level: Comprehension

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Select the correct answer:

The running RBCCW pump has tripped and the standby pump can not be started. If no operator action is taken, which of the following components will be damaged?

	Answer/Distractor	Justification
a.	Recirc Motor Generator bearings, RWCU demineralizers	Incorrect - Recirc MGs are cooled by SW and the bearings are air cooled.
b.	Recirc Pump Seals, RWCU demineralizers	Incorrect - RWCU demineralizers are protected by an automatic isolation at 140°F, no resin damage occurs at this temperature.
c.	Recirc Motor Generator bearings, running CRD pump	Incorrect - Recirc MGs are cooled by SW and the bearings are air cooled.
d.	Recirc Pump Seals, running CRD pump	Correct Response - Recirc pump seals will be damaged and the recirc pumps are required to be shutdown 2 minutes after RBCCW is lost. CRD pump bearings and reduction gear are cooled by RBCCW and must be manually shutdown to prevent damage.

References: ON 3147 rev 10
New

Task Associations

Task Number	Task Title
2000110501	Respond to RBCCW Failure

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295018	AK2.01	Knowledge of the interrelations between and the following PARTIAL OR COMPLETE LOSS OF COMPONENT COOLING WATER: (CFR 41.7, 45.8): System loads	3.3	3.4

Static Simulator Exams: None
Last Revised: 07/25/2003 9:32:53 AM by Hallonquist, Nora E.

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Question No. 8 Exam Bank Question No.: 5621 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-279 Objective: CRO 1e, 5
Question Level: Comprehension

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Select the correct answer:

While operating at full power, the following annunciators are received:

CRP 6-D-1 Inst Air Receiver HDR Press LO
CRP 5-C-8 Scram Pilot Air Hdr Press Hi/Lo
CRP 5-E-2 FW VLV Lockup Signal/Air Fail

Instrument air header pressure is continuing to lower. ON 3146 Low Instrument/Scram Air Header pressure requires you confirm:

	Answer/Distractor	Justification
a.	Lag compressors running and SA-PCV-1 shut.	Correct Response - Low scram air alarm 60 psig, low instrument air 90 psig, lag compressors start at 95 psig, SA-PCV-1 starts shut at 85 psig in the instrument air header and is full shut at 80 psig. The continuing lower pressure causes SA-PCV-1 to fully shut.
b.	Lead compressors running and SA-PCV-1 open.	Incorrect - The procedure assumes lead compressors running and does not require them checked.
c.	Lag compressors running and SA-PCV-1 open.	Incorrect -
d.	Lead compressors running and SA-PCV-1 shut.	Incorrect -

References: ON 3146, rev 15
ARS-5-C-8, rev 4
ARS-6-D-1, rev 3
New

Must integrate Alarm Set Points, compressors control logic and PCV-1 operation, and required procedure steps.

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
295019	AA1.04	Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF INSTRUMENT AIR: (CFR 41.7, 45.6): Service air isolations valves: Plant-Specific	3.3	3.2

Static Simulator Exams: None
Last Revised: 07/25/2003 9:34:04 AM by Hallonquist, Nora E.

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Question No. 9 Exam Bank Question No.: 5622 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-601 Objective: CRO 3, 4
Question Level: Comprehension

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Select the correct answer:

Shutdown cooling is operating and reactor pressure is 100 psig, cooling down for a scheduled outage. RHR 18 MOV (shut down cooling suction) shorts out and strokes the valve shut. The RHR pump trips and the valve can not be opened by any means. RWCU was secured for startup of shutdown cooling.

ON 3156, Loss of Shutdown Cooling, requires reactor level be restored to > 185". The reason for this step is to:

	Answer/Distractor	Justification
a.	reduce natural circulation providing more accurate reactor coolant temperature monitoring via bottom head drain temperature.	Incorrect - Bottom head drain temperature is not required to be monitored during a Loss of Shutdown Cooling. Reducing natural circulation is caused by lowering RPV level, not raising it.
b.	promote natural circulation providing more accurate reactor coolant temperature monitoring via bottom head drain temperature.	Incorrect - Bottom head drain temperature is not required to be monitored during a Loss of Shutdown Cooling.
c.	reduce natural circulation providing more accurate reactor coolant temperature monitoring via skin temperatures.	Incorrect - Reducing natural circulation is caused by lowering RPV level, not by raising it.
d.	promote natural circulation providing more accurate reactor coolant temperature monitoring via skin temperatures.	Correct Response - Must recall ON 3156 references SIL-357 and raises RPV level to promote natural circulation by placing a water seal on the dryer skirt. Must recall that skin temperatures are required to be monitored during a Loss of Shutdown Cooling. Must integrate the two variables.

References: ON 3156, rev6, page 7 note, and step 96
New

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	AK1.04	Knowledge of the operational implications of the following concepts as they apply to LOSS OF SHUTDOWN COOLING: (CFR 41.8 to 41.10): Natural circulation	3.6	3.7

Static Simulator Exams: None
Last Revised: 07/25/2003 9:35:20 AM by Hallonquist, Nora E.

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Question No. 10 Exam Bank Question No.: 5623 Revision: 3 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-620 Objective: 3
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Refueling operations are in progress. An exposed bundle is full up, when the fuel grapple cable breaks and the bundle is dropped onto the core. 100 fuel pins are ruptured.

What response(s) should you confirm in the control room?

	Answer/Distractor	Justification
a.	No hi hi trips on the reactor building ventilation radiation monitors.	Incorrect -
b.	A hi hi trip from the refuel floor radiation monitors only.	Incorrect -
c.	A hi hi trip from the reactor building ventilation radiation monitors only.	Incorrect -
d.	A hi hi trip from the refuel floor radiation monitors and the reactor building ventilation radiation monitors.	Correct Response

References: Tech Spec, Bases 211, page 78
UFSAR, rev 18, Ch 14.6.4.4
New

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
295023	AK2.03	Knowledge of the interrelations between and the following REFUELING ACCIDENTS: (CFR 41.7, 45.8): Radiation monitoring equipment	3.4	3.6

Static Simulator Exams: None
Last Revised: 08/19/2003 3:30:40 PM by Hallonquist, Nora E.

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Question No. 11 Exam Bank Question No.: 5624 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 sequence of events:

0800 "A" Loop of RHR is started in torus cooling
0810 Reactor coolant leak in the drywell occurs
0820 Drywell pressure is 2.5 psig and rising
0830 Reactor water level is 127" and lowering
0840 Reactor water level is 82.5" and lowering
0850 Reactor pressure is 350 psig and lowering

Under these conditions torus cooling (RHR 39A/34A) valves would close at:

	Answer/Distractor	Justification
a.	0820	Correct Response - The high drywell signal alone will close all non-LPCI injection paths
b.	0830	Incorrect - If the operator does not know his low verses low low level setpoints this is a valid distractor.
c.	0840	Incorrect - If the operator is not aware that low low level and low reactor pressure are required this is a valid distractor.
d.	0850	Incorrect - This is a close signal to RHR 34A/39A, but they were already closed at 0820.

References: OP 2124, rev 50, page 5
Pilgrim 2003 NRC
New

Task Associations

Task Number	Task Title
2000070501	Respond to Containment Hi Pressure

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295024	EK2.12	Knowledge of the interrelations between HIGH DRYWELL PRESSURE and the following: (CFR 41.7, 45.8): Suppression pool cooling	3.5	3.5

Static Simulator Exams: None
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Question No. 12 Exam Bank Question No.: 5625 Revision: 2 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-302 Objective: CRO 3
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

During a reactor startup, reactor pressure must be maintained below _____ until low condenser vacuum isolation bypass switches are in _____ .

	Answer/Distractor	Justification
a.	850 psig, bypass	Incorrect - Low vacuum bypass must be in normal before exceeding 850 psig.
b.	200 psig, bypass	Incorrect - 250 psig can be exceeded with the low vacuum isolation bypassed, procedure requires pressure > 750 psig to return it to service. 250 psig is when SJAEs are placed in service.
c.	850 psig, normal	Correct Response - For startup vac trip 1 & 2 are tripped to ensure Tech Spec compliance. Reactor heatup is begun without pressure control. The low vacuum isolation bypass must be returned to service to allow bypass valves to control pressure. If the steps/caution are not followed a high reactor pressure scram will occur.
d.	200 psig, normal	Incorrect - 250 psig can be exceeded with the low vacuum isolation bypassed, procedure requires pressure > 750 psig to return it to service. 250 psig is when SJAEs are placed in service.

References: OP 0150, rev 10, page 40
Pilgrim 2003 NRC
New

Task Associations

Task Number	Task Title
2017400201	Perform Heating and Pressurization of the Reactor

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295025	2.1.32	Ability to explain and apply system limits and precautions (CFR 41.10, 43.2, 45.12)	3.4	3.8

Static Simulator Exams: None
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Question No. 13 Exam Bank Question No.: 5626 Revision: 2 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:

Given the following conditions:

Reactor Level is 70" and steady
Drywell and Torus pressure are 5.0 psig and lowering
Drywell temperature is 240°F and lowering
The "A" Loop of RHR is operating in drywell spray, torus sprays, and torus cooling

When torus pressure is < 2.5 psig you should confirm isolation of:

	Answer/Distractor	Justification
a.	Drywell Sprays.	Incorrect -
b.	Torus Sprays.	Incorrect -
c.	Drywell and Torus Sprays.	Correct Response - With an accident signal present, drywell and torus sprays automatically isolate when drywell pressure is less than or equal to 2.5 psig. With a vacuum breaker failed open, torus and drywell pressure are equal.
d.	Drywell and Torus Sprays and Torus cooling.	Incorrect - Torus cooling does not isolate when drywell pressure goes below 2.5 psig.

References: EOP-3, rev 3
EOP-3 is a required reference
Pilgrim 2003 NRC Modified

Task Associations

Task Number	Task Title
2000210501	Respond to High Drywell Temperature

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295028	EA2.05	Ability to determine and/or interpret the following as they apply to HIGH DRYWELL TEMPERATURE:(CFR 41.10, 43.5, 45.13).: Torus/suppression chamber pressure: Plant-specific	3.6	3.8

Static Simulator Exams: None
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Question No. 14 Exam Bank Question No.: 5627 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-217 Objective: CRO 5b
Question Level: Comprehension

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Select the correct answer:

RCIC is operating in the injection mode with its suction path from the torus. A leak develops in the torus.

As torus level continues to lower, RCIC:

	Answer/Distractor	Justification
a.	will trip on low suction pressure.	Correct Response - OP 2121 page 20 step G note
b.	will trip on low torus water level.	Incorrect - A low torus water level trip makes sense but VYN does not have this trip.
c.	suction will auto transfer to the CST on low torus water level.	Incorrect - We have an Auto Swap on Low CST level. It makes sense to have one on low torus level but VYN does not.
d.	suction will auto transfer to the CST on low suction pressure.	Incorrect - A low suction pressure suction transfer makes sense but VYN does not have one.

References: OP 2121, rev 29
Pilgrim 2003 NRC
New

Task Associations

Task Number	Task Title
2170030101	Manually Initiate Startup of the RCIC System

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295030	EA1.02	Ability to operate and/or monitor the following as they apply to LOW SUPPRESSION POOL WATER LEVEL: (CFR 41.7 , 45.6): RCIC: Plant-specific	3.4	3.5

Static Simulator Exams: None
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Question No. 15 Exam Bank Question No.: 5628 Revision: 2 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-256 Objective: CRO 2
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

All reactor feedwater pumps have tripped causing a scram. HPCI and RCIC are unavailable. Condensate pumps will be capable of feeding the reactor when reactor pressure is less than _____ and their motor amps should be maintained less than _____ amps.

	Answer/Distractor	Justification
a.	850 psig, 190 amps	Incorrect -
b.	600 psig, 210 amps	Incorrect -
c.	400 psig, 190 amps	Correct Response - RP 2170 Precaution 7, RP 2170 Precaution 6
d.	250 psig, 210 amps	Incorrect -

References: LOT-00-610, CRO Obj. 6, 7, 12
RP 2170, rev 21, page 6
New

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	EA1.11	Ability to operate and/or monitor the following as they apply to REACTOR LOW WATER LEVEL: (CFR 41.7 , 45.6): Condensate	4.1	4.1

Static Simulator Exams: None
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Question No. 16 Exam Bank Question No.: 5629 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-610 Objective: CRO 2
Question Level: Analysis

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Select the correct answer:

Given the following conditions:

ATWS in progress
Reactor power is 20%
Torus temperature is 115°F
Reactor pressure control is on SRVs 800-1000 psig
Reactor water level is +25"
Injection has been terminated/prevented IAW OE 3107 Appendix GG

Which of the following conditions would establish the upper end of the RPV level control band?

	Answer/Distractor	Justification
a.	APRM downscales come in.	Correct Response
b.	reactor power reaches the heating range with a negative period.	Incorrect - This is indication of the reactor being shutdown but is applicable when a cooldown is commenced and no boron has been injected.
c.	reactor water level reaches -19 inches.	Incorrect - This is the bottom of the ATWS level band of +6 to -19", injection should recommence at +6" - TAF.
d.	only one SRV is open for reactor pressure control.	Incorrect - Regardless of SRV conditions, injection is recommenced at TAF to insure adequate core cooling.

References: EOP-2, rev 4
Pilgrim 2003 NRC
New

EOP-2 is a required student reference

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	EA2.02	Ability to determine and/or interpret the following as they apply to REACTOR LOW WATER LEVEL:(CFR 41.10, 43.5, 45.13).: Reactor power	4.0	4.2

Static Simulator Exams: None
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Question No. 17 Exam Bank Question No.: 5630 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-610 Objective: CRO 2
Question Level: Analysis

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Select the correct answer:

Given the following conditions:

ATWS
15% of the SLC tank has been injected
Reactor level band is -19" to 40"

At this point _____ has been injected into the RPV. This amount of boron will allow _____ .

	Answer/Distractor	Justification
a.	hot shutdown boron weight, a cooldown	Incorrect -
b.	hot shutdown boron weight, restoration of level to 127" to 177"	Correct Response - EOP-2 Step ARC/L-10 and Table I. Hot shutdown boron weight is 15% of the SLC tank. Cold shutdown boron weight is 30% of the SLC tank. Can raise the level band, can not cooldown.
c.	cold shutdown boron weight, a cooldown	Incorrect -
d.	cold shutdown boron weight, restoration of level to 127" to 177"	Incorrect -

References: EOP-2, rev 4
New

EOP-2 is a required student reference

Task Associations

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

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295037	EK3.04	Knowledge of the reasons for the following responses as they apply to SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOW: (CFR 41.5, 45.6): Hot shutdown boron weight: Plant-specific	3.2	3.7

Static Simulator Exams: None
Last Revised: 07/25/2003 9:47:32 AM by Hallonquist, Nora E.

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Question No. 18 Exam Bank Question No.: 5631 Revision: 3 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-286 Objective: CRO 4a
Question Level: Comprehension

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Select the correct answer:

An electrical fire is burning in MCC89A in the reactor building. To use water to fight the fire in MCC89A:

	Answer/Distractor	Justification
a.	it must be deenergized and the Brigade Commander's permission is required to use water on an electrical fire.	Incorrect -
b.	it should be deenergized and the Brigade Commander's permission is required to use water on an electrical fire.	Incorrect -
c.	it must be deenergized and the Shift Manager's permission is required to use water on an electrical fire.	Incorrect -
d.	it should be deenergized and the Shift Manager's permission is required to use water on an electrical fire.	Correct Response

References: OP 3020, rev 25, definitions and page 10
New

Task Associations

Task Number	Task Title
2867290401	Respond to Pyrotronics Panel Alarms

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
600000	AK3.04	Knowledge of the reasons for the following responses as they apply to PLANT FIRE ON SITE:: Actions contained in the abnormal procedure for plant fire on site	2.8	3.4

Static Simulator Exams: None
Last Revised: 08/06/2003 3:17:51 PM by Hallonquist, Nora E.

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Question No. 19 Exam Bank Question No.: 5632 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-607 Objective: CRO 1
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

When entering EOP-3, Primary Containment Control, which of the following is the preferred indication to be used to determine torus water temperature?

	Answer/Distractor	Justification
a.	ERFIS average torus temperature	Correct Response
b.	TI-16-19-33C torus water temperature CRP 9-3	Incorrect -
c.	TI-16-19-33A torus water temperature CRP 9-3	Incorrect -
d.	The higher of TI-16-19-33 A or C	Incorrect -

References: EOP, rev 11, Vol 4, Section 8, page 8-4
New

Task Associations

Task Number	Task Title
2000190501	Respond to High Torus Water Temperature

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295026	EK2.04	Knowledge of the interrelations between SUPPRESSION POOL HIGH WATER TEMPERATURE and the following: (CFR 41.7, 45.8): SPDS/ERIS/CRIDS/GDS: Plant-specific	2.5	2.8

Static Simulator Exams: None
Last Revised: 07/29/2003 12:05:31 PM by Hallonquist, Nora E.

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Question No. 20 Exam Bank Question No.: 5633 Revision: 2 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-138 Objective: 17, 19
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

A reactor pressure transient has occurred causing a violation of the high power MCPR safety limit of _____ for two loop operation, and the resulting fuel damage could cause a member of the public to exceed _____ mRem total body dose allowed for the year at the site boundary.

	Answer/Distractor	Justification
a.	1.10, 500	Correct Response
b.	1.49, 500	Incorrect - This is the MCPR LCO.
c.	1.10, 1200	Incorrect - This is twice the allowed dose.
d.	1.49, 1200	Incorrect - This is the MCPR LCO.

References: ODCM (formerly T.S.), rev 30
Tech Specs 1.1 176
New

Task Associations

Task Number	Task Title
2007090501	Respond to High Off-Gas Radiation

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295038	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: 07/31/2003 10:11:05 AM by Hallonquist, Nora E.

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Question No. 21 Exam Bank Question No.: 5634 Revision: 4 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-602 Objective: CRO 3
Question Level: Comprehension

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Select the correct answer:

During power operation an air leak into the main condenser causes SJAE off gas flow on CRP 9-6 FR-102-3 to go off scale high.

This will cause AS-FCV-36, 36A, and 37 (steam jet air ejector steam supply valves) to trip shut when:

	Answer/Distractor	Justification
a.	condenser backpressure reaches 22" Hg abs.	Incorrect - Lowering condenser vacuum does not affect the operation of FCV 36, 36A, 37.
b.	temperature in the SJAE discharge/AOG inlet reaches 375°F.	Incorrect - Increased air inleakage causes the off gas temperature to decrease, not increase. FCV 36, 36A, & 37 do not trip on off gas temperature changes.
c.	condenser backpressure reaches 12" Hg abs.	Incorrect - Lower vacuum does not affect the operation of FCV 36, 36A, 37.
d.	pressure in the SJAE discharge/AOG inlet reaches 4 psig.	Correct Response - AS-FCV-36, 36A, 37 are tripped shut by increasing SJAE discharge/AOG inlet pressure at 4.0 psig and increasing as sensed by PS-OG-1403.

References: LOT-00-271 CRO Obj. 5
OT 3120, rev 13
OP 2150, rev 27
New

Task Associations

Task Number	Task Title
2000080501	Respond to a Loss of Condenser Vacuum

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295002	AK1.04	Knowledge of the operational implications of the following concepts as they apply to LOSS OF MAIN CONDENSER VACUUM: (CFR 41.8 to 41.10): Increased offgas flow	3.0	3.3

Static Simulator Exams: None
Last Revised: 08/20/2003 8:40:59 AM by Hallonquist, Nora E.

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Question No. 22 Exam Bank Question No.: 5635 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-288 Objective: CRO 5
Question Level: Comprehension

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Select the correct answer:

A large reactor coolant leak has occurred in the drywell. EOP-3 was entered. Drywell cooling was maximized as directed by EOP-3, Primary Containment Control. Several minutes later the Shift Technical Advisor observes all drywell RRUs are off.

The reason they tripped is:

	Answer/Distractor	Justification
a.	thermal overload.	Correct Response - Increased drywell pressure and moisture increase the work done by the RRU motors and cause the thermal overloads to trip at dyrwell pressures of 10-14 psig.
b.	low drywell pressure (RHR drywell pressure logic).	Incorrect - Low drywell pressure causes an isolation of the drywell sprays and torus but does not affect RRU operation.
c.	high drywell pressure (RHR drywell pressure logic).	Incorrect - The operator had already bypassed the RRU high drywell pressure RRU trip to restart them after the large leak caused drywell pressure to exceed 2.5 psig which trips the RRUs and is the entry condition for EOP-3.
d.	short circuit.	Incorrect - The RRUs are qualified to operate post LOCA. The high humidity will not cause them to short out.

References: DP 0166, rev 7, page 6
DR 93-0078
EDCR 90-405
New

Task Associations

Task Number	Task Title
2227020401	Startup Drywell RRUS Following a LOCA

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295010	AK3.02	Knowledge of the reasons for the following responses as they apply to HIGH DRYWELL PRESSURE: (CFR 41.5, 45.6): Increased drywell cooling	3.4	3.4

Static Simulator Exams: None
Last Revised: 07/25/2003 9:58:23 AM by Hallonquist, Nora E.

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Question No. 23 Exam Bank Question No.: 5636 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-618 Objective: 1, 13, 15
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

The "A" Recirculation Loop has just experienced a double-ended rupture of the suction line.

LPCI injection must be shifted to the containment cooling mode no later than _____ after the break to ensure peak torus temperatures do not reach values which would cause a Loss of ECCS Pump NPSH.

	Answer/Distractor	Justification
a.	60 seconds	Incorrect - RHR 65A heat exchanger bypass is blocked on for 1 minute after the LOCA and can not be shut.
b.	600 seconds	Correct Response - USFAR 14.6.25
c.	6 minutes	Incorrect - 6 minutes is sooner than USFAR specified maximum time.
d.	60 minutes	Incorrect - 60 minutes is beyond the USFAR specified time.

References: USFAR, rev 18, 14.6.25
New

Task Associations

Task Number	Task Title
2000190501	Respond to High Torus Water Temperature

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295013	AK3.01	Knowledge of the reasons for the following responses as they apply to HIGH SUPPRESSION POOL WATER TEMPERATURE: (CFR 41.5, 45.6): Suppression pool cooling operation	3.6	3.8

Static Simulator Exams: None
Last Revised: 07/25/2003 9:58:33 AM by Hallonquist, Nora E.

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Question No. 24 Exam Bank Question No.: 5637 Revision: 2 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-308 Objective: CRO 2, 3, 4, 5
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The outboard MSIVs have failed shut due to a loss of instrument air. No control rod motion has occurred. Reactor power is 60%.

This transient has caused the violation of the _____ Safety Limit (SL) and will exceed the torus temperature limiting condition for power operation (LCO) of _____ .

	Answer/Distractor	Justification
a.	APRM neutron flux, 120°F	Incorrect - APRM neutron flux is a Limiting Safety System setting, not a safety limit.
b.	MCPR, 110°F	Correct Response - MSIV closure in RUN is a required scram and the scram did not occur. The safety limit shall be assumed to be exceeded. 110°F is the torus temperature LCO. MCPR is the actual thermal limit that is challenged.
c.	APRM neutron flux, 110°F	Incorrect - APRM neutron flux is a Limiting Safety System setting, not a safety limit.
d.	MCPR, 120°F	Incorrect - Technical Specifications require a reactor scram when torus temperature exceeds 110°F.

References: LOT-00-607 CRO Obj. 1
Tech Specs 188, 7, page 146
New

Task Associations

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

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295015	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: 07/31/2003 10:11:52 AM by Hallonquist, Nora E.

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Question No. 25 Exam Bank Question No.: 5638 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-607 Objective: CRO 2, 3
Question Level: Comprehension

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Select the correct answer:

EOP-3, Primary Containment Control, requires an RPV-ED if torus level can not be restored and maintained below 14.75 feet.

The reason for this action is:

	Answer/Distractor	Justification
a.	during a DBA LOCA, the integrity of the primary containment can not be assured.	Correct Response - EOP Basis page 8-45
b.	the volume of the gas in the containment would be insufficient to absorb the energy of a full RPV-ED.	Incorrect -
c.	operation of an SRV at this level could damage Tee-quencher supports.	Incorrect -
d.	during a DBA LOCA, the reactor pressure vessel must be depressurized before the torus spray function is lost.	Incorrect -

References: EOP, rev 11, Volume 4
LOI-EB 3769

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	EK1.01	Knowledge of the operational implications of the following concepts as they apply to HIGH SUPPRESSION POOL WATER LEVEL: (CFR 41.8 to 41.10): Containment integrity	3.4	3.7

Static Simulator Exams: None
Last Revised: 07/31/2003 10:12:51 AM by Hallonquist, Nora E.

Vermont Yankee LOI Exam Bank Question Number 3769 Revision 0 NRC 25

Instructor Guide: LOT-00-607 EOP-3, PRIMARY CONTAINMENT CONTROL
Objectives: CRO 3
References: EOP-3 Rev 0
VY EOP Study Guide Rev 8 pages

Answer Justification:
a) is correct based on the statement in VY EOP Study Guide Rev 8 pages 8-44. "Irrespective of the suppression chamber airspace, the pressure suppression feature of the primary containment can function as designed only when primary containment water level is below 14.75 ft." In other words, if the level in the torus is 14.75 ft or higher, the containment will be damaged as a result of the forces generated during a blow-down alone, even if the containment were able to survive the increased pressure in the torus as a result of the non-condensibles being transferred from the Drywell to the torus.
b) is incorrect because there is more than a sufficient amount of water in the torus to absorb the energy of a blow-down since normal level is about 11 ft.
c) is incorrect since this consideration (SRV tail pipe failure) does not cause failure until the level in the Torus is greater than 14.9 ft and the reactor pressure exceeds 1250 psig.
d) is incorrect since a DBA LOCA will not add a sufficient amount of water to the torus to cover the vents (from this height)

Cognitive Level: Memory
SRO Only: No Style: Multiple Choice
Point Value: 1 Time to Complete (Minutes): 2
Question Level: Fundamental Knowledge/Memory

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	EK1.01	Knowledge of the operational implications of the following concepts as they apply to HIGH SUPPRESSION POOL WATER LEVEL: (CFR 41.8 to 41.10): Containment integrity	3.4	3.7

Question:
Select the correct answer:

Which of the below describes the reason the plant is not to operate, when torus water level is greater than 14.75 feet?

	Answer/Distractor	Justification
a.	During a DBA the integrity of the Primary	

	Containment system can not be guaranteed	
b.	The volume of liquid in the torus would be insufficient to absorb the energy of a full reactor depressurization	
c.	Operation of a relief valve at this level could damage quencher supports	
d.	During a DBA, the volume available for gasses could not be vented prior to covering the vent	

Static Simulator Exams: None
Last Revised: 10/25/1999 2:40:21 PM by Hallonquist, Nora E.

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Question No. 26 Exam Bank Question No.: 5639 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-611 Objective: CRO 3, 5
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

EOP-4, Secondary Containment Control, has been entered. To determine if any area radiation level is above its maximum safe level, which of the following should be reported to the CRS:

	Answer/Distractor	Justification
a.	ARM readings on the Allen Bradley on CRP 9-21	Incorrect - Allen Bradley provides area temperatures for EOP use and is next to the reactor building back panel ARM panels.
b.	Local radiation readings with a PIC-6	Incorrect - It is not expected or required to enter the reactor building to determine radiation level.
c.	ARM readings on ERFIS	Correct Response - ERFIS is used for EOP decision making and provides the necessary reactor building radiation levels.
d.	Local radiation readings with a RO-2A	Incorrect - It is not expected or required to enter the reactor building to determine radiation level.

References: EOP-4, rev 2
DP 0166, rev 7, page 7
New

Task Associations

Task Number	Task Title
2727150401	Respond to ARM Alarms

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295033	EA2.01	Ability to determine and/or interpret the following as they apply to HIGH SECONDARY CONTAINMENT AREA RADIATION LEVELS:(CFR 41.10, 43.5, 45.13).: Area radiation levels	3.8	3.9

Static Simulator Exams: None
Last Revised: 07/25/2003 10:00:57 AM by Hallonquist, Nora E.

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Question No. 27 Exam Bank Question No.: 5640 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-01-223 Objective: CRO 4, 5
Question Level: Comprehension

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Select the correct answer:

Reactor building ventilation radiation monitor "A" is bypassed by I&C for testing and is downscale. The "B" reactor building radiation monitor reading increases to 20 mR/hr.

Your response should be to:

	Answer/Distractor	Justification
a.	direct I&C to return the "A" channel to service so that RB ventilation can be left on.	Incorrect - This is a logical action if the student does not understand system operation during I&C testing.
b.	confirm PCIS Group 3 isolations and SBGT system startup.	Correct Response - Student must know that I&C keylocks only bypass upscale trips. Two downscales on RB vent exhaust is an isolation signal, one upscale is an isolation. Only one key lock bypass is allowed in bypass at any time. RB ventilation will trip and isolate and SBGT will start.
c.	manually secure RB ventilation, isolate HVAC 9, 10, 11, 12 and start SBGT.	Incorrect - This is a logical action if the student does not understand system operation during I&C testing.
d.	direct RP to monitor RB ventilation exhaust in accordance with the ODCM.	Incorrect - This is a logical action if the student does not understand system operation during I&C testing.

References: OP 2117, rev 17, Discussion
New

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
295034	EA1.02	Ability to operate and/or monitor the following as they apply to SECONDARY CONTAINMENT VENTILATION HIGH RADIATION: (CFR 41.7 , 45.6): Process radiation monitoring system	3.9	4.0

Static Simulator Exams: None
Last Revised: 07/25/2003 10:03:00 AM by Hallonquist, Nora E.

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Question No. 28 Exam Bank Question No.: 5641 Revision: 2 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-205 Objective: CRO 2, 4
Question Level: Analysis

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Select the correct answer:

Given the following conditions:

Drywell pressure is 11 psig and rising
Reactor pressure is 300 psig and lowering
Reactor level is +20" and steady
Core Spray A/B are injecting
RHR A is operating in torus cooling
RHR B is operating in torus spray
UPS Feeder block keylocks are in block, the 5 minute timers are timed out

Reactor level rapidly lowers to -150" and continues down. The RHR system will:

	Answer/Distractor	Justification
a.	open A & B LPCI injection valves, close "A" torus cooling valves, close "B" torus spray valves.	Incorrect - RHR 27A and B injection signals 5 minutes timers have timed out and the UPS FDR blocks have been placed in block and RHR 27 A & B have been manually shut to establish torus cooling torus spray. RHR 27 A & B will remain shut.
b.	close RHR A torus cooling valves, close RHR B torus spray valves.	Correct Response - At -48 the non LPCI injection paths are isolated.
c.	open RHR Heat exchanger bypass valves, close "A" torus cooling valves, close "B" torus spray valves, open A & B LPCI injection valves.	Incorrect - The RHR 65 open signal was present for one minute and the time must have passed to establish torus cooling. To establish torus cooling/sprays, the RHR 27 valves had to be shut which means that 5 minutes have passed since they auto opened and the UPS Feeders are in block.
d.	open RHR A & B LPCI injection valves, open A & B heat exchanger bypass valves.	Incorrect - All four valves will remain shut.

References: LOT-03-262 CRO Obj. 6, 7
OP 2124, rev 50, Appendix B & C
New

Task Associations

Task Number	Task Title
2000310501	Respond to Low Reactor Water Level

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
203000	A3.05	Ability to monitor automatic operations of the RHR/LPCI: INJECTION MODE (PLANT SPECIFIC) including: (CFR 41.7 / 45.7): Reactor water level	4.4	4.4

Static Simulator Exams: None
Last Revised: 08/20/2003 9:04:48 AM by Hallonquist, Nora E.

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Question No. 29 Exam Bank Question No.: 5642 Revision: 0 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:

Given the following conditions:

"A" Loop of RHR is operating in shutdown cooling
Reactor pressure is 100 psig and slowly rising

If reactor pressure continues to increase, the RHR system will:

	Answer/Distractor	Justification
a.	shut RHR 17 & 18 (shutdown cooling suctions) to protect the piping from overpressure at 150 psig.	Correct Response - Correct isolation valves, correct setpoint for protective instrumentation.
b.	trip the pump running in shutdown cooling to protect it from cavitation damage at 150 psig.	Incorrect - The height of water above the pump suction prevents cavitation.
c.	shut RHR 17 & 18 (shutdown cooling suction) to protect the piping from overpressure at 350 psig.	Incorrect - The piping on the suction line is only rated for 150 psig.
d.	trip the pump running in shutdown cooling to protect it from cavitation damage at 350 psig.	Incorrect - The height of water above the pump suction prevents cavitation.

References: Tech Spec Table 3.2.1 186
New

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
205000	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: 07/25/2003 10:07:26 AM by Hallonquist, Nora E.

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Question No. 30 Exam Bank Question No.: 5643 Revision: 2 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-206 Objective: 10c
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The initiation logic that provides automatic HPCI initiation signals is powered from:

	Answer/Distractor	Justification
a.	Vital AC	Incorrect -
b.	Instrument AC	Incorrect -
c.	DC-1C, DC-2C	Correct Response - OP 2145 Appendix A, pages 1, 5
d.	DC-3, DC-3A	Incorrect -

References: OP 2145, rev 24, Appendix A
New

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
206000	K2.03	Knowledge of electrical power supplies to the following: (CFR 41.7): Initiation logic: BWR-2, 3, 4	2.8	2.9

Static Simulator Exams: None
Last Revised: 07/29/2003 12:09:15 PM by Hallonquist, Nora E.

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Question No. 31 Exam Bank Question No.: 5644 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-206 Objective: CRO 3, 5b, 6b, 7
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

HPCI has started automatically on a high drywell pressure signal. The CRS directs you to inhibit HPCI.

When you lock the collar in inhibit, you expect the turbine:

	Answer/Distractor	Justification
a.	to trip and the minimum flow valve to open.	Incorrect - The inhibit switch shuts the min flow valve.
b.	to run at 2200 rpm and the minimum flow valve to open.	Incorrect - The inhibit switch does not act on the turbine speed control system, and it shuts the min flow valve.
c.	to trip and the minimum flow valve to close.	Correct Response - The inhibit switch energizes the turbine trip solenoid, and shuts the min flow valve so the CST does not drain to the torus.
d.	to run at 2200 rpm and the minimum flow valve to close.	Incorrect - The inhibit switch does not act on the turbine speed control system.

References: OP 2120, rev 27
ARS 9-3-5-1, rev 0
New

Task Associations

Task Number	Task Title
2007450501	Terminate and Prevent Injection to the RPV During an ATWS

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
206000	A1.08	Ability to predict and/or monitor changes in parameters associated with operating the HIGH PRESSURE COOLANT INJECTION SYSTEM controls including: (CFR 41.5 / 45.5): System lineup: BWR-2, 3, 4	4.1	4.0

Static Simulator Exams: None
Last Revised: 07/25/2003 10:08:31 AM by Hallonquist, Nora E.

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Question No. 32 Exam Bank Question No.: 5645 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-218 Objective: CRO 2
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

An ADS blowdown is in progress. All six low pressure ECCS pumps are running, when both Core Spray pumps trip due to improper overload trip settings.

The ADS system will:

	Answer/Distractor	Justification
a.	maintain both logics energized and shut all SRVs.	Incorrect -
b.	deenergize the "A" logic and shut SRVs A & C.	Incorrect -
c.	deenergize the "B" logic and shut SRVs B & D.	Incorrect -
d.	maintain both logics energized and all SRVs open.	Correct Response - Any one pump running (RHR or CS) will keep both ADS logics energized and all SRVs open.

References: LOT-00-206, CRO Obj. 8
CWD 750-756
New

Task Associations

Task Number	Task Title
2000310501	Respond to Low Reactor Water Level

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
209001	K3.02	Knowledge of the effect that a loss or malfunction of the LOW PRESSURE CORE SPRAY SYSTEM will have on following: (CFR 41.7 / 45.4): ADS logic	3.8	3.9

Static Simulator Exams: None
Last Revised: 07/29/2003 12:09:36 PM by Hallonquist, Nora E.

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Question No. 33 Exam Bank Question No.: 5646 Revision: 2 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-211 Objective: AO 2g
Question Level: Comprehension

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Select the correct answer:

The high pressure sensing line for the core plate D/P instrumentation has a fitting leak of 10 gpm at the D/P cell. An ATWS event occurs and SLC "A" system is started.

The SLC system will inject:

	Answer/Distractor	Justification
a.	all of the boron above the core plate.	Incorrect -
b.	some of the boron above the core plate, some of the boron on the floor in the Southeast Corner Room.	Incorrect -
c.	all of the boron below the core plate.	Incorrect -
d.	some of the boron below the core plate, some on the floor in the Northeast Corner Room.	Correct Response - The core plate D/P instrument high pressure tap is below the core plate and is the SLC injection path. 10 gpm of SLC in will go out the leak.

References: LOT-00-216, CRO Obj. 1b, c
G191267 Sheet 1
New

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	K1.02	Knowledge of the physical connections and/or cause-effect relationships between STANDBY LIQUID CONTROL SYSTEM and the following: (CFR 41.2 to 41.9 / 45.7 to 45.8): Core plate differential pressure indication	2.7	2.7

Static Simulator Exams: None
Last Revised: 08/12/2003 3:09:46 PM by Hallonquist, Nora E.

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Question No. 34 Exam Bank Question No.: 5647 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-626 Objective: CRO 4
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

During an ATWS with the Standby Liquid Control System out of service, which one of the following is a means of alternate boron injection?

	Answer/Distractor	Justification
a.	Add sodium pentaborate to the condensate storage tank and mix/inject with HPCI.	Incorrect -
b.	Add sodium pentaborate to the condensate demineralizer precoat tank and inject with condensate and feedwater systems.	Incorrect -
c.	Connect the SLC tank to CRD pump suction and inject with a CRD pump.	Correct Response - This is the only correct flow path available in procedure OE 3107, the other flow paths would work but no procedure directs their use.
d.	Connect the SLC tank to the RWCU demineralizer precoat tank and inject with RWCU pump.	Incorrect -

References: OE 3107, rev 16, Appendix K, Modified Distractors
Grand Gulf NRC 3/27/1998
INPO Bank

Task Associations

Task Number	Task Title
2007600501	Perform Boron Injection Using CRD System from SLC Tank

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
211000	K3.01	Knowledge of the effect that a loss or malfunction of the STANDBY LIQUID CONTROL SYSTEM will have on following: (CFR 41.7 / 45.4): Ability to shutdown the reactor in certain conditions	4.3	4.4

Static Simulator Exams: None
Last Revised: 08/06/2003 3:19:37 PM by Hallonquist, Nora E.

NRC 34

QuestionId: 881 | ExamType: ILO | ExamDate: 03/27/1998 | AbbrevLocName: Grand Gulf 1

QuestionStem:

The plant is in an ATWS.

Standby Liquid Control is out of service.

Which one of the following is a means of alternate Boron injection?

QuestionCommen:

CognitiveLevel | ExamLevel | RefMaterial | ParentQuestionI

KaNumber: ..211000.K3.01 | Segment1 | Segment2 | Segment3: 211000 | Segment4: K3 | Segr

Answer: Add sodium pentaborate to the Condensate Storage Tank and mix with HPCS and inject the boron intc

Distract1: Add sodium pentaborate to the RWCU Filter Demin Precoat tank and inject the boron into the reactor via RWCU.

Distract1Commen:

Distract2: Add sodium pentaborate to the Suppression Pool and align RHR A or B in Suppression Pool Cooling mode to mix the solution then inject through any available ECCS pump taking a suction from the Suppression Pool.

Distract2Commen:

Distract3: Add sodium pentaborate to the Condensate Cleanup Precoat Tank and inject into the Condensate Cleanup system and use the Condensate / Feedwater Systems to provide a differential pr

Distract3Commen:

LocAcronym GE NSSSType BWR

d

nent5 01 KaRevision

the reactor using RCIC with a suction on the CST.

essure to inject the boron into the reactor.

****

Question No. 35 Exam Bank Question No.: 5648 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-212 Objective: CRO 2
Question Level: Comprehension

****

Select the correct answer:

When resetting a full scram the reset switch is positioned to the Group 1 and 4 position last. This ensures the relays that _____ on reset, _____ the solenoid valve that supplies air to open the scram discharge vent and drain valves when all the scram inlet and outlet valves are closed or closing.

	Answer/Distractor	Justification
a.	energize, energize	Correct Response - OP 2134, rev 16, page 9, Step 6b; P&ID G191170
b.	deenergize, energize	Incorrect - RPS relays energize to reset, not deenergize.
c.	energize, deenergize	Incorrect - The solenoid valve energizes to supply air to open the SDV vent and drain valves, not deenergize.
d.	deenergize, deenergize	Incorrect - RPS relays energize to reset, not deenergize.

References: OP 2134, rev 16, Page 9 Caution
New

Task Associations

Task Number	Task Title
2127060101	Reset RPS Trips

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
212000	A1.09	Ability to predict and/or monitor changes in parameters associated with operating the REACTOR PROTECTION SYSTEM controls including: (CFR 41.5 /45.5): Individual relay status: Plant-Specific	2.7	3.0

Static Simulator Exams: None
Last Revised: 07/25/2003 11:55:51 AM by Hallonquist, Nora E.

****

Question No. 36 Exam Bank Question No.: 5649 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-02-215 Objective: CRO 2i
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

An LNP occurs while operating at full power. Post scram reactor power can be monitored on:

	Answer/Distractor	Justification
a.	APRMs, ERFIS(CTP)	Incorrect - Core thermal power can not be accurately calculated with no RFPs running.
b.	IRMs, APRMs	Incorrect - IRMs can not be driven into the core. Motor drive power is from PP6A on MCC6A powered from Bus 1 which has lost power during the LNP.
c.	IRMs	Incorrect - IRMs can not be driven into the core. Motor drive power is from PP6A on MCC6A powered from Bus 1 which has lost power during the LNP.
d.	APRMs	Correct Response - RPS MG sets trip on the LNP and APRMs automatically transfer to Vital/Inst AC

References: OP 2131, rev 14, Prerequisites
New

Task Associations

Task Number	Task Title
2000330501	Respond to a Reactor SCRAM
2007020501	Respond to Loss of Normal Power

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
215003	K3.04	Knowledge of the effect that a loss or malfunction of the INTERMEDIATE RANGE MONITOR (IRM) SYSTEM will have on following: (CFR 41.7 / 45.4): Reactor power indication	3.6	3.6

Static Simulator Exams: None
Last Revised: 08/12/2003 3:12:06 PM by Hallonquist, Nora E.

****

Question No. 37 Exam Bank Question No.: 5650 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-02-215 Objective: CRO 8
Question Level: Analysis

****

Select the correct answer:

A reactor startup is in progress. Reactor power is 50/125 scale on Range 7. IRM detectors A & D were replaced during the outage and both have just failed downscale. The CRS directs IRM A & D bypassed.

Under these conditions the remaining IRMs detectors satisfy operability requirements for:

	Answer/Distractor	Justification
a.	both RPS trip systems.	Correct Response - IRMs A, C & E provide signals to RPS A. IRMs B, D & F provide signals to RPS B. With IRMs A & D failed, each RPS trip system still has two inputs and satisfied T.S. Table 3.1.1.
b.	RPS trip system "A" only.	Incorrect -
c.	RPS trip system "B" only.	Incorrect -
d.	neither RPS trip system.	Incorrect -

References: OP 2130, rev 14, page 1
Tech Spec Table 3.1.1 Notes
New

Tech Spec Table 3.1.1 / Notes required as a student reference

Task Associations

Task Number	Task Title
2157160401	Respond to IRM System Alarms

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
215003	K6.04	Knowledge of the effect that a loss or malfunction of the following will have on the INTERMEDIATE RANGE MONITOR (IRM) SYSTEM: (CFR 41.7 / 45.7): Detectors	3.0	3.0

Static Simulator Exams: None
Last Revised: 07/25/2003 11:56:42 AM by Hallonquist, Nora E.

****

Question No. 38 Exam Bank Question No.: 5651 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-01-215 Objective: CRO 6
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

The SRM detector high voltage power supply is powered from:

	Answer/Distractor	Justification
a.	208 VAC PP6A CKT 25	Incorrect - This is the power source to the drive motor.
b.	120 VAC Instrument AC CKT 7	Incorrect - This is the control power to the detector drive control circuits.
c.	125 VDC DC-1C/DC-2C CKT 2/2	Incorrect - DC-1C/DC-2C provide no power to the SRMs.
d.	24 VDC A/B CKT 5/5	Correct Response - OP 2130, page 2A, Power Supplies

References: OP 2130, rev 15
New

Task Associations

Task Number	Task Title
2157170401	Respond to SRM System Alarms

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
215004	K2.01	Knowledge of electrical power supplies to the following: (CFR 41.7): SRM channels/detectors	3.6	2.8

Static Simulator Exams: None
Last Revised: 07/25/2003 11:56:54 AM by Hallonquist, Nora E.

****

Question No. 39 Exam Bank Question No.: 5652 Revision: 2 Point Value: 1
SRO Only: No Instructor Guide: LOT-05-215 Objective: CRO 6
Question Level: Comprehension

****

Select the correct answer:

APRM downscale alarm has come in and APRM "A" indicates downscale on the CRP 9-5 bench board. The BOP is sent to the APRM cabinet to investigate. While attempting to check LPRM inputs, the BOP inadvertently positions the APRM "A" Mode Switch from the operate to the power position.

This action will cause:

	Answer/Distractor	Justification
a.	alarms only.	Incorrect -
b.	alarms and rod block.	Incorrect -
c.	alarms, rod block and 1/2 scram.	Correct Response - Function switch out of operation causes alarms, rod block (withdrawal) and 1/2 scram.
d.	alarms, rod block and full scram.	Incorrect -

References: OP 2132, rev 16, page 2 of 5
new

Task Associations

Task Number	Task Title
2157150401	Respond to APRM System Alarms

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
215005	A1.02	Ability to predict and/or monitor changes in parameters associated with operating the AVERAGE POWER RANGE MONITOR/LOCAL POWER RANGE MONITOR SYSTEM controls including: (CFR 41.5 / 45.5): RPS status	3.9	4.0

Static Simulator Exams: None
Last Revised: 08/20/2003 9:03:21 AM by Hallonquist, Nora E.

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Question No. 40 Exam Bank Question No.: 5653 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-217 Objective: CRO 4b
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

RCIC is operating and injecting. The flow controller is in manual. As reactor pressure lowers from 1000 psig to 600 psig, the RCIC turbine speed will:

	Answer/Distractor	Justification
a.	increase because the controller is flow sensing.	Incorrect - Speed will not increase, the controller does not sense flow in manual.
b.	remain the same because the controller is flow sensing.	Incorrect - The controller does not sense flow in manual.
c.	remain the same because the controller is speed sensing.	Correct Response - In manual, controller operation RCIC turbine speed is held constant.
d.	decrease because the controller is speed sensing.	Incorrect - In manual, the controller maintains a constant turbine speed.

References: OP 2121 rev 19
New

Task Associations

Task Number	Task Title
2170030101	Manually Initiate Startup of the RCIC System

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
217000	K5.06	Knowledge of the operational implications of the following concepts as they apply to REACTOR CORE ISOLATION COOLING SYSTEM (RCIC): (CFR 41.5 / 45.3): Turbine operation	2.7	2.7

Static Simulator Exams: None
Last Revised: 07/25/2003 12:07:10 PM by Hallonquist, Nora E.

Draft SRO NRC Exam 2003

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Question No. 41 Exam Bank Question No.: 5654 Revision: 2 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-608 Objective: CRO 1, 2
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

Which of the following is the minimum number of SRVs required for emergency depressurization?

	Answer/Distractor	Justification
a.	1	Incorrect -
b.	2	Incorrect -
c.	3	Correct Response - EOP Study Guide 13.15
d.	4	Incorrect -

References: EOP Study Guide, rev 9, 13.15
New

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
218000	K3.02	Knowledge of the effect that a loss or malfunction of the AUTOMATIC DEPRESSURIZATION SYSTEM will have on following: (CFR 41.7 / 45.4): Ability to rapidly depressurize the reactor	4.5	4.6

Static Simulator Exams: None
Last Revised: 07/29/2003 12:15:00 PM by Hallonquist, Nora E.

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Question No. 42 Exam Bank Question No.: 5655 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-206 Objective: CRO 5, 7, 10a
Question Level: Analysis

****

Select the correct answer:

125 VDC has been lost to HPCI 16 MOV due to a fault. To comply with Technical Specifications and operating procedures, HPCI _____ must be shut and its ACB _____. This valve's position must be logged _____ .

	Answer/Distractor	Justification
a.	HPCI-16 outbd isolation, kept closed, daily	Incorrect -
b.	HPCI-15 inbd isolation, kept closed, weekly	Incorrect -
c.	HPCI-16 outbd isolation, opened, weekly	Incorrect -
d.	HPCI-15 inbd isolation, opened, daily	Correct Response - Tech Spec to require that another valve in the process line must be closed and its position logged daily. The student must know that an initiation signal would open HPCI 16 and cause rapid piping pressurization, possible valve or piping damage, therefore, the MOV ACB must be opened.

References: LOT-01-223 CRO Obj. 1, 4
OP 2120, rev 27, page 21
Tech Spec 3.7, page 158
OP 2115, rev 43, page 10
New

Students should have T.S. 3.7 as a reference

Task Associations

Task Number	Task Title
2067090401	Respond to Automatic HPCI System Trip or Isolation

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
223002	A2.02	Ability to (a) predict the impacts of the following on the PRIMARY CONTAINMENT ISOLATION SYSTEM/ NUCLEAR STEAM SUPPLY SHUT-OFF; and (b) based those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: (CFR 41.5 / 45.6): D.C. electrical distribution failures	2.9	3.2

Static Simulator Exams: None
Last Revised: 07/25/2003 12:12:23 PM by Hallonquist, Nora E.

****

Question No. 43 Exam Bank Question No.: 5656 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-239 Objective: CRO 3
Question Level: Comprehension

****

Select the correct answer:

A spurious MSIV isolation occurs from full power. All control rods fully insert. SRVs B, C, D (RV-71 B, C, D) lift and safety valve "A" (RV-SV2-70A) lifts. Drywell pressure rapidly rises to 5 psig and is now steady.

The lifting of Safety Valve "A" was _____. The rapid rise in drywell pressure when Safety Valve "A" lifted was _____ .

	Answer/Distractor	Justification
a.	expected, unexpected	Incorrect -
b.	unexpected, unexpected	Incorrect -
c.	expected, expected	Incorrect -
d.	unexpected, expected	Correct Response - The student must know SRVs lift before RVs and 3 of 4 SRVs will prevent a RV lift on a spurious isolation (Transient Analysis) and that the RVs discharge to the drywell air space.

References: SEI-03-200 Obj. 9
USAF, rev 18, 4.4.3
Pilgrim 2003 NRC (modified)
New

Task Associations

Task Number	Task Title
2000180501	Respond to High Reactor Pressure

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
239002	K1.09	Knowledge of the physical connections and/or cause-effect relationships between RELIEF/SAFETY VALVES and the following: (CFR 41.2 to 41.9 / 45.7 to 45.8): Drywell pressure (for safety valves which discharge to the drywell airspace): Plant-Specific	4.0	4.0

Static Simulator Exams: None
Last Revised: 07/31/2003 10:13:29 AM by Hallonquist, Nora E.

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Question No. 44 Exam Bank Question No.: 5657 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-01-259 Objective: CRO 5e
Question Level: Comprehension

****

Select the correct answer:

The plant is operating at 100% power. The "A" main steam line flow signal fails to "0".

Which one of the following describes the response of the feedwater level control system?

	Answer/Distractor	Justification
a.	Total steam flow signal increases, feed flow/steam flow mismatch increases reactor water level	Incorrect -
b.	Total steam flow signal decreases, feed flow/steam flow mismatch decreases reactor water level	Correct Response - Loss of one steam flow detector will result in indicated steam flow being less than actual. FWLC will close the feed reg valves to match feed flow to steam flow. Reactor level will lower opening the FRVs. Final reactor level will be lower.
c.	Total steam flow signal increases, feed flow/steam flow mismatch decreases reactor water level	Incorrect -
d.	Total steam flow signal decreases, feed flow/steam flow mismatch increases reactor water level	Incorrect -

References: USAR 7.10, rev 18
Pilgrim 2003
New

Task Associations

Task Number	Task Title
2000310501	Respond to Low Reactor Water Level

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
259002	K5.01	Knowledge of the operational implications of the following concepts as they apply to REACTOR WATER LEVEL CONTROL SYSTEM: (CFR 41.5 / 45.3): GEMAC/Foxboro/Bailey controller operation: Plant-Specific	3.1	3.1

Static Simulator Exams: None
Last Revised: 07/25/2003 12:12:48 PM by Hallonquist, Nora E.

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Question No. 45 Exam Bank Question No.: 5658 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-261 Objective: CRO 5
Question Level: Analysis

****

Select the correct answer:

During full power operation HPCI is started in full flow test for a post maintenance operability run. Initially torus pressure will:

	Answer/Distractor	Justification
a.	increase due to the exhaust heat added to the pool from HPCI.	Incorrect - The torus pressure decreases, not increases, on an HPCI start for Surveillance.
b.	increase due to the exhaust heat added to the torus air space.	Incorrect - HPCI does not exhaust to the torus air space.
c.	decrease due to the startup of the SBGT system.	Correct Response - The torus is vented through the 3" line to SBGT during power operation. HPCI exhaust blower start starts both SBGT fans but leaves the reactor building suction valves shut. SBGT draws a vacuum on the torus.
d.	decrease due to the reduction in torus water volume.	Incorrect - Torus water volume increases during a HPCI run.

References: OP 4120
OP 2117, rev 17
New

Task Associations

Task Number	Task Title
2060030201	Perform HPCI Pump Operability Test

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
261000	K1.03	Knowledge of the physical connections and/or cause-effect relationships between STANDBY GAS TREATMENT SYSTEM and the following: (CFR 41.2 to 41.9 / 45.7 to 45.8): Suppression Pool	2.9	3.1

Static Simulator Exams: None
Last Revised: 07/29/2003 12:15:21 PM by Hallonquist, Nora E.

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Question No. 46 Exam Bank Question No.: 5659 Revision: 5 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-264 Objective: CRO 11
Question Level: Comprehension

****

Select the correct answer:

When paralleling an EDG for Surveillance Testing, which of the following conditions as a minimum must be satisfied for breaker closure to occur?

	Answer/Distractor	Justification
a.	Sync Switch ON, breaker control switch to CLOSE	Incorrect - Timer is not timed out.
b.	Sync Switch ON, Sync Scope in the window, breaker control switch to CLOSE	Incorrect - This window is too wide and will not work.
c.	Sync Switch ON, Sync Scope in the window, timer timed out, breaker control switch to CLOSE	Correct Response
d.	Sync Switch ON, Sync Scope in the window, timer timed out, breaker control switch to CLOSE and held for 3 seconds	Incorrect - a & b justifications above. The breaker control switch is not required to be held in the close position.

References: OP 2142, rev 20, Discussion Section
ARS 9-8-J-9, rev 7
New

Task Associations

Task Number	Task Title
2640030201	Perform Emergency Diesel Generator Load Tests

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
262001	K4.05	Knowledge of A.C. ELECTRICAL DISTRIBUTION design feature(s) and/or interlocks which provide for the following: (CFR 41.7): Paralleling of A.C. sources (synchroscope)	3.4	3.6

Static Simulator Exams: None
Last Revised: 08/12/2003 3:13:09 PM by Hallonquist, Nora E.

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Question No. 47 Exam Bank Question No.: 5660 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-262 Objective: 1d, 3
Question Level: Comprehension

****

Select the correct answer:

An air leak has developed on 345 KV Breaker ATB-379. High pressure cylinder pressure is 425 psig and lowering. The compressor has tripped on overload. VELCO has authorized opening the 379 ATB.

The breaker must be:

	Answer/Distractor	Justification
a.	opened before air pressure lowers to 400 psig and all tripping capability is lost.	Correct Response - OP 2140 Appendix A
b.	can be opened from the control room at air pressure down to 67 psig.	Incorrect - 67 psig is the minimum SF-6 pressure that will allow breaker operation.
c.	opened before air pressure lowers to 400 psig and automatic opening occurs.	Incorrect - 379 ATB does not automatically trip on low air pressure.
d.	can not be opened from the control room.	Incorrect - The breaker can be opened from the control room down to an air pressure of 400 +/- 10 psig.

References: OP 2140, rev 24, Appendix A
ARS 9-8-B-2, rev 4
ARS 9-8-B-5, rev 3
New

Task Associations

Task Number	Task Title
2997180301	Follow the 345KV Voltage Schedule

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
262001	A4.01	Ability to manually operate and/or monitor in the control room: (CFR 41.7 / 45.5 to 45.8): All breakers and disconnects (including available switch yard): Plant-Specific	3.4	3.7

Static Simulator Exams: None
Last Revised: 07/25/2003 12:18:06 PM by Hallonquist, Nora E.

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Question No. 48 Exam Bank Question No.: 5661 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-03-262 Objective: CRO 7
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

The plant has experienced a DBA LOCA. RUPS units will:

	Answer/Distractor	Justification
a.	continue to operate as before if no LNP signal is present.	Incorrect - The RUPS must transfer to DC drive, it's AC power source has been removed by the LOCA signal.
b.	automatically transfer MCC 89A/B to MCC 8B/9B (respectively).	Incorrect - MCC 89A/B transfers to 8B/9B (Maintenance Tie) are manual only.
c.	transfer from AC to DC drive and continue to power MCC 89A/B.	Correct Response - USAR 8.4.5.2.1
d.	transfer from AC to DC drive and back to AC drive when the LOCA signal is reset.	Incorrect - The AC Supply breaker is tripped by the accident signal and must be manually reshut.

References: UASR, rev 18, 8.4.5.2.1
Bank LOI VYN #97, modified distractor "D"

Task Associations

Task Number	Task Title
2627260101	Energize 480V Buses and MCCS

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
262002	K4.01	Knowledge of UNINTERRUPTABLE POWER SUPPLY (A.C./ D.C.) design feature(s) and/or interlocks which provide for the following: (CFR 41.7): Transfer from preferred power to alternate power supplies	3.1	3.4

Static Simulator Exams: None
Last Revised: 07/25/2003 12:19:07 PM by Hallonquist, Nora E.

****

Question No. 49 Exam Bank Question No.: 5662 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-601 Objective: CRO 2, 3, 4
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

The plant is operating at full power. Electrical Maintenance has requested permission to cycle the 4 KV Bus 1 DC control power knife switch to verify operability of the knife switch.

Your direction to Electrical Maintenance is:

	Answer/Distractor	Justification
a.	No, the "A" recirc pump will trip.	Correct Response
b.	Yes, do it quickly, less than 6 seconds.	Incorrect - The recirc MG Low Lube Oil Trip is delayed for 6 seconds. Up until the last outage, the lube oil pumps tripped on a loss of DC control power. Now the lube oil pumps continue to run.
c.	No, the reactor feed pumps will trip.	Incorrect - The removal and restoration of control power to 4 KV Bus will not cause RFPS to trip.
d.	Yes, do it quickly, less than 15 seconds.	Incorrect - 15 seconds is the time window for the recirc MG start sequence, which will trip the drive motor breaker on an incomplete start sequence.

References: OP 2142, rev 20, page 6, Precaution 3
VYN LOI Bank #1809, modified
ON 3159, rev 4, page 4

Task Associations

Task Number	Task Title
2000320501	Respond to a Loss of DC-1, 2, 3
2627390401	Respond to Loss of DC Control Power to a 4KV Bus

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
263000	K1.01	Knowledge of the physical connections and/or cause-effect relationships between D.C. ELECTRICAL DISTRIBUTION and the following: (CFR 41.2 to 41.9 / 45.7 to 45.8): A.C. electrical distribution	3.3	3.5

Static Simulator Exams: None
Last Revised: 07/25/2003 12:20:41 PM by Hallonquist, Nora E.

Vermont Yankee LOI Exam Bank Question Number 1809 Revision 1 NRC 49

Instructor Guide: LOT-01-262 4 KV ELECTRICAL DISTRIBUTION SYSTEM
Objectives: 4
References: OP 2142 Caution 3
SRO Only: No Style: Multiple Choice
Point Value: 1 Time to Complete (Minutes): 5
Question Level: Fundamental Knowledge/Memory

Task Associations

Task Number	Task Title
2627390401	Respond to Loss of DC Control Power to a 4KV Bus
2997270301	Follow Operating Instructions and Procedures

Knowledge and Abilities Associations: None

Question:
Select the correct answer:

While the plant is operating at 100% power, electrical maintenance requests that 4KV Bus 1 DC control power be shifted from normal to alternate in order to visually inspect the knife switch. In this situation you should:

	Answer/Distractor	Justification
a.	not allow transfer because the Recirc Pump will trip	
b.	allow transfer provided it is done quickly to prevent a loss of breaker position indication.	
c.	not allow transfer due to the inability to locally trip the breaker.	
d.	allow transfer as long as no 4KV bus 1 breaker operation is expected during the transfer.	

Static Simulator Exams: None
Last Revised: 03/01/2000 3:39:08 PM by Robinson, Kelly G.

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Question No. 50 Exam Bank Question No.: 5663 Revision: 2 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-263 Objective: CRO 2
Question Level: Comprehension

****

Select the correct answer:

A ground has been detected on 125 VDC Bus DC-2. Ground meter indication is +127 VDC. Under these conditions, DC-2 loads _____ operate correctly, and you are required to initiate a priority _____ work request.

	Answer/Distractor	Justification
a.	should, 1	Correct Response - OP 2145, page 7
b.	should not, 1	Incorrect -
c.	should, 2	Incorrect -
d.	should not, 2	Incorrect -

References: OP 2145, rev 24, page 7
New

Task Associations

Task Number	Task Title
2637090401	Respond to a DC Ground

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
263000	A2.01	Ability to (a) predict the impacts of the following on the D.C. ELECTRICAL DISTRIBUTION; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: (CFR 41.5 / 45.6): Grounds	2.8	3.2

Static Simulator Exams: None
Last Revised: 07/31/2003 10:14:40 AM by Hallonquist, Nora E.

Draft SRO NRC Exam 2003

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Question No. 51 Exam Bank Question No.: 5664 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-603 Objective: CRO 3
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The "B" EDG is running for surveillance. 125 VDC Bus DC-1 is lost.

Which of the following is correct?

	Answer/Distractor	Justification
a.	All engine protective trips are disabled and the engine can be shutdown from the control room.	Incorrect - The control room can not open the output breaker or shutdown the engine under these conditions.
b.	No engine protective trips are disabled and the engine can be shutdown from the control room.	Incorrect - All engine protective features are lost (except overspeed).
c.	All engine protective trips are disabled and the engine can only be shutdown locally .	Correct Response - ON 3159
d.	No engine protective trips are disabled and the engine can only be shutdown locally .	Incorrect - All engine protective features are lost (except overspeed).

References: LOT-00-264 CRO Obj. 9c
ON 3159, rev 4 Step 3
ARS DB-F-3
New

Task Associations

Task Number	Task Title
2000320501	Respond to a Loss of DC-1, 2, 3
2647010401	Respond to DG Alarms

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
264000	K6.09	Knowledge of the effect that a loss or malfunction of the following will have on the EMERGENCY GENERATORS (DIESEL/JET): (CFR 41.7 / 45.7): D.C. power	3.3	3.5

Static Simulator Exams: None
Last Revised: 08/20/2003 9:00:58 AM by Hallonquist, Nora E.

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Question No. 52 Exam Bank Question No.: 5665 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-279 Objective: AO 9d, 11; CRO 1d
Question Level: Comprehension

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Select the correct answer:

Air temperature in the instrument air dryer towers can be monitored on _____ and will provide a Tower Overtemperature Alarm at _____ on the tower that is _____ .

	Answer/Distractor	Justification
a.	a local panel, 400°F, inservice	Incorrect - The inservice tower has no energy source to make it this hot.
b.	ERFIS, 400°F, inservice	Incorrect - The inservice tower has no energy source to make it this hot.
c.	a local panel, 600°F, reactivating	Correct Response - Student must integrate location of indications, alarm setpoints and potential cause of the alarm - the heaters on the reactivating tower have failed to deenergize at their setpoint and temperatures have not stabilized out at 400-425°F.
d.	ERFIS, 600°F, reactivating	Incorrect - Air dryer temperatures can not be read on ERFIS.

References: OP 2190, rev 29
New

Task Associations

Task Number	Task Title
2997070304	Monitor Plant Systems During Operator Rounds, Surveillance and Normal Plant Operations

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
300000	A3.02	Ability to monitor automatic operations of the INSTRUMENT AIR SYSTEM including: (CFR 41.7 / 45.7): Air temperature	2.9	2.7

Static Simulator Exams: None
Last Revised: 07/25/2003 12:23:06 PM by Hallonquist, Nora E.

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Question No. 53 Exam Bank Question No.: 5666 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-208 Objective: CRO 7
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

A leak has developed in the RBCCW System. Makeup for the leak normally is _____ and the standby pump is automatically started at _____ header pressure.

	Answer/Distractor	Justification
a.	manual, 70 psig	Incorrect - Manual is a backup to the automatic makeup.
b.	automatic, 70 psig	Correct Response
c.	manual, 90 psig	Incorrect - Manual is a backup to the automatic makeup.
d.	automatic, 90 psig	Incorrect - Standby pump starts at 70 psig not 90 psig.

References: ON 3147, rev 10
New

Task Associations

Task Number	Task Title
2000110501	Respond to RBCCW Failure

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
400000	A3.01	Ability to monitor automatic operations of the COMPONENT COOLING WATER SYSTEM including: (CFR 41.7 / 45.7): Setpoints on instrument signal levels for normal operations, warnings, and trips that are applicable to the CCWS	3.0	3.0

Static Simulator Exams: None
Last Revised: 07/31/2003 10:15:21 AM by Hallonquist, Nora E.

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Question No. 54 Exam Bank Question No.: 5667 Revision: 2 Point Value: 1
SRO Only: No Instructor Guide: LOT-02-201 Objective: CRO 1a, c, e, 3
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The reactor is operating at 50% CTP. A control rod is selected and notched out one notch from position 32 to 34. The rod sequence control timer fails, the withdraw bus remains energized and the control rod continues out.

The 2 second cycle auxiliary timer will provide a control rod:

	Answer/Distractor	Justification
a.	select block, and you should confirm the control rod deselected.	Correct Response
b.	withdraw block, and you should confirm the control rod stopped moving.	Incorrect - A select block is applied, not a withdraw block.
c.	drift alarm, and you should confirm the control rod drifting.	Incorrect - The control rod should not drift but stop on the next notch. A drift alarm may occur.
d.	settle function, and you should confirm the control rod settle to a notch.	Incorrect - The control rod is deselected with no settle function.

References: ARS 9-5-D-6 rev 4
New

Task Associations

Task Number	Task Title
2010050101	Operate Control Rods Using Single Notch Mode

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
201002	A2.01	Ability to (a) predict the impacts of the following on the REACTOR MANUAL CONTROL SYSTEM; and (b) based on these predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: (CFR 41.5 / 45.6): Rod movement sequence timer malfunctions	2.7	2.8

Static Simulator Exams: None
Last Revised: 08/20/2003 8:59:23 AM by Hallonquist, Nora E.

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Question No. 55 Exam Bank Question No.: 5668 Revision: 3 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-202 Objective: CRO 4, 5
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

During full power operation the "A" Recirc Motor Generator trips on differential overcurrent and repairs will take several weeks.

Which of the following limits must be changed to satisfy Tech Specs?

	Answer/Distractor	Justification
a.	APRM Rod Block, RBM Rod Block and LHGR	Incorrect -
b.	APRM Scram and APRM Rod Block and MCPR Safety Limit	Incorrect -
c.	APRM Scram, APRM Rod Block, RBM Rod Block, MCPR safety limit, MAPLHGR	Correct Response
d.	APRM Scram, APRM Rod Block, MCPR safety limit, LHGR	Incorrect -

References: COLR Cycle 23, rev 0
Tech Specs 3.6.G.1.a, 203
LOI EB #1650, modified

Task Associations

Task Number	Task Title
2007900501	Respond to a Loss of Bus 1 Using ON 3169

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
202002	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: 08/12/2003 3:16:46 PM by Hallonquist, Nora E.

Vermont Yankee LOI Exam Bank Question Number 1650 Revision 0 NRC 55

Instructor Guide: LOT-00-202 REACTOR RECIRCULATION SYSTEM
Objectives: 4
References: Core Operating Limit Report and Tech Specs
SRO Only: No Style: Multiple Choice
Point Value: 1 Time to Complete (Minutes): 5
Question Level: Fundamental Knowledge/Memory

Task Associations

Task Number	Task Title
2020050101	Adjust the Recirculation System Flow Using Master Manual Control
2990150301	Apply Tech Spec/TRM/ODCM Requirements

Knowledge and Abilities Associations: None

Question:
Select the correct answer:

According to Technical Specifications, certain settings and limits must be adjusted to allow for reactor operation with only one recirc loop in service. Select from the following list the settings/limits which are required to be adjusted.

	Answer/Distractor	Justification
a.	MCPR Limits, LHGR Limits, APRM Scram and Rod Block Settings, MAPLHGR Limits.	
b.	MCPR Limits, LHGR limits, APRM Scram Settings, Rod Block Monitor Settings, MAPLHGR Limits.	
c.	LHGR Limits, APRM Scram and Rod Block Settings, Rod Block Monitor Settings, MAPLHGR.	
d.	MCPR Limits, APRM Scram and Rod Block Settings, Rod Block Monitor Settings, MAPLHGR.	

Static Simulator Exams: None
Last Revised: 11/01/1999 3:30:38 PM by Hallonquist, Nora E.

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Question No. 56 Exam Bank Question No.: 5669 Revision: 2 Point Value: 1
SRO Only: No Instructor Guide: LOT-03-201 Objective: CRO 4
Question Level: Comprehension

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Select the correct answer:

A reactor startup is in progress.

Reactor power is 82%
APRM B is reading 83%
APRM E is reading 84%
RBM "A" is reading 125
RBM "B" is reading 86
Annunciator CRP 9-5-M-7 RBM HI/INOP has alarmed

OP 2133 RBMs requires you to:

	Answer/Distractor	Justification
a.	bypass RBM "A" and continue control rod withdrawals.	Incorrect - By procedure, control rod withdrawal is not allowed without Operations Manager permission with one RBM INOP.
b.	bypass RBM "B" and continue control rod withdrawals.	Incorrect - By procedure, control rod withdrawal is not allowed without Operations Manager permission with one RBM INOP.
c.	suspend control rod withdrawals and insert the control rod to its previous position.	Incorrect - Indications given show that "A" RBM has failed upscale. No direction is provided to insert the control rod.
d.	suspend control rod withdrawals and verify thermal limits are less than .995	Correct Response - OP 2133 requires these actions.

References: OP 2133, rev 16
ARS 9-5-M-7
New

Task Associations

Task Number	Task Title
2017360401	Respond to RBM HI/INOP
2157180401	Respond to RBM System Alarms

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
215002	A2.01	Ability to (a) predict the impacts of the following on the ROD BLOCK MONITOR SYSTEM; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: (CFR 41.5 / 45.6): Withdrawal of control rod in high power region of core: BWR-3, 4, 5	3.3	3.5

Static Simulator Exams: None
Last Revised: 08/20/2003 8:55:46 AM by Hallonquist, Nora E.

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Question No. 57 Exam Bank Question No.: 5670 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-216 Objective: CRO 4, 11a, 14
Question Level: Comprehension

****

Select the correct answer:

All control rods are inserted, a reactor cool down is in progress. Reactor pressure is 100 psig. The CRS has directed you to place the "A" Loop of RHR in shutdown cooling. IAW OP 2124 (RHR) operating procedure, level indicator _____ is the preferred instrument for RPV level control due to its _____ range and _____ calibration conditions.

	Answer/Distractor	Justification
a.	LI-2-3-86 (Refuel), large, cold	Correct Response - The correct indicator is recall, but must also recall range & calibration conditions that make this instrument the preferred instrument for shutdown cooling operations. (This is a recent procedure change, 9/19/02)
b.	LI-2-3-68 (Transient), small, cold	Incorrect - LI-2-3-68 is not preferred and not cold calibrated.
c.	LI-2-3-86 (Refuel), large, hot	Incorrect - LI-2-3-86 is calibrated cold head on range 70-470", cold head off 70-570", never hot calibrated, which is a common misconception.
d.	LI-2-3-68 (Transient), small, hot	Incorrect - LI-2-3-68 is not preferred.

References: OP 2124, rev 50, LPC #7
VYC 332
New

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
216000	A2.11	Ability to (a) predict the impacts of the following on the NUCLEAR BOILER INSTRUMENTATION; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: (CFR 41.5 / 45.6): Heatup or cooldown of the reactor vessel	3.2	3.3

Static Simulator Exams: None
Last Revised: 07/25/2003 12:36:59 PM by Hallonquist, Nora E.

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Question No. 58 Exam Bank Question No.: 5671 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-205 Objective: CRO 2
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

480 VAC Bus 9 has been lost due to an electrical fault.

Which RHR Loop(s) could be used for torus cooling?
(No local manual valve operations are allowed.)

	Answer/Distractor	Justification
a.	Neither "A" nor "B" Loop is available.	Incorrect - "A" Loop valves have no power, "B" Loop valves have power.
b.	"A" Loop is available.	Incorrect - "A" RHR Loop valves (65, 34, 38, 39, 26, 31) needed for torus cooling are powered from MCC 9B -> Bus 9 no power.
c.	"B" Loop is available.	Correct Response - "B" Loop valves have power.
d.	Both "A" and "B" Loops are available.	Incorrect - "A" Loop valves have no power.

References: OP 2124, rev 50
New

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	K2.01	Knowledge of electrical power supplies to the following: (CFR 41.7): Valves	2.5	2.9

Static Simulator Exams: None
Last Revised: 07/25/2003 12:38:00 PM by Hallonquist, Nora E.

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Question No. 59 Exam Bank Question No.: 5672 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-01-229 Objective: CRO 5
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

During power operation the drywell oxygen concentration is monitored _____ and the torus oxygen concentration is monitored _____ .

	Answer/Distractor	Justification
a.	continuously, periodically	Correct Response - The drywell is continuously monitored. The torus is only sampled for surveillance.
b.	periodically, continuously	Incorrect -
c.	continuously, continuously	Incorrect -
d.	periodically, periodically	Incorrect -

References: OP 2125, rev 19, page 3
New

Task Associations

Task Number	Task Title
2297130101	Operate CAD Panel H2/O2 Analyzer

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
223001	K5.13	Knowledge of the operational implications of the following concepts as they apply to PRIMARY CONTAINMENT SYSTEM AND AUXILIARIES: (CFR 41.5 / 45.3): Oxygen concentration measurement: Plant-Specific	2.7	2.8

Static Simulator Exams: None
Last Revised: 07/25/2003 12:38:13 PM by Hallonquist, Nora E.

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Question No. 60 Exam Bank Question No.: 5673 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-234 Objective: AO 2a, b, c, 10a
Question Level: Analysis

****

Select the correct answer:

Refueling is in progress. You are over the fuel pool, grapple closed, bundle seated in the rack. A loss of off-site power occurs (LNP). The refueling equipment will _____ and OP 1101 requires the Refueling Crew to _____ .

	Answer/Distractor	Justification
a.	continue to operate, open the grapple.	Incorrect - All refueling motors are variable speed DC motors. This distractor is plausible if the student believes them to be powered from the station 125 VDC batteries.
b.	stop as is, halt refueling operations, inform the Shift Manager.	Correct Response - The student must analyze that the LNP causes a loss of power to refueling equipment which fails as it. Then he must analyze that the EDG repowers the bus in 13 seconds. He must know that the refueling equipment is not load shed, and will be repowered. He must know that the bridge will not auto restart when power is restored. He must also know that OP 1101 requires halting refueling should an LNP occur. His natural desire will be to restart the bridge and open the grapple.
c.	continue to operate, halt refueling operations.	Incorrect - All refueling motors are variable speed DC motors. This distractor is plausible if the student believes them to be powered from the station 125 VDC batteries.
d.	stop as is, restart the bridge and, with the refueling SRO's concurrence, open the grapple.	Incorrect -

References: OP 1101, rev 35, Appendix A
OT 3122, rev 19, Appendix B
New

Task Associations

Task Number	Task Title
2007020501	Respond to Loss of Normal Power

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
234000	A2.03	Ability to (a) predict the impacts of the following on the FUEL HANDLING; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: (CFR 41.5 / 45.6): Loss of electrical power	2.8	3.1

Static Simulator Exams: None
Last Revised: 08/20/2003 8:54:15 AM by Hallonquist, Nora E.

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Question No. 61 Exam Bank Question No.: 5674 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-212 Objective: CRO 3
Question Level: Analysis

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Select the correct answer:

Main turbine stop valve position switches on two of the four stop valves have been found broken. The reactor must be maneuvered to _____ which will ensure that in case of a turbine trip, the _____ Safety Limit will not be violated.

	Answer/Distractor	Justification
a.	all rods inserted in 4 hours, APLHGR	Incorrect - APLHGR is not challenged by transients.
b.	reactor power < 30% in 8 hours, MCPR	Correct Response - The student must know that MCPR is the thermal limit that is challenged by overpressure transients. He must also know that a turbine trip causes an overpressure transient. He must apply Tech Spec Table 3.1.1 and notes to determine the LCO required actions.
c.	all rods inserted in 8 hours, MCPR	Incorrect - Time for all rods in is 4 hours.
d.	reactor power < 30% in 4 hours, APLHGR	Incorrect - APLHGR is not challenged by transients.

References: SEI-03-200 Obj. 4, 10, 17
Tech Spec 3.2, 212
USAR, rev 18, 14.5
New

Tech Spec Table 3.1.1 & Notes are required as a student reference

Task Associations

Task Number	Task Title
2000290501	Respond to a Turbine Generator Trip
3410320302/03	Evaluate Plant System Performance and Coordinate Appropriate Actions per Technical Specifications/TRM/ODCM in the Event A Limiting Condition for Operation is Entered or not Satisfied

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
239001	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: 07/25/2003 12:43:00 PM by Hallonquist, Nora E.

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Question No. 62 Exam Bank Question No.: 5675 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-249 Objective: CRO 5, 7, 9
Question Level: Comprehension

****

Select the correct answer:

Turbine emergency governor testing is in progress at full power. After moving the emergency governor test switch from Trip to Reset for the second time and the reset light is still extinguished (in the control room and at the front standard), your next procedurally required action is to:

	Answer/Distractor	Justification
a.	attempt a third reset.	Incorrect - A third attempt is not allowed by the procedure.
b.	attempt a third trip test.	Incorrect - A third attempt is not allowed by the procedure.
c.	release the emergency governor test switch and leave it "pulled out".	Correct Response - OP 4160 requires this action. If the operator understands the construction and operation of the emergency governor and its indications, he will determine that this is the only SAFE action to take.
d.	release the emergency governor test switch and "push it in".	Incorrect - If the emergency governor is pushed in without reset indication, the turbine will trip.

References: OP 4160, rev 32, page 20
New

Task Associations

Task Number	Task Title
2457110201	Perform Emergency Governor Test

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
241000	A3.12	Ability to monitor automatic operations of the REACTOR/TURBINE PRESSURE REGULATING SYSTEM including: (CFR 41.7 / 45.7): Turbine trip testing	2.9	2.9

Static Simulator Exams: None
Last Revised: 08/12/2003 3:30:24 PM by Hallonquist, Nora E.

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Question No. 63 Exam Bank Question No.: 5676 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-256 Objective: 1j, 2
Question Level: Analysis

****

Select the correct answer:

CRP 9-6 Alarm D-4 "Atmos DRN Tk LVL Hi/Lo" is in alarm. Main condenser vacuum is slowly degrading.

When you direct the TB AO to investigate, your prejob brief should tell him to expect:

	Answer/Distractor	Justification
a.	Tank Level Low, and the level control valve stuck open.	Correct Response - This event has happened at the plant and operators had difficulty diagnosing it. When the level control valve sticks open, the tank level goes Low and allows air to be drawn into the main condenser. ARS 9-6-D-4 discusses how to fail the LCV shut and stop the loss of vacuum.
b.	Tank Level High, and the level control valve stuck open.	Incorrect - When the tank overfills, vacuum is not affected.
c.	Tank Level Low, and the level control valve stuck shut.	Incorrect - The LCV sticking shut will overflow the tank - vacuum will not be affected.
d.	Tank Level High, and the level control valve stuck shut.	Incorrect - These conditions are possible, but main condenser vacuum will not be affected.

References: ARS 9-6-D-4, rev 3
New

Task Associations

Task Number	Task Title
2567190401	Respond to Low Level Alarm in Atmosphere Drain Tank System

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
256000	A4.07	Ability to manually operate and/or monitor in the control room: (CFR 41.7 / 45.5 to 45.8): Lights and alarms	2.9	2.9

Static Simulator Exams: None
Last Revised: 08/12/2003 3:30:55 PM by Hallonquist, Nora E.

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Question No. 64 Exam Bank Question No.: 5677 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-01-288 Objective: AO 3, CRO 3, 5
Question Level: Comprehension

****

Select the correct answer:

The CRS has directed you to restart reactor building ventilation. To perform this task the reactor building exhaust fan control switch must be held in the "on" position for approximately _____ seconds to allow for the startup of the _____ .

	Answer/Distractor	Justification
a.	10, transfer fans	Incorrect - The transfer fans do not experience this time delay.
b.	20, supply fan	Incorrect - 20 seconds is too long, something is not working correctly.
c.	10, supply fan	Correct Response - VYN has had many events (ER 960321 OP Ref) where these controls were not properly set or operated incorrectly. The time delay allows for relay timing, pneumatic damper positioning --> making up limit switches allowing fan start. Once the exhaust fan starts, the whole sequence occurs again with the supply fan.
d.	20, transfer fans	Incorrect - 20 seconds is too long, something is not working correctly.

References: OP 2192, rev 30, page 27
New

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
290001	2.1.30	Ability to locate and operate components, including local controls (CFR 41.7, 45.7)	3.9	3.4

Static Simulator Exams: None
Last Revised: 07/25/2003 12:43:35 PM by Hallonquist, Nora E.

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Question No. 65 Exam Bank Question No.: 5678 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-04-215 Objective: CRO 1, FND 3
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Inter-calibration of the three TIP units is accomplished by:

	Answer/Distractor	Justification
a.	traversing a common position in the core.	Correct Response
b.	algorithmic comparison of the three individual automatic TIP traces.	Incorrect -
c.	using the hand crank to manually position each TIP unit at its respective reference point.	Incorrect -
d.	using the semi-automatic mode to achieve equalized incremental positioning of each TIP unit.	Incorrect -

References: OP 2425
USAR rev 18 7.5.9.2.2
LOI-EB # 1912

Task Associations

Task Number	Task Title
2150230101	Operate the Neutron Monitoring System

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
290002	K1.19	Knowledge of the physical connections and/or cause-effect relationships between REACTOR VESSEL INTERNALS and the following: (CFR 41.2 to 41.9 / 45.7 to 45.8): TIP	2.5	2.6

Static Simulator Exams: None
Last Revised: 07/29/2003 12:21:01 PM by Hallonquist, Nora E.

Vermont Yankee LOI Exam Bank Question Number 1912 Revision 0 NRC 65

Instructor Guide: LOT-04-215 TRAVERSING IN-CORE PROBE (TIP)
Objectives: 1; FND 3
References: OP 2425 Rev 21
SRO Only: No Style: Multiple Choice
Point Value: 1 Time to Complete (Minutes): 3
Question Level: Fundamental Knowledge/Memory

Task Associations

Task Number	Task Title
2150230101	Operate the Neutron Monitoring System

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
215001	K5.01	Knowledge of the operational implications of the following concepts as they apply to TRAVERSING IN-CORE PROBE: (CFR 41.5 / 45.3): Neutron flux detection: (Not-BWR1)	2.2	2.5
215001	A1.02	Ability to predict and/or monitor changes in parameters associated with operating the TRAVERSING IN-CORE PROBE controls including: (CFR 41.5 / 45.5): Detector position: (Not-BWR1)	2.5	2.4

Question:
Select the correct answer:

Inter-calibration of the three TIP units is accomplished by...

	Answer/Distractor	Justification
a.	traversing a common position in the core.	
b.	algorithmic comparison of the three individual automatic TIP traces.	
c.	using the hand crank to manually position each TIP unit at its respective reference point.	
d.	using the semi-automatic mode to achieve equalized incremental positioning of each TIP unit.	

Static Simulator Exams: None
Last Revised: 07/06/1998 2:48:01 PM by Autrey, Tim D.

Draft SRO NRC Exam 2003

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Question No. 66 Exam Bank Question No.: 5679 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-302 Objective: CRO 2
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

You are performing a plant startup IAW OP 0105 and come to a step with an asterisk (*) at the end.

This asterisk means this is a:

	Answer/Distractor	Justification
a.	Chemistry hold point.	Incorrect -
b.	check sheet sign off required.	Correct Response - Start-up check sheet sign offs are identified by asterisks following steps that operators must sign for when performing.
c.	Radiation Protection hold point.	Incorrect -
d.	Control Room Supervisor sign off required.	Incorrect -

References: LOT-01-400 CRO Obj. 1
OP 0105, rev 10, Page 14 of 137
New

Task Associations

Task Number	Task Title
2017400201	Perform Heating and Pressurization of the Reactor
2990060301	Maintain Required Logs, Records, Charts, Printouts and Status Boards

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.1.18	Ability to make accurate, clear and concise logs, records, status boards, and reports (CFR 45.12, 45.13)	2.9	3.0

Static Simulator Exams: None
Last Revised: 07/29/2003 12:21:48 PM by Hallonquist, Nora E.

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Question No. 67 Exam Bank Question No.: 5680 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-03-400 Objective: CRO 1
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The reactor has been manually scrammed due to the loss of EPR and MPR. The CRS directs you to control reactor pressure 800-1000 psig using the Bypass Opening Jack (BPOJ), before the SRVs lift again.

This activity may be performed:

	Answer/Distractor	Justification
a.	from memory.	Correct Response - DP 0166 states this action can be performed from memory post scram. If the operator takes the time to refer to the procedure, he will cause additional challenges to the SRVs and add heat to the torus unnecessarily.
b.	after procedure review.	Incorrect - Not required, challenges SRVs
c.	with the procedure in hand, no place keeping required.	Incorrect - Not required, challenges SRVs
d.	with the procedure in hand, place keeping required.	Incorrect - Not required, challenges SRVs

References: DP 0166, rev 7, page 6
New

Task Associations

Task Number	Task Title
2000330501	Respond to a Reactor SCRAM

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.1.20	Ability to execute procedure steps (CFR 41.10, 43.5, 45.12)	4.3	4.2

Static Simulator Exams: None
Last Revised: 08/20/2003 8:52:58 AM by Hallonquist, Nora E.

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Question No. 68 Exam Bank Question No.: 5681 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-01-400 Objective: CRO 3
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

You are relieving the reactor operator during power operation and have not been on shift for 20 days. The "A" EDG is out of service due to cylinder failure several days ago.

To determine when the failure occurred, you would review:

	Answer/Distractor	Justification
a.	VYAPF 0152.01 Control Room Shift Turnover Check List	Incorrect -
b.	VYAPF 0152.02 Tech Spec/TRM Components Inoperable Check List	Correct Response - 0152.02 requires logging date & time. Tech Spec equipment is declared inoperable.
c.	VYAPF 0152.03 Shift Briefing Check List	Incorrect -
d.	VYAPF 0152.04 Control Room Turnover Sheet	Incorrect -

References: OP 0152, rev 22
New

Task Associations

Task Number	Task Title
2990030301	Conduct Shift and Relief Turnover

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.2.23	Ability to track limiting conditions for operations (CFR 43.2, 45.13)	2.6	3.8

Static Simulator Exams: None
Last Revised: 07/25/2003 12:49:46 PM by Hallonquist, Nora E.

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Question No. 69 Exam Bank Question No.: 5682 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-402 Objective: CRO 2, 3
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

Due to a failed vibration switch, the RECIRC PUMP MOTOR A VIBR HI annunciator (4-C-7) is in constant alarm and has been disabled. It is anticipated the annunciator will remain disabled for 15 months until the next refueling outage.

Which one of the following is correct regarding the disabled annunciator?

	Answer/Distractor	Justification
a.	A Temporary Modification (TM) will be written for this configuration change and will require PORC review after six months.	Correct Response - OP 3140/AP 0020
b.	A Minor Modification (MM) will be written for this configuration change and will require PORC review after six months.	Incorrect -
c.	A Temporary Modification (TM) will be written for this configuration change and will require PORC review after twelve months.	Incorrect -
d.	A Minor Modification (MM) will be written for this configuration change and will require PORC review after twelve months.	Incorrect -

References: AP 0020, rev 25, page 8
OP 3140, rev 17, page 4
LOI EB #3271, modified

Task Associations

Task Number	Task Title
3410110302/0 3	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: 07/02/2003 3:23:25 PM by Hallonquist, Nora E.

NRC 69

Vermont Yankee LOI Exam Bank Question Number 3271 Revision 1

Instructor Guide: LOT-00-402 ENGINEERING SUPPORT & PLANT ADMINISTRATIVE PROCEDURES
Objectives: CRO 2
References: AP 0020 Rev 20
SRO Only: No Style: Multiple Choice
Point Value: 1 Time to Complete (Minutes): 2
Question Level: Fundamental Knowledge/Memory

Task Associations

Task Number	Task Title
3410110302/0 3	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

Question:
Select the correct answer:

Due to a failed vibration switch, the RECIRC PUMP MOTOR A VIBR HI annunciator (4-C-7) is in constant alarm and has been disabled. All other recirc pump parameters are normal. Unless a forced outage occurs, it is anticipated that the annunciator will remain disabled for the duration of the operating cycle (estimated to be 15 months).

Which ONE of the following is correct regarding the disabled annunciator?

	Answer/Distractor	Justification
a.	No Temporary Modification (TM) or Minor Modification (MM) is required for this plant configuration change since this is considered a "disabled annunciator".	
b.	A Temporary Modification (TM) will be written for this configuration change which will require PORC review after six months.	
c.	A Temporary Modification (TM) will be written for this configuration change which will require quarterly PORC review.	
d.	This plant configuration change would be considered a Minor Modification (MM) which, once approved, would require no subsequent reviews.	

Static Simulator Exams: None
Last Revised: 11/02/1998 10:44:19 PM by Autrey, Tim D.

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Question No. 70 Exam Bank Question No.: 5683 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-02-201 Objective: CRO 1a, b, 7
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

You are performing control rod coupling checks IAW OP 4111, Section C (VYOPF 4111.03), on a control rod at position 48 prior to a reactor startup.

To perform this check you must:

	Answer/Distractor	Justification
a.	go to ROD OUT and hold for 3-5 seconds.	Incorrect -
b.	go to NOTCH OVERRIDE AND ROD OUT and hold for 3-5 seconds.	Correct Response - OP 4111 page 12
c.	go to ROD OUT and hold for 5-10 seconds.	Incorrect -
d.	go to NOTCH OVERRIDE AND ROD OUT and hold for 5-10 seconds.	Incorrect -

References: OP 4111, rev 39, page 12
New

Task Associations

Task Number	Task Title
2017130201	Perform Nuclear Instrumentation Response and Coupling Integrity Verification - First Withdrawal

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.2.01	Ability to perform pre-startup procedures for the facility, including operating those controls associated with plant equipment that could affect reactivity (CFR 45.1)	3.7	3.6

Static Simulator Exams: None
Last Revised: 08/12/2003 3:39:03 PM by Hallonquist, Nora E.

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Question No. 71 Exam Bank Question No.: 5684 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-271 Objective: CRO 5
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

A valid off gas Hi-Hi radiation alarm has been in for 35 minutes on RAN-OG-3127 and 3128 (Final Delay Line Inlet Monitors).

You must confirm the closure of:

	Answer/Distractor	Justification
a.	OG-516 A & B (Steam Jet Air Ejector Suctions)	Incorrect -
b.	FCV-11 and OG-3 (Inlet to Stack and Drain)	Correct Response - OP 2150, page 6; ON 3152
c.	FCV-36, 36A, 37 (SJAE Supplies)	Incorrect -
d.	OG-101 A & B (Recombiner Inlets)	Incorrect -

References: OP 2150, rev 27, page 6
LOI EB #71, modified

Task Associations

Task Number	Task Title
2007090501	Respond to High Off-Gas Radiation

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.3.11	Ability to control radiation releases (CFR 45.9, 45.10)	2.7	3.2

Static Simulator Exams: None
Last Revised: 08/12/2003 3:39:32 PM by Hallonquist, Nora E.

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Question No. 72 Exam Bank Question No.: 5685 Revision: 3 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-602 Objective: CRO 3
Question Level: Comprehension

****

Select the correct answer:

A reactor startup is in progress. The reactor is critical and reactor pressure is 300 psig. Main Condenser backpressure is 15" Hg Abs. A high worth control rod which was stuck at position 00 drops to position 46.

You should confirm closure of:

	Answer/Distractor	Justification
a.	MSIVs and recirc sample valves	Incorrect - This isolation was removed in 2002.
b.	MSIVs, main steam drains, and recirc sample valves	Incorrect - This isolation was removed in 2002.
c.	Hogger discharge valve, steam packing exhauster suction valves	Incorrect - SPE have no suction valves. Hogger discharge valve is manual valve - no auto closure
d.	Hogger suction valve, steam packing exhauster discharge valves	Correct Response - Tech Spec Amendment 212, Plant Design Change, removed the MSIV isolation in the fall of 2002. OT 3112

References: OT 3112 rev 14, page 5
New

Task Associations

Task Number	Task Title
2007100501	Respond to Fuel Element Failure

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: 08/12/2003 3:40:26 PM by Hallonquist, Nora E.

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Question No. 73 Exam Bank Question No.: 5686 Revision: 2 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-610 Objective: CRO 3
Question Level: Comprehension

****

Select the correct answer:

Which ONE of the following is the basis for bypassing the Low-Low RPV Water Level logic in EOP-2, Level Power Control (implementing Appendix P)?

	Answer/Distractor	Justification
a.	To preclude inadvertent positive reactivity addition.	Incorrect - Bypassing the LO-LO Level Water Level does not prevent a large positive reactivity insertion. This is accomplished by inhibiting ADS.
b.	To maintain the condenser as a heat sink should RPV level later be decreased.	Correct Response -
c.	To assist in maintaining condenser vacuum.	Incorrect - Condenser vacuum is maintained by ensuring Circ Water Pumps, Air Ejectors, and AOG are operating. LO-LO Level interlock has no effect on these.
d.	To ensure MSIVs can be reopened concurrent with high main steam line radiation.	Incorrect - EOP-2, ARC/OR-5 states that MSIVs should only be reopened if MSL Hi Rad signal is not present.

References: EOP Vol 4, rev 11, Ch 13.7
LOI-EB # 2226

Task Associations

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

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.4.18	Knowledge of specific bases for EOPs (CFR 41.10, 45.13)	2.7	3.6

Static Simulator Exams: None
Last Revised: 08/20/2003 8:51:18 AM by Hallonquist, Nora E.

Vermont Yankee LOI Exam Bank Question Number 2226 Revision 0 NRC 73

Instructor Guide: LOT-00-610 EOP-1, RPV CONTROL; EOP-2, ATWAS RPV CONTROL
Objectives: CRO 2 & 3
References: Appendix B, BWROG-EPGs
PP 7018, Attachment 9, Rev. 10, Page 7-8
SRO Only: No Style: Multiple Choice
Point Value: 1 Time to Complete (Minutes): 3
Question Level: Fundamental Knowledge/Memory

Task Associations

Task Number	Task Title
3101070502/0 3	Direct Bypassing of Group I Isolation Signals

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
291004	K1.05	CENTRIFUGAL: Discuss relationships amond head, flow, speed, and power	2.8	2.9

Question:
Select the correct answer:

Which ONE of the following is the basis for bypassing the Low-Low RPV Water Level logic in EOP-2, Level Power Control (implementing Appendix P)?

	Answer/Distractor	Justification
a.	To preclude inadvertant positive reactivity addition.	Incorrect - Bypassing the LO-LO Level Water Level does not prevent a large positive reactivity insertion. This is accomplished by inhibiting ADS.
b.	To maintain the condenser as a heat sink should RPV level later be decreased.	Correct Response
c.	To assist in maintaining condenser vacuum.	Incorrect - Condenser vacuum is maintained by ensuring Circ. Water Pumps, Air Ejectors, and AOG are operating. LO-LO Level interlock has no effect on these.
d.	To ensure MSIVs can be reopened concurrent with high main steam line radiation.	Incorrect - EOP-2, ARC/OR-5 states that MSIVs should only be reopened if MSL Hi Rad signal is not present.

Static Simulator Exams: None
Last Revised: 06/11/2002 1:15:37 PM by Paradis, James R.

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Question No. 74 Exam Bank Question No.: 5687 Revision: 1 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-607 Objective: CRO 2, 3
Question Level: Comprehension

****

Select the correct answer:

A small LOCA has occurred. Conditions are listed below. No operator actions have been taken.

Reactor pressure 800 psig and slowly lowering
Reactor level 100" and steady
Drywell temperature 240°F and slowly rising
Drywell pressure 11 psig and slowly rising
Torus pressure 11 psig and slowly rising
Torus air temperature 236°F and slowly rising
Torus level 11.60 feet and slowly rising
Torus water temperature 91°F and slowly rising

The crew's priority should be:

	Answer/Distractor	Justification
a.	torus cooling so the heat capacity of the torus will be preserved.	Incorrect -
b.	torus and drywell spray because the pressure suppression function of the primary containment has failed.	Correct Response - Torus air temperature ~ 140°F above torus water temperature indicates the pressure suppression function has failed and sprays are required to prevent containment failure.
c.	torus cooling and torus level control so the heat capacity of the torus will be preserved.	Incorrect -
d.	vent the drywell before exceeding the pressure suppression pressure.	Incorrect -

References: EOP-3, rev 11, Study guide Page 8-4
New

Task Associations

Task Number	Task Title
2000190501	Respond to High Torus Water Temperature
2000210501	Respond to High Drywell Temperature
2000230501	Respond to High Torus Water Level

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.4.23	Knowledge of the bases for prioritizing emergency procedure implementation during emergency operations (CFR 41.10, 45.13)	2.8	3.8

Static Simulator Exams: None
Last Revised: 07/29/2003 12:24:31 PM by Hallonquist, Nora E.

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Question No. 75 Exam Bank Question No.: 5688 Revision: 0 Point Value: 1
SRO Only: No Instructor Guide: LOT-00-622 Objective: CRO 4
Question Level: Fundamental Knowledge/Memory

****

Select the correct answer:

An EOP override is identified by a ____ box, and applies to all steps _____ within the procedure leg.

	Answer/Distractor	Justification
a.	red, below it	Correct Response - EOP Users Guide page 9
b.	yellow, below it	Incorrect -
c.	red, above and below it	Incorrect -
d.	yellow, above and below it	Incorrect -

References: VY EOP Users Guide, rev 1
New

Task Associations

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

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.4.19	Knowledge of EOP layout, symbols, and icons (CFR 41.10, 45.13)	2.7	3.7

Static Simulator Exams: None
Last Revised: 07/25/2003 12:58:32 PM by Hallonquist, Nora E.

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Question No. 76 Exam Bank Question No.: 5689 Revision: 2 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-05-215 Objective: SRO 1
Question Level: Analysis

****

Select the correct answer:

The A & B Recirc pumps are operating when the "A" pump trips. Parameters are as follows:

"B" Loop Drive flow	19,700 gpm
"A" Loop Drive flow	0 gpm
B Loop Jet Pump flow	18 mlbm/hr
A Loop Jet Pump flow	2 mlbm/hr
Delta W = 0	

The APRM scram setpoint is less than or equal to _____ under these conditions

	Answer/Distractor	Justification
a.	54.0%	Incorrect - This answer is plausible if the operator assumes a complete loss of the flow signal.
b.	67.2%	Incorrect - This answer is plausible if the operator believes the JP flow provides the flow bias signal: .66(W-deltaW) + 54 = .66(18-2) + 54
c.	74.0%	Correct Response - .66(W-deltaW) + 54 = .66(19700/65000 - 0) = 74% APRM flow bias scram uses recirc drive flow signal
d.	81.5%	Incorrect - .66(W-deltaW) + 54 = .66(20) + 54

References: LOI EB #1377 modified
T.S. Table 3.1.1

Task Associations

Task Number	Task Title
3107190302/03	Direct Response to Recirc Pump Trip

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295001	AA2.02	Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF FORCED CORE FLOW CIRCULATION:(CFR 41.10, 43.5, 45.13): Neutron monitoring, 55.43(b)(2)	3.1	3.2

Static Simulator Exams: None
Last Revised: 08/19/2003 4:00:57 PM by Hallonquist, Nora E.

Vermont Yankee LOI Exam Bank Question Number 1377 Revision 2 NRC 76

Instructor Guide: LOT-05-215 AVERAGE POWER RANGE MONITOR (APRM)
Objectives: 4
References: T.S. Table 3.1.1
SRO Only: No Style: Multiple Choice
Point Value: 1 Time to Complete (Minutes): 2
Question Level: Fundamental Knowledge/Memory

Task Associations

Task Number	Task Title
2157150401	Respond to APRM System Alarms

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
215005	K5.05	Knowledge of the operational implications of the following concepts as they apply to AVERAGE POWER RANGE MONITOR/LOCAL POWER RANGE MONITOR SYSTEM: (CFR 41.5 / 45.3): Core flow effects on APRM trip setpoints	3.6	3.6

Question:
Select the correct answer:

The reactor is operating under the following conditions:

1) Two (2) Recirculation Loops in operation with Drive Flow of 9850 gpm/per loop
2) Core Flow of 24 Mlbs/hr
3) Reactor Thermal Power = 800 MWt Average
4) APRM Reading = 51%
5) Thermal limits are: MFLPD = .45; MAPRAT = .43; MFLCPR = .54

SELECT the highest APRM flow biased Scram Setpoint allowed by Technical Specifications.

	Answer/Distractor	Justification
a.	Less than or equal to 54.2%.	
b.	Less than or equal to 64.0%.	
c.	Less than or equal to 74.0%.	
d.	Less than or equal to 84.3%.	

Static Simulator Exams: None
Last Revised: 11/19/1999 3:56:52 PM by Hallonquist, Nora E.

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Question No. 77 Exam Bank Question No.: 5690 Revision: 0 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-601 Objective: SRO 8
Question Level: Analysis

****

Select the correct answer:

The HPCI system is operating in full flow test for surveillance. CRP 9-8-N-2 "Batt chg fail/DC-1 GND" has been cycling in and out since HPCI was started.

The probable cause for the ground is the:

	Answer/Distractor	Justification
a.	HPCI Aux Oil Pump.	Incorrect - The HPCI aux oil pump starts on system startup and shuts down based on pressure supplied by the attached lube oil pump - will not cycle.
b.	HPCI Exhaust Blower.	Incorrect - The HPCI exhaust blower runs continuously when HPCI runs - will not cycle.
c.	HPCI Condensate Pump.	Correct Response - The condensate pump cycles on hotwell level - on-off-on, etc. It is the probable cause of the ground which if left unattended could degrade to a fault and a loss of DC power.
d.	HPCI MOV 14 valve.	Incorrect - MOV 14 stroked open and remains deenergized for the HPCI run - will not cycle.

References: LOT-00-203 CRO 8c, SRO
OP 2145, rev 24
ARS 9-8-N-2, rev 5
New

Task Associations

Task Number	Task Title
2637090401	Respond to a DC Ground

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295004	AA1.01	Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF D.C. POWER: (CFR 41.7, 45.6): D.C. electrical distribution systems, 55.43(b)(5)	3.3	3.4

Static Simulator Exams: None
Last Revised: 07/25/2003 1:01:26 PM by Hallonquist, Nora E.

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Question No. 78 Exam Bank Question No.: 5691 Revision: 1 Point Value: 1
SRO Only: Yes Instructor Guide: *LOT-00-601* Objective: SRO 8
Question Level: Analysis

****

Select the correct answer:

The plant is operating at full power when CRP 9-4-C-5 "Pump Motor A CLG WTR Flow Lo" alarms (Recirc Pump). As the CRS you should send:

	Answer/Distractor	Justification
a.	an AO to the northeast corner room to check local indications.	Incorrect - The core spray spargers have local indications here, not the recirc pump cooling flows, which can only be seen in the drywell.
b.	as AO to the Bentley Nevada unit in the reactor building to check flow.	Incorrect - The Bentley Nevada provides many recirc data points, but none of them are pump motor cooling.
c.	the ACRO to CRP 9-21 to monitor recirc pump motor temperatures.	Correct Response - ARS 9-4-C-5
d.	the ACRO to monitor recirc pump motor cooling flows on ERFIS.	Incorrect - ERFIS does not receive a signal from the recirc pump motor cooling water flow detector.

References: ARS 9-4-C-5, rev 5
New

Provide the student with P&ID G191159, sheet 5.

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
295018	AA2.04	Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF COMPONENT COOLING WATER:(CFR 41.10, 43.5, 45.13): System flow	2.9	2.9

Static Simulator Exams: None
Last Revised: 07/29/2003 12:26:05 PM by Hallonquist, Nora E.

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Question No. 79 Exam Bank Question No.: 5692 Revision: 1 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-601 Objective: SCRO (CRS) 5, 7
Question Level: Comprehension

****

Select the correct answer:

Shutdown cooling has been lost due to an electrical fault on RHR 17 MOV which destroyed the valve stem.

Primary containment is open
Reactor head is on
Reactor coolant temperature is 195°F and increasing
RHR A pump is running - Torus suction and discharging to the reactor
SRV A is open
RHR B pump is running - Torus cooling

In this lineup reactor pressure must be maintained < 250 psig to protect the _____ and torus temperature must be maintained > 80°F to protect the _____ .

	Answer/Distractor	Justification
a.	Main Steam Lines, RPV bottom head	Incorrect -
b.	Main Steam Lines, RPV beltline	Incorrect -
c.	SRV tailpipes, feedwater nozzles	Incorrect -
d.	SRV tailpipes, RPV head flange	Correct Response - ON 3156, page 8; Tech Specs 3.6.A.3, bases page 138, last paragraph, Figure 3.6.1

References: ON 3156, rev 6, page 8
Tech Spec 3.6
New

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	AA1.02	Ability to operate and/or monitor the following as they apply to LOSS OF SHUTDOWN COOLING: (CFR 41.7, 45.6): RHR/shutdown cooling, 55.43(b)(2)	3.5	3.5

Static Simulator Exams: None
Last Revised: 07/31/2003 10:25:45 AM by Hallonquist, Nora E.

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Question No. 80 Exam Bank Question No.: 5693 Revision: 3 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-614 Objective: SRO 1
Question Level: Analysis

****

Select the correct answer:

The "A" Main Steam Line is leaking in the drywell. The following plant conditions exist.

All control rods are in
Drywell temperature is 285°F and rising
Drywell pressure is 3.0 psig and rising
Drywell RRUs have been restarted
Reactor water level is 145"
Reactor pressure is 920 psig
Torus level is 11 ft

As the CRS you should order:

	Answer/Distractor	Justification
a.	Recirc pumps secured, drywell RRUs secured, drywell spray initiated.	Incorrect - Drywell sprays are not allowed, UNSAFE on the DWSIL curve
b.	Drywell sprays initiated.	Incorrect - Drywell sprays are not allowed, UNSAFE on the DWSIL curve
c.	RPV-ED.	Correct Response - RPV-ED is required because drywell temperature cannot be restored to < 280°F.
d.	RPV-ED and enter RPV Flooding.	Incorrect - RPV Flooding is not required. Must determine still safe on RPV Level Instrument Saturation Curve at SRV reclosing pressure of 50 psig.

References: EOP-3, rev 3
New

EOP-3 is required for student reference.

Task Associations

Task Number	Task Title
2000210501	Respond to High Drywell Temperature

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295024	EA2.02	Ability to determine and/or interpret the following as they apply to HIGH DRYWELL PRESSURE:(CFR 41.10, 43.5, 45.13).: Drywell temperature	3.9	4.0

Static Simulator Exams: None
Last Revised: 08/19/2003 3:55:49 PM by Hallonquist, Nora E.

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Question No. 81 Exam Bank Question No.: 5694 Revision: 0 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-602 Objective: SRO 6
Question Level: Comprehension

****

Select the correct answer:

A plant startup is in progress. Reactor power is 398 MWT and plant loads are on the Auxiliary Transformer. Reactor pressure is 930. The CRO reports EPR Stroke is failing to zero.

As the CRS you should direct:

	Answer/Distractor	Justification
a.	OT 3116, High Reactor Pressure, cutout EPR, lower MPR setpoint, and continue the startup.	Incorrect - Not allowed to exceed 25% CTP with a pressure regulator out of service
b.	OT 3115, Low Reactor Pressure, if unsuccessful in controlling pressure with EPR and MPR, scram the reactor.	Incorrect - Wrong procedure, misdiagnosed
c.	OT 3116, High Reactor Pressure, cutout EPR, lower MPR setpoint, and stop the startup.	Correct Response - Must diagnose that lowering EPR Stroke causes high reactor pressure. OT 3116 directs EPR cutout, and MPR setpoint lowered. When operating < 25% RTP thermal limits are suspect, proceeding > 25% is not allowed. 398 MWT = 25% CTP, Thermal Limits compliance is required to satisfy Tech Specs
d.	OT 3115, Low Reactor Pressure, go to raise on EPR to raise reactor pressure, if unsuccessful, cutout EPR, if unsuccessful with MPR, scram the reactor.	Incorrect - Wrong procedure, misdiagnosed

References: OT 3116, rev 8
OP 0105
New

Task Associations

Task Number	Task Title
2000180501	Respond to High Reactor Pressure
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
295025	EA2.02	Ability to determine and/or interpret the following as they apply to HIGH REACTOR PRESSURE:(CFR 41.10, 43.5, 45.13).: Reactor power	4.2	4.2

Static Simulator Exams: None
Last Revised: 08/19/2003 3:54:03 PM by Hallonquist, Nora E.

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Question No. 82 Exam Bank Question No.: 5695 Revision: 1 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-614 Objective: SRO 1
Question Level: Comprehension

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Select the correct answer:

An earthquake has caused an LNP and a crack in the torus. Plant conditions are as follows:

RPV level band 127"-177"
RPV pressure is 100 psig and lowering
A & B RHR Loops in torus cooling
Torus level is 8 ft lowering
CS "A" is injecting at 1000 gpm

As the CRS you should direct torus temperature monitored on:

	Answer/Distractor	Justification
a.	ERFIS - average torus water temperature	Incorrect -
b.	CRP 9-3 TI-19-33C torus water temperature	Incorrect -
c.	ERFIS - Points MO62/MO64 RHR temperature	Correct Response - ERFIS average torus temperature is preferred but at this torus level the detectors are monitoring torus air space temperature and not water temperature. The EOP Study Guide directs monitoring of points MO62/MO64.
d.	CRP 9-47 TR-16-19-40 Torus water temperature	Incorrect -

References: LOT-00-614, SRO 1
EOP Study Guide, rev 11, page 8-6
New

Task Associations

Task Number	Task Title
2000190501	Respond to High Torus Water Temperature

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295026	2.4.03	Ability to identify post-accident instrumentation (CFR 41.6, 45.4), 55.43(b)(5)	3.5	3.8

Static Simulator Exams: None
Last Revised: 08/19/2003 3:50:39 PM by Hallonquist, Nora E.

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Question No. 83 Exam Bank Question No.: 5696 Revision: 1 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-603 Objective: SRO 4
Question Level: Comprehension

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Select the correct answer:

A large fire is burning on the Turbine Building roof. Light smoke is entering the control room.

As CRS you should direct:

	Answer/Distractor	Justification
a.	OP 3126, Shutdown Using Alternate Shutdown Methods.	Incorrect - OP 3126 is used for fires in the cable vault or switchgear rooms that cause a loss of control room habitability/functionality.
b.	OP 2192, Shutdown Turbine Building HVAC.	Incorrect - Shutting down Turbine Building HVAC will not stop the smoke from entering the control room.
c.	OP 2192, Control Room HVAC Switch on CRP 9-25 to Emergency.	Correct Response
d.	OP 3020, App M, Fire in Turbine Building Area FZ-6/FZ-7/FZ-8 and the "A" EDG Room.	Incorrect - These zones are all inside the turbine building, not outside on the roof.

References: OP 2192, rev 30, Section J.2.a, Discussion Section page 4
New

Task Associations

Task Number	Task Title
3447020302/03	Call in Off Site Fire Department

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
600000	AA1.05	Ability to operate and/or monitor the following as they apply to PLANT FIRE ON SITE:: Plant and control room ventilation systems, 55.43(b)(2)	3.0	3.1

Static Simulator Exams: None
Last Revised: 07/25/2003 1:06:24 PM by Hallonquist, Nora E.

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Question No. 84 Exam Bank Question No.: 5697 Revision: 2 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-308 Objective: SCRO 1
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The reactor coolant system pressure safety limit is based on the _____ and will not be exceeded during the design basis overpressure transient with _____ SRV(s) out of service.

	Answer/Distractor	Justification
a.	Pressure Vessel, 1	Correct Response - Tech Specs 1.2, 3.6
b.	Recirc Loop piping, 1	Incorrect -
c.	Pressure Vessel, 2	Incorrect -
d.	Recirc Loop piping, 2	Incorrect -

References: LOT-00-239, SCRO 1

T.S. 12, rev 160, page 19
T.S. 3.6, rev 196, page 142
New

Task Associations

Task Number	Task Title
2000180501	Respond to High Reactor Pressure

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295007	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: 08/12/2003 3:47:17 PM by Hallonquist, Nora E.

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Question No. 85 Exam Bank Question No.: 5698 Revision: 3 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-610 Objective: SRO 3, 4
Question Level: Comprehension

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Select the correct answer:

A high reactor water level transient has occurred. Reactor water level is 250". MSIVs are shut. All high pressure injection sources are secured. Operators are attempting to control pressure with SRVs. From CRP 9-3, it appears that the SRVs are not responding to the manual actuations. No tailpipe pressure switch actuations. Pressure control is sluggish and remains > 1055 psig.

As the CRS you should direct:

	Answer/Distractor	Justification
a.	SRV operations to stop, RPV head vents used for pressure control.	Incorrect - RPV head vents are not allowed to be used for RPV pressure control under these conditions.
b.	SRV operations to stop, RPV head vents used for pressure control, and RWCU started in the letdown mode.	Incorrect - RPV head vents are not allowed for RPV pressure control under these conditions.
c.	SRV tailpipe temperatures and primary containment parameters monitored.	Incorrect - Allowing continued SRV operations with flooded steam lines increases the potential for tailpipe damage. Actions must be taken to drain the main steam lines.
d.	SRV tailpipe temperatures and primary containment parameters monitored, and RWCU started in the letdown mode.	Correct Response - OP 3114 requires primary containment parameters to be monitored when SRVs are opened with flooded steam lines. SRV tailpipe pressure switches may not indicate open SRVs when the steam lines are flooded. OT 3114 directs monitoring tailpipe temperatures. EOP-1 pressure control leg directs use of RWCU in letdown if not fuel failure exists. This action will also lower RPV water level and reduce the potential for damage to SRV tailpipes.

References: OT 3114, rev 12
EOP-1 rev 2
1/26/2000 Plant Hatch event
New

Task Associations: None

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295008	2.2.02	Ability to manipulate the console controls as required to operate the facility between shutdown and designated power levels (CFR 45.2), 55.43(b)(5)	4.0	3.5

Static Simulator Exams: None
Last Revised: 08/12/2003 3:45:01 PM by Hallonquist, Nora E.

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Question No. 86 Exam Bank Question No.: 5699 Revision: 0 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-615 Objective: SRO 1
Question Level: Comprehension

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Select the correct answer:

A safety relief valve (SRV) tail pipe vacuum breaker has failed in the open position during SRV operation.

Which one of the following will result?

	Answer/Distractor	Justification
a.	Direct pressurization of the drywell each time the SRV is opened	Correct Response - Must integrate vacuum breakers are held shut by their own weight, opened by a vacuum in the tailpipe and if failed open provide a direct path for steam discharging from an SRV to enter the drywell
b.	Direct pressurization of the torus each time the SRV is opened	Incorrect - The SRV tailpipe vacuum breakers are located in the drywell.
c.	Steam bypassing the "T" quenchers with a direct discharge path into the suppression pool water	Incorrect - Steam must pass through the "T" quencher to enter the torus water.
d.	Suppression pool water being drawn up into the SRV tailpipe line after the SRV is closed	Incorrect - The tailpipe vacuum breakers are designed to prevent this from happening.

References: P&ID G191167, 191156
Clinton NRC 2000

Task Associations

Task Number	Task Title
2000070501	Respond to Containment Hi Pressure

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295010	AA2.02	Ability to determine and/or interpret the following as they apply to HIGH DRYWELL PRESSURE:(CFR 41.10, 43.5, 45.13): Drywell pressure	3.8	3.9

Static Simulator Exams: None
Last Revised: 07/18/2003 11:42:20 AM by Hallonquist, Nora E.

QuestionId: 19066 | ExamType: ILO | ExamDate: 06/05/2000 | AbbrevLocName: Clinton 1

NRC 6

QuestionStem: A Safety Relief Valve (SRV) tailpipe vacuum breaker has failed in the open position during SRV operation. Whic

QuestionCommen:

CognitiveLevel | ExamLevel | RefMaterial | ParentQuestionI

KaNumber: ..295010.A2.02 | Segment1 | Segment2 | Segment3: 295010 | Segment4: A2 | Segr

Answer: Direct pressurization of the drywell each time the SRV is opened.

Distract1: Direct pressurization of the containment each time the SRV is opened.

Distract1Commen:

Distract2: Steam bypassing the T-quenchers with a direct discharge path into the suppression pool water.

Distract2Commen:

Distract3: Suppression pool water being drawn up into the SRV tailpipe line after the SRV is closed.

Distract3Commen:

LocAcronym GE NSSSType BWR

:h of the following will result?

d

nent5 02 KaRevision

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Question No. 87 Exam Bank Question No.: 5700 Revision: 1 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-261 Objective: SRO 1
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Which of the following is the basis for the automatic initiation of SBGT on reactor building ventilation exhaust high radiation levels?

	Answer/Distractor	Justification
a.	Provides for the maintenance of a positive pressure in the secondary containment, therefore preventing any of the fission products released into the containment from being released into the environment	Incorrect -
b.	Provides for the cleanup of the secondary containment atmosphere, allowing personnel entry into the secondary containment during a DBA LOCA	Incorrect -
c.	Provides for the recirculation of the secondary containment atmosphere without exhausting air outside of containment	Incorrect -
d.	Provides for the filtration of the secondary containment atmosphere of radionuclides prior to their release into the environment, maintaining off site releases within limits	Correct Response

References: OP 2117, rev 17, page 1
Tech Spec 3.7 Bases
Grand Gulf 1 1998 NRC

Task Associations

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

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
295034	EK3.02	Knowledge of the reasons for the following responses as they apply to SECONDARY CONTAINMENT VENTILATION HIGH RADIATION: (CFR 41.5, 45.6): Starting SBGT/FRVS: Plant-specific, 55.43(b)(2)	4.1	4.1

Static Simulator Exams: None
Last Revised: 08/19/2003 3:49:54 PM by Hallonquist, Nora E.

NRC 3

QuestionId	749	ExamType	ILO	ExamDate	03/27/1998	AbbrevLocName	Grand Gulf 1

QuestionStem: Which one of the following is the basis for the automatic initiation of Standby Gas Treatment on High Ventilation

QuestionCommen:

CognitiveLevel		ExamLevel		RefMaterial		ParentQuestionI			
KaNumber	..295034.EK3.02	Segment1		Segment2		Segment3	295034	Segment4	EK3	Segr

Answer: This provides for the filtration of the Secondary Containment atmosphere of radionuclides prior to their within limits.

Distract1: This provides for the recirculation of the Secondary Containment atmosphere without exhausting air outside of Containment.

Distract1Commen:

Distract2: This provides for the cleanup of the Secondary Containment atmosphere allowing personnel entry into the Secondary Containment during a DBA LOCA.

Distract2Commen:

Distract3: This provides for the maintenance of a positive pressure in the Secondary Containment, therefore preventing any of the fission products released into the Containment from being released into the environment.

Distract3Commen:

LocAcronym GE NSSSType BWR

Radiation Levels in Secondary Containment?

d

nent5 02 KaRevision

release into the environment, maintaining offsite releases to

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Question No. 88 Exam Bank Question No.: 5701 Revision: 1 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-205 Objective: SCRO 1
Question Level: Analysis

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Select the correct answer:

The reactor has been shutdown for 20 days. Shutdown cooling is in service. Parameters are as follows:

Reactor level 160" for I&C Surveillances
Reactor coolant temperature is 95°F
SDC flow is 4500 gpm

Under these conditions, thermal stratification:

	Answer/Distractor	Justification
a.	will not occur. Flow may be lowered to 1100 gpm before stratification is a concern.	Incorrect - 1100 gpm is the RHRSW Pump min flow limit, not a thermal stratification limit.
b.	will occur. OP 2124 directs flow raised to a minimum of 3250 gpm.	Incorrect - 4100 gpm is for pump min flow concerns, not thermal stratification. OP 2124 has no 3250 gpm limit.
c.	will not occur. Flow may be lowered to 4100 gpm.	Incorrect - Thermal stratification will occur under these conditions and that is why the procedure does not allow operation here.
d.	will occur. OP 2124 directs flow raised to 6700 gpm.	Correct Response - OP 2124

References: OP 2124, rev 50, Precaution #37
GESIL 357

Task Associations

Task Number	Task Title
2057970101	Swap Shutdown Cooling Loops

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
205000	A2.12	Ability to (a) predict the impacts of the following on the SHUTDOWN COOLING SYSTEM (RHR SHUTDOWN COOLING MODE); and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: (CFR 41.5 / 45.6): Inadequate system flow, 55.43(b)(5)	2.9	3.0

Static Simulator Exams: None
Last Revised: 08/19/2003 3:47:54 PM by Hallonquist, Nora E.

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Question No. 89 Exam Bank Question No.: 5702 Revision: 1 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-614 Objective: SRO 1, 2
Question Level: Analysis

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Select the correct answer:

An earthquake has caused a breach of the reactor coolant system and the torus.

RPV-ED is complete
"A" Core Spray is injecting at 3500 gpm
Torus level is 6 ft
RPV level is -30" and steady
Torus temperature is 185°F
"A" and "B" RHR are running in torus cooling
Torus pressure is 4 psig

You _____ meet the NPSH requirements for the Core Spray Pump and _____ can be used to makeup to the torus.

	Answer/Distractor	Justification
a.	do, RHRSW	Incorrect - Not safe on NPSH curve
b.	do not, RHRSW	Correct Response - NPSH is not satisfied under these conditions.
c.	do, HPCI	Incorrect - HPCI can not be run with torus level < 7 ft
d.	do not, HPCI	Incorrect - HPCI can not be run with torus level < 7 ft

References: LOT-00-610, SRO 3
EOP-1, rev 2
EOP-3, rev 3
EOP Study Guide 13.18, rev 11
EOP App T & X, rev 16
New

Student required reference: EOP-1, EOP-3

Task Associations

Task Number	Task Title
2000240501	Respond to Low Torus Water Level
2000310501	Respond to Low Reactor Water Level

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
209001	A2.09	Ability to (a) predict the impacts of the following on the LOW PRESSURE CORE SPRAY SYSTEM; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: (CFR 41.5 / 45.6): Low suppression pool level, 55.43(b)(5)	3.1	3.3

Static Simulator Exams: None
Last Revised: 07/25/2003 1:14:36 PM by Hallonquist, Nora E.

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Question No. 90 Exam Bank Question No.: 5703 Revision: 0 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-223 Objective: SRO 3
Question Level: Comprehension

****

Select the correct answer:

A plant shutdown is in progress to repair a recirc pump seal leak. Reactor power is 6%. The drywell is being purged through the 18" line to allow early primary containment entry.

This mode of operation is allowed by Technical Specifications for _____ per calendar year. This restriction assures the integrity of the _____ .

	Answer/Distractor	Justification
a.	90 hours, SBGT	Correct Response - Must know 90 clock of Tech Spec, must also understand the concept that on a LOCA SBGT 2A/B open before the primary containment isolation valves can stroke shut. This event has the potential to rupture both SBGT trains and make secondary containment unavailable. By limiting the time the 18" valves are open when containment is required, the probability of this happening is reduced to near zero.
b.	30 days, SBGT	Incorrect -
c.	90 hours, Primary Containment	Incorrect -
d.	30 days, Primary Containment	Incorrect -

References: Tech Spec Bases, rev 197, page 165/166, Section 3.7
OP 2115, rev 43, page 4
New

Task Associations

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

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
261000	2.1.27	Knowledge of system purpose and/or function (CFR 41.7), 55.43(b)(2)	2.8	2.9

Static Simulator Exams: None
Last Revised: 07/25/2003 1:14:46 PM by Hallonquist, Nora E.

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Question No. 91 Exam Bank Question No.: 5704 Revision: 3 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-264 Objective: SCRO 1a
Question Level: Analysis

****

Select the correct answer:

The plant is operating at full power. The "A" EDG air compressor has tripped on thermal overload. Air receiver pressure is 190 psig and slowly lowering. Both receivers are in service. CRP 9-8-E-7 EDG low starting air pressure is in.

For these conditions you should:

	Answer/Distractor	Justification
a.	declare the "A" EDG inoperable, immediately enter a 7 day LCO, and verify the other EDG is operable within 24 hours.	Correct Response - OP 2126; Tech Spec 3.10.B.1
b.	declare the "A" EDG inoperable when receiver pressure is < 150 psig, enter a 7 day LCO, and verify the other EDG is operable within 24 hours.	Incorrect -
c.	declare the "A" EDG inoperable immediately and be in cold shutdown in 24 hours.	Incorrect -
d.	declare the "A" EDG inoperable when receiver pressure is < 150 psig and be in cold shutdown in 24 hours.	Incorrect -

References: OP 2126, rev 33, Precaution 25
Tech Spec 3.10
New

Tech Spec 3.10 is a required student reference

Task Associations

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

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
264000	K6.01	Knowledge of the effect that a loss or malfunction of the following will have on the EMERGENCY GENERATORS (DIESEL/JET): (CFR 41.7 / 45.7): Starting air, 55.43(b)(2)	3.8	3.9

Static Simulator Exams: None
Last Revised: 08/12/2003 3:45:54 PM by Hallonquist, Nora E.

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Question No. 92 Exam Bank Question No.: 5705 Revision: 2 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-205 Objective: SCRO 1
Question Level: Comprehension

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Select the correct answer:

When the "A" RHR Loop is placed in torus cooling, a _____ LCO in entered. When the second loop of torus cooling is placed in service, a _____ LCO is entered. These actions reduce the potential challenges to the RPV water level safety limit of _____ inches above top of enriched fuel.

	Answer/Distractor	Justification
a.	7 day, 24 hour, 12"	Correct Response - The LCOs are required by procedure to ensure LPCI availability. The concern is a loss of power to the torus cooling valves.
b.	7 day, 12 hour, 0"	Incorrect -
c.	30 day, 24 hour, 12"	Incorrect -
d.	30 day, 12 hour, 0"	Incorrect -

References: Tech Spec 3.7.A.1, rev 192
OP 2124, rev 50, Precaution 41
New

Tech Spec 3.7 is a required student reference

Task Associations

Task Number	Task Title
3410320302/03	Evaluate Plant System Performance and Coordinate Appropriate Actions per Technical Specifications/TRM/ODCM in the Event A Limiting Condition for Operation is Entered or not Satisfied
3440470302/03	Clarify Technical Specifications/TRM/ODCM and Application of Action Statement Requirements

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
230000	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: 07/29/2003 12:30:26 PM by Hallonquist, Nora E.

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Question No. 93 Exam Bank Question No.: 5706 Revision: 2 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-233 Objective: SRO 1
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

Refueling is in progress. Shutdown cooling is out of service for MOV testing of RHR 17 & 18. Fuel pool temperature is 118°F and rising. RBCCW cooling has been maximized.

Prior to _____°F normal fuel pool cooling should be secured and standby fuel pool cooling started. Refueling operations tending to raise fuel pool temperature must be stopped when _____ °F is reached.

	Answer/Distractor	Justification
a.	140, 150	Correct Response - Tech Spec 3.12 page 236 150°F; OP 2184 Precaution 9 140°F
b.	110, 150	Incorrect -
c.	140, 170	Incorrect -
d.	110, 170	Incorrect -

References: OP 2184, rev 22, Precaution 9
ech Spec 3.12
New

Tech Spec 3.12 is a required student reference

Task Associations

Task Number	Task Title
2337140401	Respond to Fuel Pool Cooling System Alarms
3410320302/03	Evaluate Plant System Performance and Coordinate Appropriate Actions per Technical Specifications/TRM/ODCM in the Event A Limiting Condition for Operation is Entered or not Satisfied

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
233000	A2.07	Ability to (a) predict the impacts of the following on the FUEL POOL COOLING AND CLEAN-UP; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: (CFR 41.5 / 45.6): High fuel pool temperature, 55.43(b)(2)	3.0	3.2

Static Simulator Exams: None
Last Revised: 07/31/2003 10:48:11 AM by Hallonquist, Nora E.

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Question No. 94 Exam Bank Question No.: 5707 Revision: 0 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-308 Objective: SCRO (CRS) 1
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

The MSIVs are shut. The reactor is critical in accordance with OP 0105, Appendix A, "Reactor Heatup with the MSIVs Closed."

Which one of the following defines the Tech Spec mode of operation?

	Answer/Distractor	Justification
a.	Startup	Incorrect -
b.	Hot Standby	Correct Response - Tech Spec definition 1.0.C
c.	Startup/Hot Standby	Incorrect -
d.	Run	Incorrect -

References: Tech Spec definitions
New

Task Associations

Task Number	Task Title
3410320302/03	Evaluate Plant System Performance and Coordinate Appropriate Actions per Technical Specifications/TRM/ODCM 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	2.1.22	Ability to determine Mode of Operation (CFR 43.5, 45.13)	2.8	3.3

Static Simulator Exams: None
Last Revised: 07/25/2003 1:24:08 PM by Hallonquist, Nora E.

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Question No. 95 Exam Bank Question No.: 5708 Revision: 1 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-138 Objective: 22, 24
Question Level: Analysis

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Select the correct answer:

Core flow is 60%. The recirculation motor generator scope tube mechanical stops are set for 109.5% speed. MCPR Option "A" has been selected based on full core scram times. Core exposure is 11,000 MWd/St. The MCPR operating limit is:

	Answer/Distractor	Justification
a.	1.49	Incorrect - Incorrect exposure used
b.	1.61	Incorrect - Correct for full flow
c.	1.639	Incorrect - Incorrect exposure used
d.	1.771	Correct Response - From COLR Table 2.2-1: Option A > 10,375 MWd/ST, MCPR = 1.61; From Figure 2.2-1: 60% flow intersects 109.5 at 1.1 (1.1)(1.61) = 1.771

References: COLR, rev 0, Cycle 23
Tech Spec
New

COLR is a required student reference

Task Associations

Task Number	Task Title
3410320302/03	Evaluate Plant System Performance and Coordinate Appropriate Actions per Technical Specifications/TRM/ODCM 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	2.1.25	Ability to obtain and interpret station reference materials such as graphs, monographs, and tables which contain performance data (CFR 41.10, 43.5, 45.12)	2.8	3.1

Static Simulator Exams: None
Last Revised: 07/29/2003 12:31:47 PM by Hallonquist, Nora E.

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Question No. 96 Exam Bank Question No.: 5709 Revision: 0 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-400 Objective: SCRO 3
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

RPS "A" System has been tripped for replacement of backup scram relay contacts. The work party has informed the Shift Manager that work is complete and the equipment can be returned to service. The RPS A trip can be reset under _____ to allow the post maintenance testing required to demonstrate its operability provided that _____ is completed first.

	Answer/Distractor	Justification
a.	administrative controls, all other testing	Correct Response - AP 0125 Section 5.2
b.	Local Permissive Test Tags, all other testing	Incorrect -
c.	administrative controls, resistance testing	Incorrect -
d.	Local Permissive Test Tags, resistance testing	Incorrect -

References: AP 0125, rev 12, Admin Limit 5.2
New

Task Associations

Task Number	Task Title
3420180302/03	Assist in Evaluating the Progress of Maintenance on Technical Specifications/TRM/ODCM or Safety Related Equipment

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.2.21	Knowledge of pre-and post maintenance operability requirements (CFR 43.2)	2.3	3.5

Static Simulator Exams: None
Last Revised: 07/25/2003 1:26:06 PM by Hallonquist, Nora E.

Draft SRO NRC Exam 2003

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Question No. 97 Exam Bank Question No.: 5710 Revision: 1 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-223 Objective: SRO 3
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

OP 2115 Figure 2 provides a graph of purge flow rate verses purge time for the drywell and torus. This minimum purge time for a given flow rate:

	Answer/Distractor	Justification
a.	allows temperatures to stabilize.	Incorrect -
b.	minimizes the amount of nitrogen used.	Incorrect -
c.	helps ensure oxygen is below Tech Spec requirements.	Correct Response - LER 271-97011; OP 2115
d.	helps ensure the purge vaporizers are not overloaded.	Incorrect -

References: OP 2115, rev 43
New

Task Associations

Task Number	Task Title
2230020104	Purge Containment with Nitrogen (Inerting)
3450150102/03	Direct Purge/Vent of the Containment Building

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.3.09	Knowledge of the process for performing a containment purge (CFR 43.4, 45.10)	2.5	3.4

Static Simulator Exams: None
Last Revised: 07/25/2003 1:26:58 PM by Hallonquist, Nora E.

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Question No. 98 Exam Bank Question No.: 5711 Revision: 2 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-404 Objective: SRO 1
Question Level: Analysis

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Select the correct answer:

A point source in the reactor building is reading 500 mr/hr at a distance of two (2) feet. Two options exist to complete rework on a valve located near this radiation source.

Option 1: Operator "X" can perform the task in thirty (30) minutes working at a distance of four (4) feet from the point source

Option 2: Operators "X" and "Y", who are trained in the use of a special extension tool, can perform the task in seventy five (75) minutes at a distance of eight (8) feet from the point source

Which one of the following options is preferable and consistent with the ALARA program?

	Answer/Distractor	Justification
a.	Option 1, since "X" would receive 31.25 mRem	Incorrect -
b.	Option 1, since "X" would receive 62.5 mRem	Correct Response - Inverse square rule x time x 1
c.	Option 2, since the exposure per person is 39.06 mRem	Incorrect -
d.	Option 2, since the exposure per person is 78.12 mRem	Incorrect -

References: LOT-00-059, rev 6, page 5 of 12
Palisades 2001 NRC

Task Associations

Task Number	Task Title
3430290302/03	Assess Exposure Limits of Personnel for Assigned Duties

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: 08/19/2003 3:44:38 PM by Hallonquist, Nora E.

NRC 9

QuestionId: 21019 | ExamType: ILO | ExamDate: 12/21/2001 | AbbrevLocName: Palisades 1

QuestionStem:

A point source in the auxiliary building is reading 500 mrem/hr at distance of two (2) feet. Two options exist to cc

Option 1: Operator X can perform the assignment in thirty (30) minutes working at a distance of four (4

Option 2: Operators Y and Z, who have been trained in the use of a special extension tool can perform th (8) feet from the point source.

Which of the following options is preferable and consistent with the ALARA program?

QuestionCommen:

CognitiveLevel: 2 | ExamLevel: | RefMaterial: | ParentQuestionI

KaNumber: ..2.3.10 | Segment1: | Segment2: | Segment3: 2 | Segment4: 3 | Segr

Answer:

Option 1 since X. s exposure is 62.50 mrem.

Distract1:

Option 1 since X. s exposure is 31.25 mrem.

Distract1Commen:

Distract2:

Option 2 since the exposure per person is 39.06 mrem.

Distract2Commen:

Distract3:

Option 2 since the exposure per person is 78.12 mrem.

Distract3Commen:

LocAcronym CE NSSSType PWR

)mplete rework on a valve near this radiation source.

·) feet from the point source.

ıe same task in seventy-five (75) minutes at a distance of eight

d

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Draft SRO NRC Exam 2003

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Question No. 99 Exam Bank Question No.: 5712 Revision: 2 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-900 Objective: SRO 1, 4
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

AT 12:00 the plant experiences a full power ATWS with no control rod motion after initiation of ARI/RPT.

As the Plant Emergency Director (PED) you should classify this event no later than _____ and you should notify outside authorities no later than _____ minutes after the classification is made.

	Answer/Distractor	Justification
a.	12:15, 15	Correct Response
b.	12:15, 30	Incorrect -
c.	12:30, 15	Incorrect -
d.	12:30, 30	Incorrect -

References: DP 0093, rev 2, Appendix A page 3
New

Task Associations

Task Number	Task Title
3440170302/03	Analyze Indications to Determine that an Emergency Plan Event is in Progress

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.4.40	Knowledge of the SRO's responsibilities in emergency plan implementation (CFR 45.11), 55.43(b)(1)(5)	2.3	4.0

Static Simulator Exams: None
Last Revised: 07/31/2003 10:49:28 AM by Hallonquist, Nora E.

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Question No. 100 Exam Bank Question No.: 5713 Revision: 1 Point Value: 1
SRO Only: Yes Instructor Guide: LOT-00-900 Objective: SRO (CRS) 1, 4
Question Level: Fundamental Knowledge/Memory

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Select the correct answer:

An alert EAL was declared 35 minutes ago. You are the Plant Emergency Director (PED). The Operations Support Center (OSC) and the Technical Support Center (TSC) are manned and have relieved you of your responsibilities. The Emergency Operations Facility (EOF) has not assumed any responsibilities yet.

An escalation to the Site Area Emergency is made by the OSC Coordinator/TSC Coordinator/PED. Who is responsible to notify the states?

	Answer/Distractor	Justification
a.	PED	Correct Response
b.	OSC Coordinator	Incorrect - The OSC does not have an NAS Orange phone
c.	TSC Coordinator	Incorrect - The TSC does not have an NAS Orange phone
d.	Site Recovery Manager	Incorrect - The EOF does have an NAS Orange phone but they have not yet assumed responsibility for states notifications.

References: OP 3540, rev 3, page 5 of 16

Task Associations

Task Number	Task Title
3440390302/03	Perform Required Notifications of On Site and Off Site Personnel for Off Normal Events

Knowledge and Abilities Associations

System	K/A No.	Statement	RO	SRO
0	2.4.43	Knowledge of emergency communications systems and techniques (CFR 45.13), 55.43(b)(5)	2.8	3.5

Static Simulator Exams: None
Last Revised: 07/25/2003 1:30:16 PM by Hallonquist, Nora E.