

INITIAL SUBMITTAL OF THE WRITTEN EXAMINATION

FOR THE PERRY EXAMINATION - JAN/FEB 2003

PERRY PROPOSED WRITTEN EXAM

Perry Nuclear Power Plant
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QUESTION Common 001

Which one of the following describes the reason for the End-of-Cycle Recirculation Pump Trip (EOC-RPT) Interlock?

- A. Increase the amount of void formation in the core because the initial negative reactivity addition rate from a scram decreases at the end of cycle.
- B. Increase the amount of void formation in the core because the control rod scram time increases at the end of cycle.
- C. Decrease the amount of void formation in the core because the initial negative reactivity addition rate from a scram decreases at the end of cycle.
- D. Decrease the amount of void formation in the core because the control rod scram time increases at the end of cycle.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	1	2
	K/A#	295005 AK3.02	
	Importance Rating	3.4	3.5
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B – Incorrect because the time of core life does not effect control rod scram times. C & D – Incorrect because void formation will increase, not decrease.			
Technical Reference(s): SDM-B33		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-007-B33 Obj. E, J			
Question Source:	Bank # <u> X </u> Modified Bank # <u> </u> New <u> </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam <u> Grand Gulf 2000 </u> Previous Quiz / Test <u> </u>		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis <u> </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> </u>		
Comments (Why is it an upper level question):			

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QUESTION RO 002

The following plant conditions exist:

- The reactor has just scrammed.
- All control rods are fully inserted except for one control rod.
- No PEI Entry Conditions have been met.
- No operator actions have been taken.

Which one of the following control rod insertion methods for the remaining withdrawn control rod is NOT allowed by ONI-C71-1, Reactor Scram?

- A. Place the Reactor Mode Switch in Shutdown.
- B. Perform PEI-SPI 1.3, Manual Rod Insertion.
- C. Initiate RPS Manual Scram.
- D. Initiate ARI.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	
	Group #	1	
	K/A#	295006 AK1.03	
	Importance Rating	3.7	
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, C & D – These control rod insertion methods are allowed by ONI-C71-1.			
Technical Reference(s): ONI-C71-1		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3035-003-01 Obj. A: OT-3036-006-C71 Obj. L			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

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QUESTION SRO 002

The following plant conditions exist:

- The reactor scrammed on low RPV water level.
- Control rod 30-31 is at position 48.
- All other control rods are fully inserted.
- The Reactor Mode Switch is in SHUTDOWN.

Which one of the following describes the procedural guidance the Unit Supervisor should direct in order to fully insert control rod 30-31?

The control rod should be fully inserted by _____.

- A. scramming the control rod using the HCU Norm-Test-SRI toggle switches per SOI-C11, Rod Control and Information System.
- B. manually driving the control rod using In-Timer Skip per PEI-SPI 1.3, Manual Rod Insertion.
- C. scramming the control rod per PEI-SPI 1.2, Scram and ARI.
- D. performing the appropriate control rod insertion method per ONI-C71-1, Reactor Scram.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		1
	Group #		1
	K/A#	295006 AK1.03	
	Importance Rating		4.0
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – Single control rod scram per SOI-C11 is only used when directed by the control rod movement sheets (ONI-C71-1 guidance takes precedence). B & C – Entry into PEI-B13 (ATWS) is not required; therefore, use of the PEI-SPI instructions for control rod insertion is not appropriate.			
Technical Reference(s): SOI-C11(RCIS); PEI-B13; ONI-C71-1		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-006-C71 Obj. L; OT-3035-003-01 Obj. A			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u>Perry Jan. 2002</u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> A </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> X </u>	
Comments (Why is it an upper level / SRO question): The SRO Candidate must utilize his knowledge of the various specified instructions in conjunction with the current plant conditions in order to determine the appropriate action. Assessing plant conditions and determining a course of action is the responsibility of the SRO.			

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QUESTION Common 003

The plant is operating at 70% power when Inboard MSIV, B21-F022A, unexpectedly closes.

- The reactor does not scram.
- Reactor pressure increases 20 psig and stabilizes.
- No operator actions are taken.

Which one of the following describes the response of the reactor to this event?

- A. Reactor power initially decreases and then stabilizes at a lower value.
- B. Reactor power initially decreases and then returns to its original value.
- C. Reactor power initially increases and then stabilizes at a higher value.
- D. Reactor power initially increases and then returns to its original value.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	295007 AA2.02	
	Importance Rating	4.1	4.1
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A & B – Reactor power will initially increase due to void collapse, not decrease. D – Reactor power will not return to its original value.			
Technical Reference(s): GP Rx. Theory Text Ch. 4		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3301-004-004 Obj. 7,10			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): The Candidate must understand the cause/effect relationship that the closing of the MSIV will have on reactor pressure and voids, and predict the initial and final impact that it will have on reactor power response.			

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QUESTION Common 004

The following plant conditions exist:

- The plant is operating at 100% power.
- RFPT A and B are operating on the Master Level Controller.
- The MFP is in Standby Readiness.
- The Reactor Recirculation System FCVs indicate 100% open.

RFPT A trips and RPV level momentarily decreases to +185" before being restored to +196".

Five minutes later, the Control Room Operator inadvertently trips RFPT B.
RPV level decreases to +150" before being restored to normal with the MFP.

Which one of the following describes the current status of the Reactor Recirculation System?

- A. The Reactor Recirculation Pumps are in Slow speed and the FCVs indicate 100% open.
- B. The Reactor Recirculation Pumps are in Slow speed and the FCVs indicate 17% open.
- C. The Reactor Recirculation Pumps are Off and the FCVs indicate 100% open.
- D. The Reactor Recirculation Pumps are Off and the FCVs indicate 17% open.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	295009 AK2.03	
	Importance Rating	3.1	3.2
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – The FCVs will have received a runback signal following the trip of the first RFPT. Thus, they will have already runback to the 17% position, and will remain in that position for the remainder of the event. C & D – The Recirc Pumps would automatically shift to Slow speed due to RPV level decreasing to 177" (L3) after the scram. They do not trip to Off until an RPV level of +130" (L2). During this event, RPV level only decreased to +150", thus the pumps will still be in Slow speed.			
Technical Reference(s): SDM-B33		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-007-B33 Obj. E; OT-3035-004-07 Obj. A			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): The Candidate is required to combine his knowledge of system interlocks and overall plant response to a loss of feedwater, in order to predict the response of the Recirculation System to the postulated event.			

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QUESTION Common 005

During a plant startup and heatup, the follow alarms are received on panel P601:

- CNTMT / DW DIFF PRESS A HIGH
- CNTMT / DW DIFF PRESS B HIGH

Meters DW / CNTMT DIFF PRESS A & B, D23-R034A & B on panel P601, indicate +0.3 psid.

Which one of the following describes the interrelationship between Drywell pressure and Drywell to Containment d/p based on these conditions?

- A. Drywell pressure is decreasing and Drywell to Containment d/p is decreasing.
- B. Drywell pressure is decreasing and Drywell to Containment d/p is increasing.
- C. Drywell pressure is increasing and Drywell to Containment d/p is decreasing.
- D. Drywell pressure is increasing and Drywell to Containment d/p is increasing.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	295010 AK2.03	
	Importance Rating	3.0	3.1
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A & B – Based on the initial conditions provided, Drywell pressure is higher than Containment pressure. Drywell pressure would be increasing during a plant heatup, not decreasing. C - Based on the initial conditions provided, Drywell pressure is higher than Containment pressure. This would cause the Drywell to Containment d/p to increase, not decrease.			
Technical Reference(s): SDM-D23		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-002-D23 Obj. B, C, F; OT-3046-006-04			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): The Candidate must use the initial conditions provided to establish the correct relationship between Drywell and Containment pressure. Based on this relationship, the Candidate then must predict the correct response of Drywell to Containment d/p as it relates to the plant heatup.			

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QUESTION Common 006

The plant is operating at 100% power when the Control Room Operator observes the following indications:

- Core Thermal Power initially decreases and then stabilizes at a higher value.
- Main Generator electrical output decreases.
- No operator actions have been taken.

Which one of the following conditions would cause these indications?

- A. A feedwater heater extraction steam valve closes.
- B. A Reactor Recirculation FCV drifts open.
- C. A single control rod scrams.
- D. A SRV opens.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	295014 AA2.03	
	Importance Rating	4.0	4.3
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A & B – If these events occur, generator electrical output would increase, not decrease. C – If this event occurs, thermal power would decrease, not increase.			
Technical Reference(s): ONI-B21-1		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-005-B21/N11 Obj. I; OT-3035-006-07			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> Hope Creek 1 1991 </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> A </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question): The Candidate is required to analyze the initial conditions provided and diagnose the cause of the event.			

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QUESTION Common 007

During an incomplete scram, which of the following Neutron Monitoring conditions will result in a Redundant Reactivity Control System (RRCS) 'APRM NOT Downscale' permissive signal?

- A. APRM power > 4%, APRM bypassed, Loss of +20VDC in APRM cabinet.
- B. APRM bypassed, Loss of +20VDC in APRM cabinet, APRM INOP.
- C. Loss of +20VDC in APRM cabinet, APRM INOP, APRM power > 4%.
- D. APRM INOP, APRM power > 4%, APRM bypassed.

ANSWER: C

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	295015 AA1.07	
	Importance Rating	3.6	3.7
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B, C & D – Bypassing an APRM channel will prevent the bypassed APRM's 'NOT Downscale' or INOP trip from supplying the permissive.			
Technical Reference(s): SDM-C22		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT 3036-001-C22 Obj D			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

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QUESTION Common 008

The following plant conditions exist:

- Drywell pressure is 2.0 psig and increasing.
- PEI-B13, RPV Control (Non-ATWS), and PEI-T23, Containment Control, have been entered.

No other PEI entry conditions exist.

Which one of the following NS⁴ isolations should the Control Room Operator verify has occurred?

- A. Containment Vessel Chilled Water System
- B. Reactor Water Cleanup System
- C. Main Steam Isolation Valves
- D. Reactor Sampling Valves

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	295024 EA1.07	
	Importance Rating	3.8	3.9
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B, C, & D – These systems do not isolate on a High Drywell Pressure signal > 1.68#.			
Technical Reference(s): SDM-B21(NS ⁴)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-002-B21(NS ⁴) Obj. C, D			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u>		
	Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question):			

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QUESTION Common 009

The reactor was operating at 100% power when a MSIV isolation occurred.

- PEI-B13, RPV Control (Non-ATWS), has been entered.
- RPV pressure is 1100 psig and increasing.
- RPV water level is 200 inches and stable.

The Unit Supervisor directs the Control Room Operator to manually open a SRV to reduce pressure to 800 – 1000 psig.

Which one of the following describes the initial RPV water level response due to opening the SRV?

- A. Level increases due to a rapid increase in voids.
- B. Level increases due to a rapid decrease in voids.
- C. Level decreases due to a rapid increase in voids.
- D. Level decreases due to a rapid decrease in voids.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	295025 EK2.11	
	Importance Rating	3.5	3.6
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B – Level increases due to an increase in voids, not a decrease in voids. C & D – Level increases when the SRV is opened, not decreases.			
Technical Reference(s): SOI-B21		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-005-B21/N11 Obj. G; OT-3403-003-03 Part 2			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): The Candidate must predict the response of one critical reactor parameter (RPV water level), based on taking an action directed at correcting a different critical reactor parameter (RPV pressure).			

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QUESTION Common 010

The plant is operating in accordance with PEI-B13, RPV Control (Non-ATWS), following a LOCA.

Which one of the following is the lowest RPV water level that will ensure adequate core cooling exists during Steam Cooling with injection to the RPV?

- A. 0 inches
- B. - 25 inches
- C. - 42.5 inches
- D. - 50 inches

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	295031 EK1.01	
	Importance Rating	4.6	4.7
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A - 0 inches is the lowest RPV level for Submergence Cooling, not Steam Cooling with injection.</p> <p>C - - 42.5 inches is the lowest RPV level for Steam Cooling without injection.</p> <p>D - - 50 inches is the design re-flood level post LOCA, corresponding to two-thirds core height, but it does not ensure adequate core cooling.</p>			
Technical Reference(s): MCD Text Ch. 3, PEI Bases		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3401-001-01 Obj. F; OT-3402-005-01 Obj. C			
Question Source:	Bank # _____ Modified Bank # <u> X </u> New _____	(Note changes or attach parent)	
Question History:	Previous NRC Exam <u>Oyster Creek 1996</u> Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

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QUESTION Common 011

The plant was operating at 45% power when a reactor scram occurred.

- RPV pressure is 450 psig and slowly decreasing.
- RPV level is + 12 inches and slowly decreasing.
- Drywell pressure is 1.4 psig and slowly increasing.
- No operator actions have been taken.

Which one of the following describes the current status of RHR Loop C based on these plant conditions?

- A. RHR Pump C is NOT running and the LPCI C Injection Valve is open.
- B. RHR Pump C is NOT running and the LPCI C Injection Valve is closed.
- C. RHR Pump C is running and the LPCI C Injection Valve is open.
- D. RHR Pump C is running and the LPCI C Injection Valve is closed.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	295031 EA1.01	
	Importance Rating	4.4	4.4
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A & B – Based on the initial conditions RHR Pump C would be running since RPV level is below Level 1 (16.5"). D – Based on the initial conditions, the injection valve would be open.			
Technical Reference(s): SDM-E12		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-005-E12 Obj. E,F			
Question Source:	Bank # 1017 <u> X </u> Modified Bank # _____ New _____	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): The Candidate must predict the system response based on a set of initial conditions.			

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QUESTION Common 012

PEI-B13, RPV Control (ATWS), directs the operator to terminate boron injection if the Reactor is shutdown under all conditions without boron.

Which one of the following plant conditions would NOT allow the Control Room Operator to terminate boron injection?

- A. All control rods are fully inserted.
- B. All control rods are fully inserted except for one at position 12.
- C. All control rods are fully inserted except for one at position 48.
- D. All control rods are fully inserted except for two at position 02.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	295037 EK1.07	
	Importance Rating	3.4	3.8
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, B & C – These items satisfy the definition of “shutdown under all conditions without boron”, and thus would allow boron injection to be terminated.			
Technical Reference(s): PEI Bases		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3402-005-03 Obj. D			
Question Source:	Bank #		
	Modified Bank # 1076	<u> X </u>	(Note changes or attach parent)
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> C </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question): The Candidate must recognize the relationship between the definition of “Shutdown under all conditions without boron”, and four control rod configurations. He then must select the configuration that does not comply with the definition.			

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QUESTION Common 013

The following plant conditions exist:

- PEI-M51/56, H₂ Control, has been entered due to H₂ concentration exceeding 0.5%.
- M51 H₂ Analyzers have been started per SOI-M51/56, Combustible Gas Control System and Hydrogen Igniters.

Twenty minutes later, the Control Room Operator observes the blue light above each H₂ Analyzer Channel Select Switch is ON (energized).

Which one of the following describes the significance of the blue light being ON at this time?

- A. The selected 'Area' sample valve is open.
- B. The selected 'Area' channel reading is valid.
- C. The ECC cooling water valves to the sample coolers are open.
- D. The 'Field Actions for Hydrogen Analyzer Startup' are completed.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	1	1
	K/A#	500000 EA1.01	
	Importance Rating	3.4	3.3
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – Status of the sample valves is indicated by the red light being on, not the blue light. C – The ECC cooling water valve position is indicated by a red light above each valve control switch. D – Completing the field portion of the analyzer startup must be reported to the control room and is not part of the blue light circuit.			
Technical Reference(s): SOI-M51/56, SDM-M51		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-005-M51 Obj. D			
Question Source:	Bank # 1135 <u> X </u> Modified Bank # <u> </u> New <u> </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam <u> </u> Previous Quiz / Test <u> </u>		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis <u> </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> </u>		
Comments (Why is it an upper level question):			

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QUESTION Common 014

The plant was operating at 100% power when reactor power unexpectedly decreased. ONI-C51, Unplanned Change in Reactor Power or Reactivity, has been entered.

Plant conditions have stabilized with reactor power at 90%.

The Control Room Operator observed the following changes in Recirculation System parameters on panel P680:

- Total Core Flow has decreased
- Core Plate d/p has decreased
- Loop A & B Flow has slightly increased
- Loop A Total Jet Pump Flow has decreased
- Loop B Total Jet Pump Flow has increased

Which one of the following has occurred based on these plant conditions?

- A. A Jet Pump Riser in Loop A has failed.
- B. Flow Control Valve A has drifted closed.
- C. Loop A Discharge Valve has drifted closed.
- D. A vortexing event in Loop A has occurred.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	295001 AA2.05	
	Importance Rating	3.1	3.4
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B & C – If this had occurred, Loop A flow would have decreased, not increased slightly. D – If this had occurred, reactor power would have increased and return to the pre-transient value, not decreased and stabilized.			
Technical Reference(s): SDM-B33, ONI-C51		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-007-B33 Obj. B, C			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u>Fermi 1995</u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> A </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question): The Candidate is required to apply his knowledge of Recirculation System operation and analyze a set of post transient parameters in order to diagnose the correct cause of the event.			

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QUESTION Common 015

The plant is operating at 100% power. ONI-N62, Loss of Main Condenser Vacuum, has been entered due to a trip of a Circulating Water Pump.

HP Condenser pressure is 6.0 inches HgA and slowly increasing.

Which one of the following automatic actions has occurred based on these plant conditions?

- A. Generator Load Set Runback.
- B. Turbine Load Limit Setback.
- C. Main Turbine Trip.
- D. SJAЕ Isolation.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	295002 AA1.06	
	Importance Rating	3.0	3.1
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – The Generator Load Set Runback does not actuate based on low vacuum. However, it is an automatic protective feature that will reduce load, and is similar in terminology that is often mistakenly confused with the Turbine Load Limit Setback.</p> <p>C – The Main Turbine trip setpoint on low vacuum (8.6") has not been reached based on the given plant conditions.</p> <p>D – The SJAЕ isolates on low steam flow, not low vacuum.</p>			
Technical Reference(s): SDM-N32/C85, ONI-N62, ARI H13-P680-08(C6)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-003-N62 Obj. I; OT-3036-002-N32/C85 Obj. D, M			
Question Source:	Bank # _____	Modified Bank # _____	(Note changes or attach parent)
	New	<u> X </u>	
Question History:	Previous NRC Exam _____	Previous Quiz / Test _____	
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u>	Comprehension or Analysis _____	
10 CFR Part 55 Content:	55.41 <u> X </u>	55.43 _____	
Comments (Why is it an upper level question):			

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QUESTION Common 016

The plant is operating at 100% power when Bus EH12 Alternate Preferred Source Breaker, EH1213, trips open. Bus EH12 momentarily de-energizes. The Division 2 Diesel Generator starts and energizes Bus EH12.

Which one of the following describes the response, if any, of the Division 2 Balance Of Plant (BOP) Containment Isolation Valves?

- A. An isolation will NOT occur due to the loss of power to EK-1-B1.
- B. An isolation will NOT occur due to the loss of power to RPS.
- C. An isolation will occur due to the loss of power to EK-1-B1.
- D. An isolation will occur due to the loss of power to RPS.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	1
	K/A#	295003 AK3.06	
	Importance Rating	3.7	3.7
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A & B – An isolation will occur once the bus is energized from the D/G due to the relays powered from EK-1-B1 having been de-energized. D – The isolation occurs due to the loss of power to EK-1-B1. RPS power is not affected by the momentary loss of power to Bus EH12.			
Technical Reference(s): ONI-R22-1, ONI-R25-1, PDB-H0023		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-006-R10 Obj. J; OT-3035-003-10; OT-3036-002-B21(NS4) Obj. D			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____		
	Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question): The Candidate must utilize his knowledge of power supplies and logic circuit operation to recognize which circuit has been de-energized and determine the impact of de-energizing the circuit.			

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QUESTION Common 017

RHR Pump A is running when a loss of 125 VDC breaker control power occurs.

Which one of the following describes the operational impact that the loss of DC control power has on RHR Pump A circuit breaker?

- A. The breaker will trip on a fault and can be tripped from the Control Room.
- B. The breaker will trip on a fault but cannot be tripped from the Control Room.
- C. The breaker will not trip on a fault but can be tripped from the Control Room.
- D. The breaker will not trip on a fault and cannot be tripped from the Control Room.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	295004 AK1.05	
	Importance Rating	3.3	3.4
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, B & C – Fault tripping and Control Room tripping both require DC control power to be available.			
Technical Reference(s): GP Components Text Ch.6, ONI-R42-1		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3303-004-06 Obj. 10; OT-3036-006-R42 Obj. E			
Question Source:	Bank # <u> X </u> Modified Bank # _____ New _____	(Note changes or attach parent)	
Question History:	Previous NRC Exam <u>Brunswick 1 & 2 1994</u> Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

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QUESTION Common 018

The plant is operating at 100% power when a trip of Containment Vessel Chilled Water Chiller A occurred.

- Containment temperature and pressure are slowly increasing.
- Drywell temperature and pressure are steady.
- Alarm CONTAINMENT TEMP A(B) HIGH has been received on panel P601.
- No PEI Entry Conditions exist.

Which one of the following conditions will occur if Containment temperature and pressure continue to increase with no operator action taken?

- A. Indicated Containment Upper Pool level will decrease.
- B. Indicated Suppression Pool level will increase.
- C. Containment Vacuum Breakers will open.
- D. Drywell Vacuum Breakers will open.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	295011 AK1.01	
	Importance Rating	4.0	4.1
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – These conditions will have no effect on indicated Containment Upper Pool level. B – These conditions will cause indicated Suppression Pool level to decrease, not increase. C – These conditions will cause Containment Vacuum breakers to remain closed, not open.			
Technical Reference(s): ARI H13-P601-20(E4) & (F4), SDM-P50, SDM-M16		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-001-P50 Obj. A, G; OT-3036-000-M16 Obj D; OT-3036-002-D23 Obj. F			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____		
	Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question): The Candidate must apply his knowledge of the principles of operation of four systems to predict the impact of the given conditions on the system's operation.			

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QUESTION Common 019

The following plant conditions exist:

- The reactor is operating at 100% power.
- A loss of Nuclear Closed Cooling (NCC) to the Drywell occurs.
- Drywell temperature is 140°F and increasing.

Assume no operator actions are performed.

Which one of the following describes an automatic action that is expected to occur due to the loss of NCC flow to the Drywell?

- A. High Drywell pressure scram.
- B. Drywell vacuum breakers open.
- C. Standby Drywell Cooling fans start.
- D. Reactor Recirculation Pumps transfer to Slow speed.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	295012 AK1.01	
	Importance Rating	3.3	3.5
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B – The drywell vacuum breakers open on a low drywell pressure condition, increasing drywell temperature will cause drywell pressure to increase. C – The standby drywell cooling fans do not auto start on high temperature (low flow only). D – The Reactor Recirculation pumps do not automatically transfer to Slow speed when cooling water is lost. They are either manually transferred or secured.			
Technical Reference(s): ONI-P43; PEI Bases Document		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-P43 OBJ H; OT-3402-005-02 OBJ B&C			
Question Source:	Bank # <u> X </u> Modified Bank # _____ New _____	(Note changes or attach parent)	
Question History:	Previous NRC Exam <u> Perry 2002 </u> Previous Quiz / Test <u> X </u>		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): Requires the Candidate to recognize the relationship between rising drywell temperature and drywell pressure and predict the expected automatic actions for given plant conditions.			

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QUESTION Common 020

Heat is being added to the Suppression Pool due to the operation of the RCIC System in the CST-to-CST mode for surveillance testing. Suppression Pool temperature is 93°F.

The surveillance is a pre-planned evolution and PEI-T23, Containment Control, will not be entered.

The Unit Supervisor directs that RHR Loop A be placed in the Suppression Pool Cooling mode of operation.

Placing RHR Loop A in the Suppression Pool Cooling mode at this time _____.

- A. prevents RCIC equipment damage due to high lube oil temperature.
- B. allows the maximum Suppression Pool average temperature limit to be increased to 110°F.
- C. extends the operating time for RCIC before the maximum Suppression Pool average temperature limit is reached and RCIC testing must be terminated.
- D. ensures that heat added to the Suppression Pool does not impact Containment pressure to the point where the Containment Vacuum Breakers will cycle.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	1
	K/A#	295013 AK2.01	
	Importance Rating	3.6	3.7
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – Since RCIC is operating in the CST-to CST mode, SP temperature has no effect on RCIC lube oil temperature. CST water is cooling the RCIC lube oil (not SP water).</p> <p>B – During testing which adds heat to the SP, the LCO for SP average temperature allows the maximum SP temperature limit to be raised to 105 F (110 degrees F requires the Reactor Mode Switch to be placed in Shutdown).</p> <p>D – Heat added to the SP would theoretically cause Containment pressure to increase. The Containment Vacuum Bkrs open on a vacuum in Containment (not a positive pressure).</p>			
Technical Reference(s): TS LCO 3.6.2.1		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3037-001-010 Obj. A			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	_____	
	New	_____	
Question History:	Previous NRC Exam	<u>Perry 2002</u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	_____	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	_____	
Comments (Why is it an upper level question):			

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QUESTION Common 021

ONI-C61, Evacuation of the Control Room, has been entered.

The reactor was not scrammed prior to leaving the Control Room.

Which one of the following is the preferred method to fully insert all control rods from outside the Control Room in accordance with ONI-C61?

- A. Open the specified scram air header drain valves.
- B. Open the specified RPS MG set output breakers.
- C. Cycle the specified RPS power distribution panel breakers.
- D. Cycle the specified ATWS UPS distribution panel breakers.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	1
	K/A#	295016 Gen. 2.1.20	
	Importance Rating	4.3	4.2
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – This method is not specified in ONI-C61; it is specified in PEI-B13, RPV Control (ATWS). B – This method is not specified in any procedure. C – This is not the preferred method specified in ONI-C61.			
Technical Reference(s): ONI-C61		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3035-002-15B Obj. A; OT-3036-003-C61 Obj. C			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u>Perry June 2001</u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question):			

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QUESTION Common 022

The following plant conditions exist:

- The Auxiliary Building Ventilation System is in operation in accordance with SOI-M38/47.
- A steam leak has occurred in the RCIC Pump Room.
- HIGH radiation alarm is received on the Auxiliary Building Ventilation Exhaust GAS module.
- ALERT radiation alarm is received on the Unit 1 Plant Vent GAS module.
- ONI-D17, High Radiation Levels Within Plant, has been entered.

Which one of the following describes the current lineup of the Auxiliary Building Ventilation System, including the location of the controls and indications used to monitor system operation?

- A. Only one Exhaust Fan is running; system controls and indications are located in the Control Room.
- B. Only one Exhaust Fan is running; system controls and indications are located in the plant.
- C. Only two Exhaust Fans are running; system controls and indications are located in the Control Room.
- D. Only two Exhaust Fans are running; system controls and indications are located in the plant.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	1
	K/A#	295017 AK2.04	
	Importance Rating	3.1	3.3
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – Only one Exhaust Fan will be running. The running Supply Fan will have tripped off due to the Aux Bldg Vent high GAS alarm. However, the Aux Bldg Vent System controls and indications are located in the plant at local panel H51-P172, <u>not</u> in the Control Room.</p> <p>C - Only one Exhaust Fan will be running. The running Supply Fan will have tripped off due to the Aux Bldg Vent high GAS alarm. Also the Aux Bldg Vent System controls and indications are located in the plant at local panel H51-P172, <u>not</u> in the Control Room.</p> <p>D - Only one Exhaust Fan will be running. The running Supply Fan will have tripped off due to the Aux Bldg Vent high GAS alarm.</p>			
Technical Reference(s): SDM-M38, ONI-D17		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): SYS-5014-001-M38 Obj E, OT-3035-003-01 Obj A			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u>Perry June 2001</u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> C </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
<p>Comments (Why is it an upper level question):</p> <p>The Candidate must predict the response of the Aux. Bldg. Ventilation System, including the reason, based on initial plant conditions provided.</p>			

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QUESTION Common 023

The plant is in cold shutdown with the Drywell Equipment Hatch open. A complete loss of the Nuclear Closed Cooling System occurs due to a NCC pipe rupture.

The operating Control Complex Chilled Water Chiller trips on low condensing water flow.

Which one of the following describes the operation of the CCCW System due to the loss of NCC?

- A. Cooling water will automatically re-align from NCC to ECC and then the CCCW Chiller will automatically re-start.
- B. Cooling water will automatically re-align from NCC to ECC and then the CCCW Chiller must be manually re-started.
- C. Cooling water must be manually re-aligned from NCC to ECC and then the CCCW Chiller will automatically re-start.
- D. Cooling water must be manually re-aligned from NCC to ECC and then the CCCW Chiller must be manually re-started.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	295018 AA1.02	
	Importance Rating	3.3	3.4
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A & B – The cooling water lineup will not automatically re-align in this event since no LOCA or LOOP signal was generated. The loss of NCC was due to a pipe break.</p> <p>C – The CCCW Chiller will not receive an auto start signal in this event since no LOCA or LOOP signal was generated.</p>			
Technical Reference(s): SDM-P42, SDM-P43, SDM-P47, ONI-P43		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-005-P42 Obj B, E, H; OT-3036-001-P47 Obj. D, F; OT-Combined-000-P43 Obj. H, I			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____		
	Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question): The Candidate must predict the response of two systems and recognize the required operator actions, when given a single system failure as an initial condition.			

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QUESTION Common 024

The plant is operating at 50% power. ONI-P52, Loss of Service and/or Instrument Air, has been entered.

Which one of the following conditions would direct the Control Room Operator to perform a Fast Reactor Shutdown?

- A. The Instrument Volume vent and drain valves close.
- B. The 'INST VOL NOT DRAINED' alarm is received.
- C. A single control rod drifts into the core.
- D. A single control rod high temperature alarm is received.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	295019 Gen. 2.4.11	
	Importance Rating	3.4	3.6
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – These valves fail closed on a loss of air but their status does not require a Fast Reactor Shutdown to be performed. C – The number of drifting control rods must be two or more, not one. D – The number of control rod high temperature alarms must be two or more, not one.			
Technical Reference(s): ONI-P52		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-P51/52 Obj. G			
Question Source:	Bank # <u> X </u> Modified Bank # <u> </u> New <u> </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam <u> Perry 1997 </u> Previous Quiz / Test <u> X </u>		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis <u> </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> </u>		
Comments (Why is it an upper level question):			

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QUESTION Common 025

The plant is in a refueling outage.

The M14 Containment Vessel and Drywell Purge System (CVDWP) is operating in the Refuel mode when a loss of RPS Bus B occurs.

Which one of the following describes the response, if any, of the CVDWP System isolation valves?

- A. No isolation valves close.
- B. Only the Inboard isolation valves close.
- C. Only the Outboard isolation valves close.
- D. The Inboard and Outboard isolation valves close.

ANSWER: B

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	295020 AA1.03	
	Importance Rating	2.9	3.1
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, C & D – Only the Inboard isolation valves close on a loss of RPS Bus B (Inboard isolation channels B & C).			
Technical Reference(s): ONI-C71-2, SDM-B21(NS ⁴), SDM-M14, SDM-C71		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-006-C71 Obj. L, OT-3036-003-M14 Obj C & F, OT-3036-02-B21(NS ⁴) Obj D			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): The Candidate must utilize his knowledge of logic power supplies and logic coincidence in order to predict the response of the system on a loss of logic power.			

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QUESTION Common 026

The plant is in MODE 2 when the running CRDH Pump trips.

CRD charging water header pressure decreases to reactor pressure.

Which one of the following describes the plant conditions that would require immediately placing the Reactor Mode Switch in the SHUTDOWN position in accordance with ONI-C11-1, Inability To Move Control Rods?

- A. Reactor pressure is 500 psig.
Accumulator fault occurs on control rod 20-27 at position 00.
- B. Reactor pressure is 500 psig.
Accumulator fault occurs on control rod 20-27 at position 24.
- C. Reactor pressure is 700 psig.
Accumulator fault occurs on control rod 20-27 at position 00.
- D. Reactor pressure is 700 psig.
Accumulator fault occurs on control rod 20-27 at position 24.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	295022 AK2.03	
	Importance Rating	3.4	3.4
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – The control rod associated with the inoperable accumulator must be withdrawn for this action to be required. (rod 20-27 is fully inserted).</p> <p>C / D – Reactor pressure must be ≤ 600 psig in Mode 2 when any CRD accumulator is inoperable and CRD Charging Water pressure is < 1600 psig for this action to be required <u>immediately</u>.</p> <p>*Accumulator fault indicates that the accumulator pressure is below 1575 psig.</p>			
Technical Reference(s): ONI-C11-1		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-007-C11(CRDH) Obj. G; OT-3035-005-07 Obj. A			
Question Source:	Bank # <u> X </u> Modified Bank # <u> </u> New <u> </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam <u>Perry June 2001</u> Previous Quiz / Test <u> X </u>		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> </u> Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> </u>		
<p>Comments (Why is it an upper level question):</p> <p>Requires the Candidate to recognize the correct set of plant conditions that would immediately require the Reactor Mode Switch to be placed in the SHUTDOWN position.</p>			

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QUESTION Common 027

The following plant conditions exist:

- The reactor scrammed on high reactor pressure
- MSIVs are isolated
- RPV water level 230 inches
- RPV pressure 900 psig
- Suppression Pool temperature 105°F
- Suppression Pool level 22 ft

Which one of the following actions would reduce the margin to the Heat Capacity Limit (HCL)?

PEI-SPI Figure 4 is provided for reference.

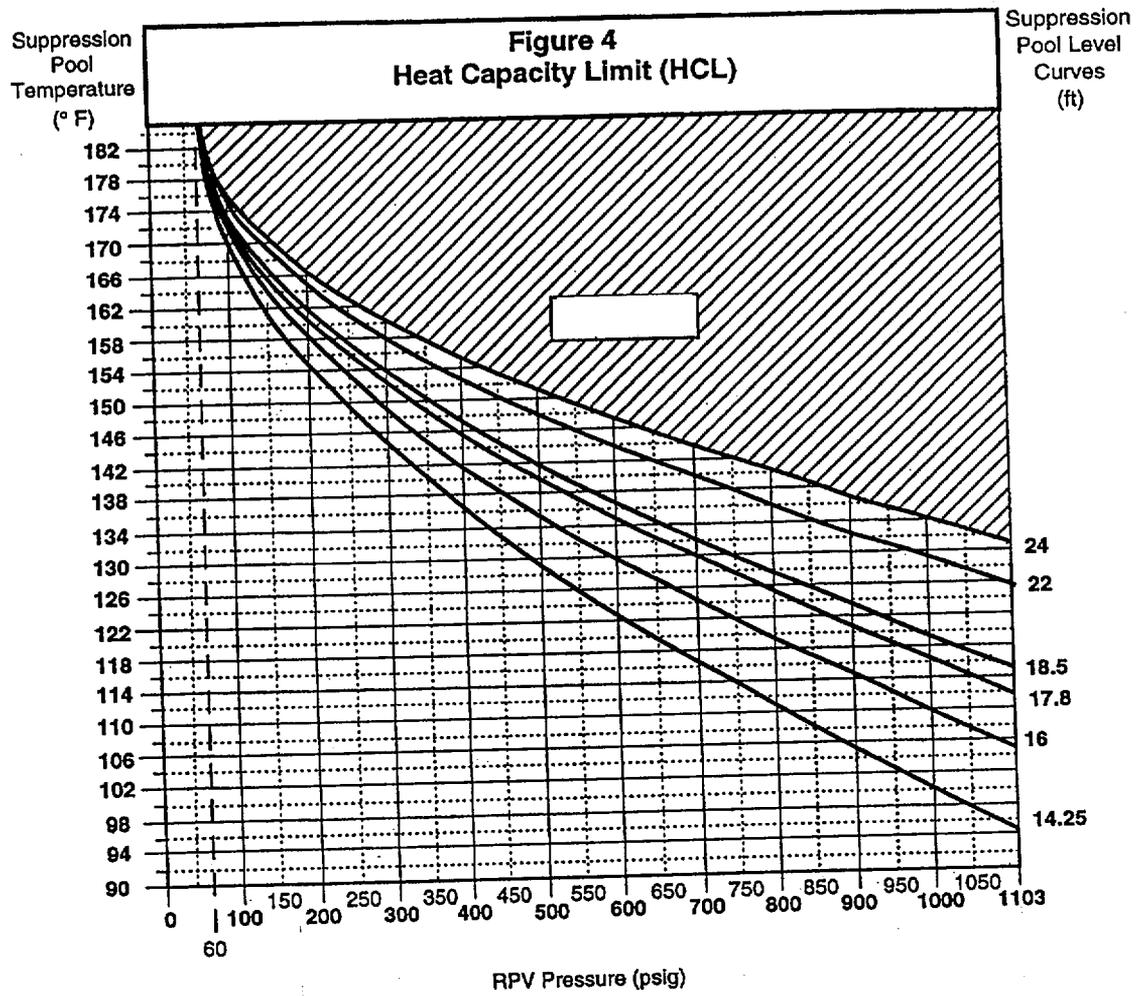
- A. Lowering RPV water level to 200 inches.
- B. Lowering RPV pressure to 700 psig.
- C. Lowering Suppression Pool water level to 18.0 feet.
- D. Lowering Suppression Pool temperature to 90°F.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	1
	K/A#	295026 EA2.02	
	Importance Rating	3.8	3.9
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – This action has no effect on the margin to HCL. B & D – These actions will increase the margin to HCL.			
Technical Reference(s): PEI-SPI Figure 4		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: Modified PEI-SPI Figure 4			
Learning Objective (As available): OT-3402-004-06 Obj. C			
Question Source:	Bank # Modified Bank # New	<u> </u> <u> X </u> <u> </u>	(Note changes or attach parent)
Question History:	Previous NRC Exam Previous Quiz / Test	<u> Perry June 2001 </u> <u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge Comprehension or Analysis	<u> </u> <u> A </u>	
10 CFR Part 55 Content:	55.41 55.43	<u> X </u> <u> </u>	
Comments (Why is it an upper level question): Requires the Candidate to create a course of action, based on the initial plant conditions provided, which will reduce the margin to HCL.			

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QUESTION Common 028

PEI-T23, Containment Control, has been entered due to high Containment temperature.

Initiation of Containment Sprays, if Containment pressure is greater than 2.25 psig, would be required in order to maintain Containment air temperature less than _____.

- A. the Technical Specification LCO limit of 95°F.
- B. the Technical Specification LCO limit of 145°F.
- C. the design limit of 185°F.
- D. the design limit of 330°F.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	1
	K/A#	295027 EK3.02	
	Importance Rating	3.2	3.2
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A - Containment Sprays are not used to maintain temperature less than the LCO limit. B - This is the LCO limit for the Drywell, but is unrelated to Containment Spray operation. D - This is the design temperature limit for the Drywell.			
Technical Reference(s): PEI-T23; PEI Bases Document, SDM-T23		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3402-004-07 Obj. C; OT-3036-006-T23 Obj. H; OT-3401-000-10 Obj. B			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u>Perry Jan. 2002</u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question):			

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QUESTION RO 029

PEI-T23, Containment Control, has been entered. Suppression Pool water level is 19 feet.

Which one of the following actions would improve the margin to the SRV Tail Pipe Level Limit (SRVTPLL)?

- A. Operate RHR in the Suppression Pool Cooling mode.
- B. Initiate the Suppression Pool Makeup System.
- C. Lower Suppression Pool water level.
- D. Raise RPV pressure.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	
	Group #	2	
	K/A#	295029 EK3.02	
	Importance Rating	3.6	
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – This action will lower Suppression Pool water temperature which has no effect on the margin to the SRVTPLL. B – This action will raise Suppression Pool water level which will reduce the margin to the SRVTPLL. D – Lowering RPV pressure via Emergency Depressurization, not raising RPV pressure, is directed by the PEI if Suppression Pool water level cannot be restored below the SRVTPLL.			
Technical Reference(s): PEI-T23, PEI Bases		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3402-005-05 Obj. C			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> A </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): The Candidate is required to create a course of action based on the initial conditions provided, with the direction to improve the margin to the SRVTPLL.			

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QUESTION SRO 029

The following plant conditions exist:

- A LOCA is in progress.
- PEI-B13, RPV Control (Non-ATWS), and PEI-T23, Containment Control, have been entered.
- The Suppression Pool Makeup System has automatically initiated.
- Suppression Pool level is 21 ft. and increasing.

Which one of the following describes the reason why PEI-T23 directs Suppression Pool water level to be restored and maintained between 17.8 ft. and 18.5 ft. based on these plant conditions?

- A. To prevent direct pressurization of Containment.
- B. To prevent insufficient NPSH for the low pressure ECCS pumps.
- C. To prevent failure of the Containment due to dynamic and / or static loadings.
- D. To prevent a loss of the pressure suppression function of the Suppression Pool.

ANSWER: C.

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Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		1
	Group #		2
	K/A#	295029 EK3.02	
	Importance Rating		4.0
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, B & D – These are the consequences and the reasons for restoring Suppression Pool level when a low level exists.			
Technical Reference(s): PEI Bases		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3402-005-05 Obj. C			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> X </u>		
Comments (Why is it an upper level / SRO question): Knowledge of the EOP Bases is the responsibility of the SRO.			

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QUESTION Common 030

Which one of the following alarms, if received on AB EL 574' EAST area radiation monitor, would require entry into PEI-N11, Containment Leakage Control?

- A. Fail
- B. Alert
- C. High
- D. High-High

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	295033 EK2.01	
	Importance Rating	3.8	4.0
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A & B – These are legitimate Area Rad Monitor alarms but are not an Entry Condition into PEI-N11. D – The High-High alarm does not exist for the Area Rad Monitoring System.			
Technical Reference(s): PEI-N11, PEI Bases		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3402-001-17 Obj C			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u>Perry June 2001</u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question):			

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QUESTION Common 031

The FHB Ventilation System is in operation in accordance with SOI-M40. During movement of irradiated fuel in the FHB, an irradiated fuel bundle is dropped.

Shortly thereafter, a HIGH radiation alarm is received on the FHB Ventilation Exhaust GAS and IODINE modules.

PEI-N11, Containment Leakage Control, is entered.

Which one of the following describes the current status of the FHB Ventilation System based on these plant conditions?

- A. Only two Exhaust Fans are running due to the HIGH alarm on the noble gas channel.
- B. Only two Exhaust Fans are running due to the HIGH alarm on the iodine channel.
- C. Two Exhaust Fans and one Supply Fan are running due to the HIGH alarm on the noble gas channel.
- D. Two Exhaust Fans and one Supply Fan are running due to the HIGH alarm on the iodine channel.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	295034 EK2.05	
	Importance Rating	3.5	3.7
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B – This is the correct FHB Vent System lineup due to a high radiation condition. However, it is the noble GAS module that causes the lineup shift, <u>not</u> the IODINE module. C & D - This is the normal mode of operation with <u>no</u> high noble gas radiation condition present.			
Technical Reference(s): SDM-M40, SOI-M40, ONI-D17		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-002-M40 Obj. D; OT-3035-003-01 Obj. A			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u>Perry June 2001</u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> C </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question): The Candidate must predict the response of the FHB Ventilation System, including the reason, based on initial plant conditions provided.			

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QUESTION Common 032

Which one of the following fire protection systems would automatically initiate in the event of an oil fire in the Main Turbine Lube Oil Storage Room?

- A. Pre-action system
- B. Deluge system
- C. Foam system
- D. CO₂ system

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	2	2
	K/A#	600000 AK1.01	
	Importance Rating	2.5	2.8
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, B, C – The Main Turbine Lube Oil Storage Room is not served by these systems.			
Technical Reference(s): SDM-P54(CO ₂)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-002-P54(CO ₂) Obj. B,D, and H			
Question Source:	Bank # Modified Bank # 813 <u> X </u> New <u> </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam <u> </u> Previous Quiz / Test <u> </u>		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis <u> </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> </u>		
Comments (Why is it an upper level question):			

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QUESTION Common 033

The following plant conditions exist:

- The reactor is shutdown in MODE 4.
- RHR Pump A is operating in the Normal Shutdown Cooling mode.
- A RPV cooldown is in progress.
- One Reactor Recirculation Pump is running in Slow speed.
- RPV water level is being maintained 255 – 265 inches on Shutdown Range indication.

Which one of the following conditions requires entry into ONI-E12-2, Loss of Decay Heat Removal?

- A. The operating Reactor Recirculation Pump trips.
- B. RHR Heat Exchanger Outlet temperature is decreasing.
- C. RHR Pump A flow is 6000 gpm and steady.
- D. RPV level is 245 inches and steady.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	3	2
	K/A#	295021 AA2.02	
	Importance Rating	3.4	3.4
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – No R/R Pumps running is only an entry condition when RPV level is < 250 inches. The initial conditions establish that level is > 250 inches.</p> <p>B – RHR Heat Exchanger Outlet temperature decreasing is a normal condition during cooldown.</p> <p>D – A RPV level of 245 inches is only an entry condition when both R/R pumps are off. The initial conditions establish that a pump is running.</p>			
Technical Reference(s): ONI-E12-2, SOI-E12, IOI-12		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-E12 Obj. K, M; OT-3035-004-11 Obj. A; OT-3046-003-01b Obj. A			
Question Source:	Bank # 1060	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> C </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
<p>Comments (Why is it an upper level question):</p> <p>The Candidate is required to utilize his knowledge of system operating parameters and analyze the listed conditions with the initial conditions provided, to determine which condition creates a loss of decay heat removal.</p>			

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QUESTION Common 034

The plant is in a Refueling Outage. Core Alterations are in progress.

The Refueling Supervisor notifies the Control Room Operator that a fuel bundle has been loaded into the core in an incorrect location.

Which one of the following SRM responses will indicate that an inadvertent criticality has occurred?

- A. Count rate continuously increases; Period increases and stabilizes at + 100 seconds.
- B. Count rate increases by a factor of two; Period initially increases and stabilizes at infinity.
- C. Count rate increases by a factor of ten; Period initially increases and stabilizes at infinity.
- D. Count rate remains constant; Period is stable at infinity.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	3	1
	K/A#	295023 AK1.03	
	Importance Rating	3.7	4.0
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>B – Keff is still < 1 if count rate increases by 2. With Period stable at infinity, power is no longer increasing.</p> <p>C – Keff is still < 1 if count rate increases by 10. With Period stable at infinity, power is no longer increasing.</p> <p>D – These readings indicate that core reactivity has remained unchanged.</p>			
Technical Reference(s): SDM-C51(SRM), GP Reactor Theory Text Ch. 3, 8		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3301-004-3 Obj. 1; OT-3301-004-8 Obj. 4; OT-3046-003-02c Obj. D			
Question Source:	Bank # _____	Modified Bank # _____	(Note changes or attach parent)
	New	<u> X </u>	
Question History:	Previous NRC Exam _____	Previous Quiz / Test _____	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	_____	
10 CFR Part 55 Content:	55.41 <u> X </u>	55.43 _____	
Comments (Why is it an upper level question):			

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QUESTION Common 035

Which one of the following describes the bases for isolating any system discharging into the annulus and surrounding containment in accordance with PEI-N11, Containment Leakage Control?

- A. To terminate rising temperatures, radiation levels, and water levels in the Secondary Containment.
- B. To protect equipment in the Annulus and Primary Containment.
- C. To minimize reactor coolant inventory loss.
- D. To preserve Turbine Building accessibility.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	3	2
	K/A#	295032 EK3.03	
	Importance Rating	3.8	3.9
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>B – One of the bases for PEI-N11 is to protect equipment in the annulus and <u>Secondary</u> Containment, not the <u>Primary</u> Containment.</p> <p>C – This is not a bases for PEI-N11; reactor coolant inventory loss is controlled by other PEIs (e.g., PEI-B13 and PEI-T23).</p> <p>D – The Turbine Bldg is not part of the Perry Expanded Functional Secondary Containment. Turbine Bldg accessibility is controlled by PEI-D17, Radioactivity Release Control.</p>			
Technical Reference(s): PEI-N11, PEI Bases Document		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3402-001-17 Obj. D			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> Perry June 2001 </u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question):			

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QUESTION Common 036

Which one of the following conditions is used to confirm that the water level in the AX 568' Hallway has exceeded the Maximum Safe Operating Condition in accordance with PEI-N11, Containment Leakage Control?

- A. The 'AUX BLDG FLOOR DRN SUMP WATER LEVEL HIGH' alarm is received.
- B. The 'AUX BLDG EL 568 WATER LEVEL HIGH' alarm is received.
- C. The Standby Aux Bldg Floor Drain Sump Pump automatically starts.
- D. The water level is above the Water Level Reference Mark.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	1	1
	Group #	3	2
	K/A#	295036 EA2.02	
	Importance Rating	3.1	3.1
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – This alarm is not used to determine MSOC in accordance with PEI-N11. Receipt of this alarm indicates that water level has just begun to flood the AX 568' Hallway.</p> <p>B – This alarm is not used to determine MSOC, but instead is an Entry Condition for PEI-N11. Receipt of this alarm indicates that water level is 2" above the floor in the AX 568' Hallway.</p> <p>C – The standby pump is designed to start prior to flooding the AX 568' Hallway.</p>			
Technical Reference(s): PEI-SPI Supplement, PEI-N11 Bases, ARI-H13-P870-3(C1, D1)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3402-001-17 Obj. B, C; OT-3036-002-G61 Obj. F			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u>		
	Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question):			

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QUESTION Common 037

The plant is operating at 100% power.

Which one of the following conditions will cause Control Rod Drive (CRD) Mechanism high temperatures?

- A. Loss of power to the CRD Pressure Control Valve.
- B. Loss of air to the in-service CRD Flow Control Valve.
- C. Two CRD Stabilizing Valves fail closed.
- D. The CRD In-Line Relief Valve fails open.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	2
	K/A#	201001 K3.03	
	Importance Rating	3.1	3.2
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – The Pressure Control Valve fails As-Is, thus there is no impact to temperatures from this failure.</p> <p>C – The CRD Flow Controller will compensate for the loss of flow from the failed Stabilizing Valve, thus total cooling water flow will remain the same.</p> <p>D – This failure will lower CRD Drive Water d/p, however the CRD Flow Controller will maintain total cooling water flow the same.</p>			
Technical Reference(s): SDM-C11(CRDH), SDM-C11(CDRM), ARI-H13-P601-22(A3)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-007-C11(CRDH) Obj. A, B, C; OT-3036-002-C11(CRDM) Obj. B			
Question Source:	Bank # 1033	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> C </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question): The Candidate is required to diagnose the cause of an abnormal condition based on his knowledge of system and component operation.			

Perry Nuclear Power Plant
NRC Written Examination
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QUESTION Common 038

Control rod 30-31 has been declared Inoperable and must be fully inserted.

The Unit Supervisor directs the Control Room Operator to perform Rod Position Bypass in accordance with SOI-C11(RCIS), Rod Control and Information System, for control rod 30-31.

At which one of the following cabinet(s) will the Rod Position Bypass be performed, including the RC&IS indication the Control Room Operator will observe on panel P680?

- A. Rod Gang Drive Cabinet; the POSITION BYPASSED pushbutton will be backlit.
- B. Rod Gang Drive Cabinet; the DRIVE BYPASSED pushbutton will be backlit.
- C. Rod Action Control Cabinets; the POSITION BYPASSED pushbutton will be backlit.
- D. Rod Action Control Cabinets; the DRIVE BYPASSED pushbutton will be backlit.

ANSWER: C.

Perry Nuclear Power Plant
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Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	201005 Gen. 2.1.31	
	Importance Rating	4.2	3.9
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A & B – Rod Drive Bypassing is performed in these cabinets, not Rod Position Bypassing.</p> <p>D – The POSITION BYPASSED pushbutton will be backlit, not the DRIVE BYPASSED pushbutton.</p>			
Technical Reference(s): SOI-C11(RCIS)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-C11(RCIS) Obj. B, D, F			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
<p>Comments (Why is it an upper level question):</p> <p>The Candidate must utilize his knowledge of the functions of the RCIS subsystems and select the subsystem required to perform the designated evolution, including identifying the expected indications.</p>			

Perry Nuclear Power Plant
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QUESTION Common 039

The following conditions exist for Reactor Recirculation Hydraulic Power Unit A:

- Subloop 1 – OPERATIONAL, LEAD, READY, PRESSURIZED
- Subloop 2 – READY

Which one of the following conditions will cause Reactor Recirculation FCV A to hydraulically lockup?

- A. Oil reservoir level decreases to 60 gal.
- B. Oil reservoir temperature increases to 145°F.
- C. Subloop 1 discharge pressure decreases to 1650 psig.
- D. Subloop 1 discharge filter differential pressure increases to 35 psid.

ANSWER: A.

Perry Nuclear Power Plant
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Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	202002 A3.01	
	Importance Rating	3.6	3.4
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B & C – This condition will cause a transfer from Subloop 1 to Subloop 2 but will not hydraulically lockup the FCV. D – This condition will cause a FCV A HPU NEEDS MAINT alarm but will not hydraulically lockup the FCV.			
Technical Reference(s): SDM-B33, ARI-H13-P680-4(A5,B5)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-007-B33 Obj. C, D, E			
Question Source:	Bank # <u> 34 </u> Modified Bank # <u> </u> New <u> </u>	<u> X </u> <u> </u> <u> </u>	(Note changes or attach parent)
Question History:	Previous NRC Exam <u> Perry 1997 </u> Previous Quiz / Test <u> X </u>		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> </u> Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> </u>		
Comments (Why is it an upper level question): The Candidate must utilize his knowledge of system operation and based on the initial conditions provided, identify which condition will cause both subloops to transfer to the Maintenance Mode and identify that this condition will also cause a FCV to hydraulically lockup.			

Perry Nuclear Power Plant
NRC Written Examination
Data Sheets

QUESTION SRO 040

The plant is operating at 100% power with all plant equipment OPERABLE.

One hour later, the Unit Supervisor declares the Division 1 Diesel Generator Inoperable due to a jacket water leak. The Division 1 Diesel Generator is placed in Secured Status.

Which one of the following describes the current status of the LPCI A subsystem per Technical Specifications, including the reason for your decision, based on these plant conditions?

The LPCI A subsystem is _____.

- A. OPERABLE because the emergency AC Source of electrical power required for the LPCI A subsystem to perform its specified safety function is capable of performing its related support function.
- B. OPERABLE because the normal AC Source of electrical power required for the LPCI A subsystem to perform its specified safety function is capable of performing its related support function.
- C. Inoperable because the emergency AC Source of electrical power required for the LPCI A subsystem to perform its specified safety function is NOT capable of performing its related support function.
- D. Inoperable because the normal AC source of electrical power required for the LPCI A subsystem to perform its specified safety function is NOT capable of performing its related support function.

ANSWER: B.

Perry Nuclear Power Plant
NRC Written Examination
Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		2
	Group #		1
	K/A#	203000 K6.03	
	Importance Rating		3.9
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – The Definition of OPERABLE – OPERABILITY requires either the normal or emergency AC Source of electrical power (TS 3.8.1) to be OPERABLE. However, the emergency source (ie, Div 1 DG) is inoperable and not capable of performing its related support function.</p> <p>C & D – LPCI A subsystem is still OPERABLE because the Definition of OPERABLE – OPERABILITY requires either the normal or emergency AC Source of electrical power (TS 3.8.1) to be OPERABLE. The normal source (ie, an off-site AC power source which maintains the Div 1 AC Distribution subsystem (TS 3.8.7) energized)) is still capable of performing their related support function.</p>			
Technical Reference(s): Tech Spec Definitions, OAI-1701		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3037-005-02 Obj. A; OT-3039-008-03 Obj. A			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> X </u>		
<p>Comments (Why is it an upper level / SRO question):</p> <p>The SRO Candidate must utilize his knowledge of the Tech Spec Definition for OPERABLE – OPERABILITY and OAI-1701, to identify the status of the LPCI A subsystem. Knowledge of Tech Spec Definitions and OAI-1701, in order to determine OPERABILITY, is the responsibility of the SRO.</p>			

Perry Nuclear Power Plant
NRC Written Examination
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QUESTION RO 040

The following plant conditions exist:

- A LOCA is in progress.
- All ECCS systems are injecting into the RPV.

Fifteen minutes later, a LOOP occurs and the Division 1 Diesel Generator fails to start. ONI- R10, Loss of AC Power, is entered.

Prior to restoring the Division 1 Diesel Generator, an automatic start of LPCI Pump A must be prevented due to the: _____.

- A. loss of NPSH.
- B. loss of pump seal cooling.
- C. potential for water hammer.
- D. potential for Diesel Generator overload.

ANSWER: C.

Perry Nuclear Power Plant
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Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	
	Group #	1	
	K/A#	203000 K6.03	
	Importance Rating	3.7	
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – The LPCI Pump A suction valve fails As-Is on a loss of power, therefore pump NPSH is not affected.</p> <p>B – Cooling water to the LPCI Pump A seal will be automatically restored when the bus is energized due to ECCW Pump A automatically restarting.</p> <p>D – If an auto start were to occur, D/G overload is automatically prevented by the breaker logic for the LPCI A and LPCS pumps, therefore this is not a concern in this situation.</p>			
Technical Reference(s): SOI-E12, ONI-R10		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-E12 Obj. J, O; OT-3036-006-R10 Obj. J; OT-3035-005-19 Obj. A			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
<p>Comments (Why is it an upper level question):</p> <p>The Candidate must predict the impact of the loss of a D/G in the context of the initial conditions provided, and identify the required action by applying his knowledge of system operation and plant procedures.</p>			

Perry Nuclear Power Plant
NRC Written Examination
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QUESTION Common 041

The following plant conditions exist:

- A DBA Loss of Coolant Accident has occurred
- The RPV is depressurized.
- All control rods are fully inserted.
- LPCS and LPCI A, B, and C are injecting into the reactor vessel at 6,000 gpm each.
- RPV water level is +20 inches and increasing rapidly.

A Control Room Operator subsequently observes that LPCS System flow and pump amps are fluctuating significantly. LPCI A, B, and C parameters are steady within their normal indications.

Which one of the following describes the condition of the LPCS Pump, including guidance for continued operation?

The LPCS Pump is _____.

- A. running out and may be secured since adequate core cooling exists.
- B. running out and should not be secured since adequate core cooling does not exist.
- C. cavitating and may be secured since adequate core cooling exists.
- D. cavitating and should not be secured since adequate core cooling does not exist.

ANSWER: C.

Perry Nuclear Power Plant
NRC Written Examination
Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	209001 K5.01	
	Importance Rating	2.6	2.7
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A & B – This condition does not indicate a pump in runout condition. The indicated flow is within the LPCS design capacity. (By design, LPCS has a restricting orifice in the discharge line to prevent pump runout).</p> <p>D – This indicates the pump is cavitating but adequate core cooling does exist since reactor water level is above TAF.</p>			
Technical Reference(s): PEI Bases Document, GP Components Text, Ch 2		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3402-005-01 Obj. C; OT-3303-004-02 Obj. 2, 3, 7			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u>Perry Jan. 2002</u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> A </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question): The Candidate is required to analyze given pump indications to determine if cavitation is occurring and also determine based on knowledge of adequate core cooling whether or not the LPCS pump may be secured.			

Perry Nuclear Power Plant
NRC Written Examination
Data Sheets

QUESTION Common 042

The following plant conditions exist:

- HPCS automatically initiated due to low RPV water level.
- RPV water level is currently + 225 inches indicated on Wide Range Level.
- No operator actions have been taken.

Which one of the following describes the current status of the HPCS Injection Valve, including the HPCS light indications the Control Room Operator will observe on panel P601?

- A. Closed with the amber light ON above the HPCS INJECTION VALVE control switch.
- B. Closed with the white light ON above the RX WTR LEVEL HIGH SEAL IN RESET pushbutton.
- C. Open with the amber light OFF above the HPCS INJECTION VALVE control switch.
- D. Open with the white light OFF above the RX WTR LEVEL HIGH SEAL IN RESET pushbutton.

ANSWER: B.

Perry Nuclear Power Plant
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Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	209002 A3.06	
	Importance Rating	2.8	2.8
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – The amber light will not illuminate when the HPCS Injection Valve automatically closes at RPV Level 8 (+ 219 inches). C & D – At the RPV level given in the initial conditions, the valve will be closed, not open.			
Technical Reference(s): SDM-E22A, ARI-H13-P601-16(F5)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-E22A Obj. E			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): The Candidate must predict the response of the HPCS Injection Valve, including expected light indications, based on initial conditions provided.			

Perry Nuclear Power Plant
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QUESTION Common 043

The following plant conditions exist:

- An ATWS is in progress and PEI-B13, RPV Control (ATWS), has been entered.
- Both SLC Pump keylock switches are in the ON position.
- Both SLC Pump Suction Valves, 1C41-F001A & B, are open.
- SLC Storage Tank Level is 4000 gallons.
- The C41-F004A white SQUIB CONTINUITY indicating light is OFF.
- The C41-F004B white SQUIB CONTINUITY indicating light is ON.

Which one of the following describes the current status of the SLC System?

- A. Only SLC Pump A started and is injecting into the RPV.
- B. Only SLC Pump A started; however, it is not injecting into the RPV.
- C. Both SLC Pumps started; however, only SLC Pump A is injecting into the RPV.
- D. Both SLC Pumps started and are injecting into the RPV.

ANSWER: D.

Perry Nuclear Power Plant
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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	211000 A1.09	
	Importance Rating	4.0	4.1
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A & B – Both SLC Pumps will be running based on the initial conditions provided. C – Both SLC Pumps will inject because the normal system lineup allows both pumps to inject through a single squib valve.			
Technical Reference(s): SDM-C41		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-COMBINED-000-C41 Obj. B, D, E, F			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): The Candidate must apply his knowledge of interlocks and flowpaths to the failure provided in the initial conditions, and then predict the final configuration and injection status of the SLC system.			

Perry Nuclear Power Plant
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QUESTION Common 044

The plant is operating at 100% power. RPS Trip Systems A and B are reset.

Which one of the following describes the effect, if any, of depressing the INST VOLUME TEST ISOLATION CH A TEST switch, C71A-S2A, located on panel P680?

- A. None of the SDV Vent and Drain Valves will close.
- B. Only the inboard SDV Vent and Drain Valves will close.
- C. Only the outboard SDV Vent and Drain Valves will close.
- D. All of the SDV Vent and Drain Valves will close.

ANSWER: A.

Perry Nuclear Power Plant
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Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	212000 A4.12	
	Importance Rating	3.9	3.9
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B, C, & D – No valves will close when depressing this switch with RPS trip systems A & B reset.			
Technical Reference(s): SDM-C71		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-006-C71 Obj. C, D			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): The Candidate must apply his knowledge of system construction and operation in order to predict the response of the system when operating a single test switch.			

Perry Nuclear Power Plant
NRC Written Examination
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QUESTION Common 045

An IRM detector, when compared to a SRM detector, can be operated at higher neutron flux levels without becoming saturated, because the IRM detector operates _____.

- A. at a higher detector voltage.
- B. at a higher gas pressure.
- C. with a lower U^{235} enrichment.
- D. with a lower Uranium Oxide (O_3O_8) content.

ANSWER: D.

Perry Nuclear Power Plant
NRC Written Examination
Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	2
	K/A#	215003 K5.01	
	Importance Rating	2.6	2.7
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – The detector voltage in an IRM detector is lower than in a SRM detector. B – The gas pressure in an IRM detector is lower than in a SRM detector. C – The U ²³⁵ enrichment in the two detectors is the same (93.5%).			
Technical Reference(s): SDM-C51(IRM)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-C51(IRM) Obj. B			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

Perry Nuclear Power Plant
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QUESTION Common 046

A reactor startup is being performed. All SRMs and IRMs are OPERABLE.

All IRMs are indicating on-scale on Range 2.

The following SRM readings exist:

- SRM A - 9×10^4 cps
- SRM B - 2×10^5 cps
- SRM C - 9×10^4 cps
- SRM D - 8×10^4 cps

Which one of the following describes the response of SRM Channel B, including the allowable action the Control Room Operator can take in order to correct the condition per the appropriate operating instructions?

- A. A Rod Block and a Half Scram are generated; Withdraw the detector to maintain $10^2 - 10^5$ cps.
- B. A Rod Block and a Half Scram are generated; Bypass the SRM on panel P680.
- C. Only a Rod Block is generated; Withdraw the detector to maintain $10^2 - 10^5$ cps.
- D. Only a Rod Block is generated; Bypass the SRM on panel P680.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	215004 A2.04	
	Importance Rating	3.5	3.7
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A & B – The SRM system does not generate Half Scram signals. D – Based on the initial conditions provided, a valid upscale trip exists, and thus bypassing the channel is not allowable by procedure.			
Technical Reference(s): SDM-C51(SRM), IOI-1, ARI-H13-P680-6(C1), SOI-C51(SRM)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-C51(SRM) Obj. D, F, G; OT-3046-003-03a Obj. A; OT-3046-006-09 Obj. 1			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____		
	Comprehension or Analysis <u> A </u>		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question): The Candidate must analyze the initial conditions provided and based on his knowledge of system operation and procedural requirements select the correct system response and the correct course of action to correct the condition.			

Perry Nuclear Power Plant
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QUESTION Common 047

The plant is operating at 75% power.

Which one of the following setpoints is displayed when the Operator at the Controls depresses the APRM ALARM LEVEL RECORD pushbutton for an IRM/APRM Recorder?

- A. IRM high flux rod block.
- B. IRM upscale scram.
- C. APRM flow-biased rod block.
- D. APRM flow-biased scram.

ANSWER: C.

Perry Nuclear Power Plant
NRC Written Examination
Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	215005 K1.08	
	Importance Rating	3.0	3.0
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, B & D – The recorder <u>only</u> displays the APRM flow-biased rod block setpoint.			
Technical Reference(s): SDM-C51(PRM & OPRM), IOI-1		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-005-C51(APRM & OPRM) Obj. C			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> Perry June 2001 </u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question):			

Perry Nuclear Power Plant
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QUESTION RO 048

The plant is operating at 70% power following a control rod sequence exchange. Plant conditions have been stable for 15 minutes.

The Control Room Operator observes the plant data indicated on the attached Process Computer Nuclear Heat Balance screen.

Which one of the following groups of APRM channels all exceed the Technical Specification Allowable Value for 'CAL' in accordance with SVI-C51-T0024, APRM Gain Channel Calibration?

- A. Channels A, C, F, and G.
- B. Channels A, C, D, and H.
- C. Channels B, D, E, and H.
- D. Channels B, E, F, and G.

ANSWER: D.

Perry Nuclear Power Plant
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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	
	Group #	1	
	K/A#	215005 A1.07	
	Importance Rating	3.0	
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – Only channels F & G require gain adjustment. B – No channels in this group require gain adjustment. C – Only channels B & E require gain adjustment.			
Technical Reference(s): PRI-TSR, SVI-C51-T0024		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: Process Computer Nuclear Heat Balance screen printout.			
Learning Objective (As available): OT-3036-004-C91 Obj. G; OT-3036-005-C51(APRM & OPRM) Obj. J, M			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> A </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): The Candidate is required to analyze plant data to determine which instruments require the specified corrective action.			

NSSS HEAT BALANCE

APRM Summary	
VALUE	CAL
1	1.5
2	1.5
3	1.5
4	1.5
5	1.5

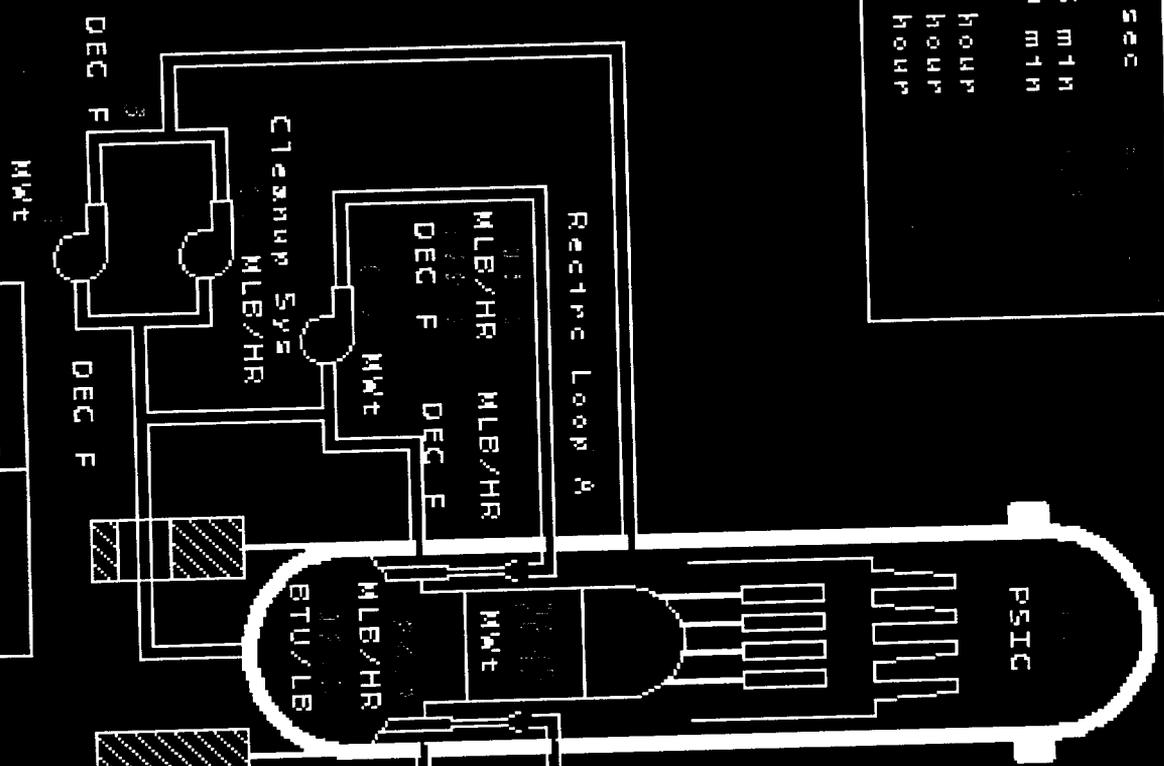
Avg Power (MWt)	
5 sec	
15 min	
30 min	
1 hour	
4 hour	
8 hour	

Thermal Limits	
MFLPD	0.850
MAPRAT	0.850
MFLCPR	0.850

Plant Data	
GMWE	0.120 MWt
GMWT	0.050 MWt
Efficiency	33.0 %
PCTPWR	100 %
PCTLLP	100 %
PCTFLO	100 %

Feedwater System	
TRAIN A	
5 33 MLB/HR	
330 0 DEC F(CA1)	
330 0 DEC F(CA2)	
TRAIN B	
5 33 MLB/HR	
330 0 DEC F(CB1)	
330 0 DEC F(CB2)	
TOTAL FLOW (VEND)	
5 33 MLB/HR	
AVERAGE TEMP	
330 0 DEC F	
QFM	
MWt	

Total Core Flows	
WT	MLB/HR
WTSUB	MLB/HR
WTOPS	MLB/HR
WTFLAC	MLB/HR
8 Hour Average	
	MLB/HR



CRD Flows	
Wcpd	MLB/HR
Tcpd	300.0 DEC F
Qcpd	300.0 MWt

Main Condensers			
VAC	A	B	C
			IN HW

PREVIOUS FUNCTION CANCEL

F1=MENU MENU F2= TERM=TT040CONSOLE= ANONYMOUS F3= F4= MODE=UNKNOWN ARCHV= F5= F6= SIMULATOR

Perry Nuclear Power Plant
NRC Written Examination
Data Sheets

QUESTION SRO 048

The plant is operating at 70% power following a control rod sequence exchange. Plant conditions have been stable for 15 minutes.

The Unit Supervisor observes the plant data indicated on the attached Process Computer Nuclear Heat Balance screen.

Which one of the following groups of APRM channels, including their respective APRM Functions, all must be declared Inoperable per LCO 3.3.1.1, RPS Instrumentation?

Technical Specification LCO 3.3.1.1 is provided for reference.

- A. Channels A, C, E, and F; only the APRM Flow Biased Simulated Thermal Power-High and Fixed Neutron Flux-High Functions.
- B. Channels A, C, E, and F; all four APRM Functions.
- C. Channels B, E, F, and G; only the APRM Flow Biased Simulated Thermal Power-High and Fixed Neutron Flux-High Functions.
- D. Channels B, E, F, and G; all four APRM Functions.

ANSWER: C.

Perry Nuclear Power Plant
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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		2
	Group #		1
	K/A#	215005 A1.07	
	Importance Rating		3.4
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A & B – Channels A and C in this group do not exceed the Tech Spec allowable value for 'Cal' and thus are not Inoperable.</p> <p>D – Only two of the APRM functions listed in TS Table 3.3.1.1.-1 are Inoperable based on the conditions provided. Function 2.a is only applicable in MODE 2, and Function 2.d is not dependent on meeting SR 3.3.1.1.2</p>			
Technical Reference(s): TS 3.3.1.1		Reference Attached: <u> X </u> (Attach if not previously provided)	
<p>Proposed references to be provided to applicants during examination:</p> <p>Technical Specification 3.3.1.1, RPS Instrumentation; Process Computer Nuclear Heat Balance screen printout.</p>			
Learning Objective (As available): OT-3036-004-C91 Obj. G; OT-3036-005-C51(APRM & OPRM) Obj. J, M; OT-3037-005-07 Obj. F, H			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> A </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> X </u>		
<p>Comments (Why is it an upper level / SRO question):</p> <p>The SRO Candidate is required to analyze plant data and refer to Technical Specifications to determine which Tech Spec Functions are Inoperable. The determination of equipment OPERABILITY is the responsibility of the SRO.</p>			

NSSS HEAT BALANCE

Avg Power (MWt)	
5 sec	2
15 min	1000.5
30 min	1000.5
1 hour	1000.5
4 hour	1000.5
8 hour	1000.5

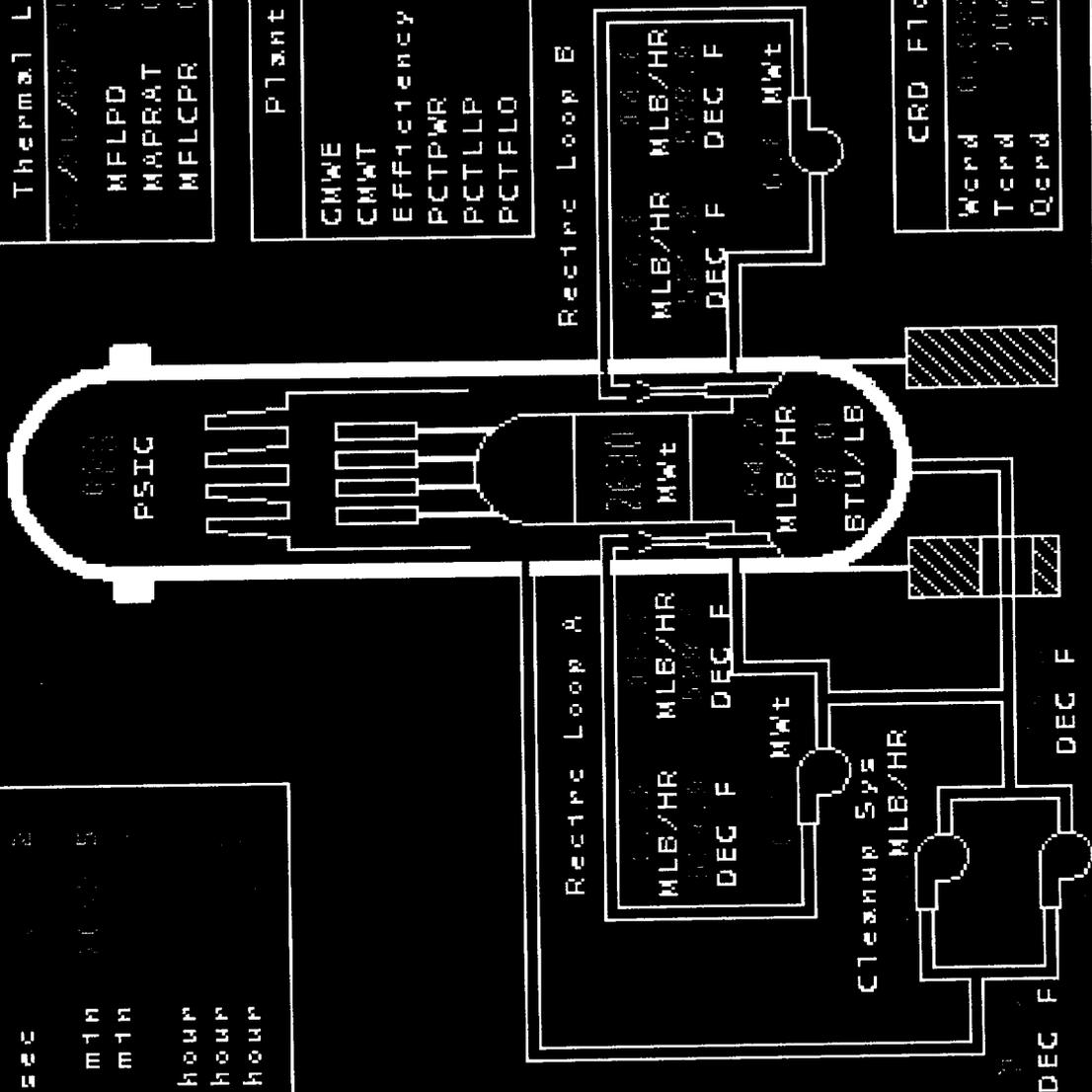
APRM Summary	
VALUE	VAL
A	1.5
C	1.5
E	1.5
G	1.5
I	1.5
K	1.5
M	1.5
O	1.5
Q	1.5
S	1.5
U	1.5
W	1.5
Y	1.5

Feedwater System	
TRAIN A	MLB/HR
380.0	DEC F(CA1)
380.0	DEC F(CA2)
TRAIN B	MLB/HR
500.0	DEC F(CB1)
500.0	DEC F(CB2)
TOTAL FLOW (VEN)	MLB/HR
30.76	AVERAGE TEMP
300.0	DEC F
2000	QFW
2000	MWt

Total Core Flows	
WTSUB	MLB/HR
WTOPS	MLB/HR
WTFLAG	MLB/HR
3 Hour Average	MLB/HR

Thermal Limits	
MFLPD	0.800
MAPRAT	0.800
MFLCPR	0.800

Plant Data	
CMWE	2000.0 MWt
CMWT	2000.0 MWt
Efficiency	30.0 %
PCTPWR	20.0 %
PCTLLP	24.5 %
PCTFLO	31.3 %



CRD Flows	
Wcrd	0.00000 MLB/HR
Tcrd	0.00000 DEC F
Qcrd	0.00000 MWt

Main Condensers		
A	B	C
VAC	0.00	0.00
IN	0.00	0.00
HR		

PREVIOUS FUNCTION CANCEL

Perry Nuclear Power Plant
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QUESTION Common 049

Which one of the following signals will cause the Reactor Recirculation Pumps to automatically transfer from fast to slow speed AND cannot be bypassed with a keylock Bypass Switch?

- A. RPV pressure (> 1083 psig).
- B. Turbine Control Valve Fast Closure (EOC-RPT).
- C. Total Feedwater Flow (< 3.43 Mlbm/hr for 15 seconds).
- D. Steam Dome/RPV Bottom Head Drain Differential Temperature ($> 100^{\circ}\text{F}$).

ANSWER: A.

Perry Nuclear Power Plant
NRC Written Examination
Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	216000 K4.10	
	Importance Rating	2.9	3.1
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B & C – These signals will transfer a R/R Pump from fast to slow speed and can be bypassed. D – This signal is a start permissive, not a transfer from fast to slow speed, and cannot be bypassed.			
Technical Reference(s): SDM-B33, SDM-B21(NBPI), ARI-H13-P680-4(A3)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-007-B33 Obj. E; OT-3036-004-B21(INST) Obj. B			
Question Source:	Bank # 1254	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question):			

Perry Nuclear Power Plant
NRC Written Examination
Data Sheets

QUESTION Common 050

The plant is operating at 100% power conducting a full flow test (CST to CST) of the Reactor Core Isolation Cooling (RCIC) System.

A problem is encountered and the Control Room Operator depresses the RCIC MANUAL ISOLATION pushbutton (E51-S23).

Which one of the following describes the response, if any, of the RCIC System?

- A. The RCIC System continues to operate.
- B. The RCIC Turbine Steam Supply Isolation Valve (E51-F045) closes.
- C. The RCIC Steam Supply Inboard Isolation Valve (E51-F063) closes.
- D. The RCIC Steam Supply Outboard Isolation Valve (E51-F064) closes.

ANSWER: A.

Perry Nuclear Power Plant
NRC Written Examination
Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	217000 A4.04	
	Importance Rating	3.6	3.6
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B – The F045 valve only closes automatically on high reactor water level (L8). C- The F063 valve only closes on a Division 2 isolation signal or manually, this pushbutton operates Division 1 isolation logic. D – The F064 valve does not close since the manual pushbutton isolation is only active if an automatic RCIC initiation signal is present.			
Technical Reference(s): SDM-E51		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-003-E51 Obj. D			
Question Source:	Bank # <u> X </u> Modified Bank # <u> </u> New <u> </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam <u>Perry Jan. 2002</u> Previous Quiz / Test <u> X </u>		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> </u> Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> </u>		
Comments (Why is it an upper level question): The Candidate is required to predict the RCIC system response to a manually initiated isolation signal with no automatic initiation signal present.			

Perry Nuclear Power Plant
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QUESTION Common 051

The plant is operating at 100% power. The Safety Related Instrument Air Compressor is out of service due to a failed motor.

Alarms 'ADS A(B) AIR STRG TANK PRESS HI/LO' have been received on panel P601.

Air pressure as indicated on ADS AIR STRG TANK PRESS, 1P57-R026A(B), is 155 psig and slowly decreasing.

Which one of the following describes the impact on the ADS valves if air pressure continues to decrease, including the action that will restore air pressure to the normal band (160 – 170 psig)?

- A. The ADS valves will become inoperable when air pressure decreases to < 150 psig; restore air pressure using Instrument Air (P52).
- B. The ADS valves will become inoperable when air pressure decreases to < 150 psig; restore air pressure using portable air cylinders.
- C. The ADS valves will become inoperable when air pressure decreases to < 90 psig; restore air pressure using Instrument Air (P52).
- D. The ADS valves will become inoperable when air pressure decreases to < 90 psig; restore air pressure using portable air cylinders.

ANSWER: B.

Perry Nuclear Power Plant
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Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	218000 A2.03	
	Importance Rating	3.4	3.6
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – Instrument Air can be connected to the system, however system pressure is too low to restore air pressure to the normal band. C & D – The ADS valves will become inoperable at < 150 psig, not < 90 psig.			
Technical Reference(s): SDM-P57, SOI-P57, ARI-H13-P601-19(H8,H10)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-COMBINED-000-P57 Obj. B, G, H			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	_____ (Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): The Candidate is required to utilize his knowledge of system flowpaths, system inter-relations and procedural limitations in order to predict the impact of the problem on the system and identify the corrective action.			

Perry Nuclear Power Plant
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Data Sheets

QUESTION Common 052

Which one of the following describes the electrical power supply(s) to the Drywell Cooling System (M13) Ventilation Fans?

- A. Only from 480V Non-Class 1E Busses.
- B. Only from 480V Class 1E Busses.
- C. 480V Non-Class 1E Busses or 480V Diesel Backed Bus (XF-1-A).
- D. 480V Class 1E Busses or 480V Diesel Backed Bus (XF-1-A).

ANSWER: C.

Perry Nuclear Power Plant
NRC Written Examination
Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	223001 K2.09	
	Importance Rating	2.7	2.9
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, B & D – The power supplies described in these choices are incorrect.			
Technical Reference(s): SDM-M13, SDM-R23/24/25		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-M13 Obj. C, F; OT-3036-003-R23/24/25 Obj. B			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

Perry Nuclear Power Plant
NRC Written Examination
Data Sheets

QUESTION Common 053

Which one of the following describes the logic network used in the Nuclear Steam Supply Shutoff System for the Balance of Plant Isolation Valves?

- A. Operation of both channels in one trip system isolates one of the two valves on each penetration.
- B. Operation of both channels in one trip system isolates both valves on each penetration.
- C. Operation of one channel in both trip systems isolates one of the two valves on each penetration.
- D. Operation of one channel in both trip systems isolates both valves on each penetration.

ANSWER: A.

Perry Nuclear Power Plant
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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	223002 K4.01	
	Importance Rating	3.0	3.2
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B – Operation of both channels in one trip system will only isolate one valve on each penetration. C – Operation of one channel in both trip systems will not isolate any valves. D - Operation of one channel in both trip systems will not isolate any valves. This describes the operation of the MSL isolation logic, not the BOP isolation logic.			
Technical Reference(s): SDM-B21(NS4)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-002-B21(NS4) Obj. B, D			
Question Source:	Bank # _____ Modified Bank # 91 <u> X </u> New _____	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

Perry Nuclear Power Plant
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QUESTION Common 054

The following plant conditions exist:

- The Control Room has been evacuated.
- ONI-C61, Evacuation of the Control Room, has been entered.
- IOI-11, Shutdown from Outside Control Room, has been entered.
- Control has been transferred to the Division 1 and 2 Remote Shutdown Panels.
- The Division 1 SRV Control Switches are in the CLOSE position.
- The Division 2 SRV Control Switches are in the OFF position.

Which one of the following describes the SRV modes of operation available from outside the Control Room based on these plant conditions?

- A. Safety and Relief
- B. Relief and Low-Low Set
- C. Low-Low Set and Manual
- D. Manual and Safety

ANSWER: D.

Perry Nuclear Power Plant
NRC Written Examination
Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	239002 K4.05	
	Importance Rating	3.6	3.7
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, B & C – Based on the given plant conditions, the A and B SRV solenoids will be isolated from the Control Room, thus only the Manual and Safety modes are available.			
Technical Reference(s): SDM-B21/N11, SDM-C61		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-005-B21/N11 Obj. E; OT-3036-004-C61 Obj. E			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

Perry Nuclear Power Plant
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QUESTION Common 055

Which one of the following describes the purpose of the Maximum Combined Flow Limiter associated with the EHC System (N32/C85)?

- A. Generates a signal used to provide a high limit on turbine steam flow.
- B. Generates a signal used to control the position of the TCVs, CIVs, and Bypass Valves.
- C. Generates a signal used to lower turbine load upon actuation of a Turbine Load Set Runback.
- D. Generates a signal used to provide a high limit on the sum of turbine and bypass steam flows.

ANSWER: D.

Perry Nuclear Power Plant
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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	241000 Gen. 2.1.28	
	Importance Rating	3.2	3.3
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – This is the purpose of the Load Limit Set Signal, not the Maximum Combined Flow Limiter. B – This is the purpose of the Load Control Unit, not the Maximum Combined Flow Limiter. C – This is the purpose of the Load Set Motor, not the Maximum Combined Flow Limiter.			
Technical Reference(s): SDM-N32/C85		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-002-N32/C85 Obj. D, E			
Question Source:	Bank # 881	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question):			

Perry Nuclear Power Plant
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QUESTION Common 056

The following plant conditions exist:

- The plant is operating at 100% power.
- RFBPs A, B, and C are operating.
- RFBP D is in Standby.

A lockout condition occurs on Bus H12.

Which one of the following describes the effect on the RFBPs, including the reactor power limitation?

- A. RFBPs B and D are not running; reactor power is limited to 66%.
- B. RFBPs A and C are not running; reactor power is limited to 66%.
- C. RFBPs B and D are not running; reactor power is limited to 85%.
- D. RFBPs A and C are not running; reactor power is limited to 85%.

ANSWER: A.

Perry Nuclear Power Plant
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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	2
	K/A#	259001 K1.07	
	Importance Rating	2.9	2.9
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B & D – These are the pumps that would be effected if Bus H11 had a lockout, not Bus H12. C – This power limitation applies when there are two feed pumps (MFP and a RFPT) operating, not when there are two RFBPs operating.			
Technical Reference(s): SDM-N27, SOI-N27		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-N27 Obj. C, I			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): The Candidate must identify how the bus lockout effected the RFBP lineup based on the initial conditions provided, and then determine the procedural limit on reactor power.			

Perry Nuclear Power Plant
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QUESTION Common 057

The following plant conditions exist:

- The plant is operating at 50% power.
- RFP A and the MFP are in AUTO on the Master Level Controller.
- RFP B is out of service.
- RFP A FLOW CONTROL, 1C34-R601A, output fails to 0%.
- Alarm 'FDW PUMP FREEZE CONT FAIL' is received on panel P680.
- RFPT A LOSS OF SIGNAL amber light is ON.
- No operator actions have been taken.

Which one of the following describes the response of the Feedwater System?

- A. RFP A flow remains the same and MFP flow increases.
- B. RFP A flow remains the same and MFP flow remains the same.
- C. RFP A flow decreases and MFP flow increases.
- D. RFP A flow decreases and MFP flow remains the same.

ANSWER: B.

Perry Nuclear Power Plant
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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	259002 K3.02	
	Importance Rating	3.7	3.7
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – MFP flow remains the same since RFP A flow remains the same. C & D – RFP A flow remains the same because the RFPT A LOSS OF SIGNAL results in the RFPT A speed control circuitry freezing at the last valid input. Correspondingly, MFP flow remains the same.			
Technical Reference(s): SDM-N27, ARI-H13-P680-3(E5)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-C34 Obj. C, H, I; OT-3036-004-N27 Obj. C			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): The Candidate must predict the Feedwater System response based on a set of initial conditions.			

Perry Nuclear Power Plant
NRC Written Examination
Data Sheets

QUESTION Common 058

The plant is operating at 100% power with AEGTS Train A in operation.

A loss of the 120 VAC power supply to the AEGTS Train A Exhaust and Recirculation Dampers occurs.

Which one of the following describes the effect on the AEGTS Train A dampers?

- A. Exhaust Damper fails closed; Recirculation Damper fails closed.
- B. Exhaust Damper fails closed; Recirculation Damper fails open.
- C. Exhaust Damper fails open; Recirculation Damper fails closed.
- D. Exhaust Damper fails open; Recirculation Damper fails open.

ANSWER: C.

Perry Nuclear Power Plant
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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	261000 K6.01	
	Importance Rating	2.9	3.0
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, B & D – The fail positions listed in these choices are all incorrect.			
Technical Reference(s): SDM-M15, PDB-H0021		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-M15 Obj. F			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

Perry Nuclear Power Plant
NRC Written Examination
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QUESTION Common 059

Which one of the following describes the start sequence for ESW Pump A following an automatic start of the Division 1 Diesel Generator?

- A. With no time delay the discharge valve opens. When it reaches 5% open then the pump starts.
- B. With no time delay the discharge valve opens. When it reaches 15% open then the pump starts.
- C. After an 18.5 second time delay the discharge valve opens. When it reaches 5% open then the pump starts.
- D. After a 28 second time delay the discharge valve opens. When it reaches 15% open then the pump starts.

ANSWER: C.

Perry Nuclear Power Plant
NRC Written Examination
Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	1	1
	K/A#	264000 A3.06	
	Importance Rating	3.1	3.2
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – This is the start sequence for ESW Pump A on a manual startup, not an automatic start. B – The pump starts when the discharge valve reaches 5%, not 15%. D – This describes the start sequence for the Division 3 ESW Pump.			
Technical Reference(s): SDM-P45		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-COMBINED-000-P45 Obj. F, G			
Question Source:	Bank # 388	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> C </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question): The Candidate must utilize his knowledge of system operation and system inter-relations to predict the correct system response.			

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QUESTION Common 060

A control rod has been withdrawn one notch and has settled into the desired notch position.

Which one of the following describes how the control rod position is detected for display on panel P680?

- A. The even reed switches at this position are closed.
- B. The even reed switches at this position are open.
- C. The odd reed switches at this position are closed.
- D. The odd reed switches at this position are open.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	2	3
	K/A#	201003 K4.05	
	Importance Rating	3.2	3.3
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B – The even reed switches at this position are closed, not open. C & D – Odd reed switches are positioned in between notch positions, not at the notch position.			
Technical Reference(s): SDM-C11(CRDM)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-COMBINED-000-C11(CRDM) Obj. C			
Question Source:	Bank # 201	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question):			

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QUESTION Common 061

The plant is operating at 100% power when a loss of Bus ED-1-A occurs?

Which one of the following describes the effect on the Reactor Recirculation System?

- A. Reactor Recirculation Pump Breakers 5A and 5B trip; Reactor Recirculation Pumps Transfer to Slow speed.
- B. Reactor Recirculation Pump Breakers 5A and 5B trip; Reactor Recirculation Pumps trip to Off.
- C. Reactor Recirculation Pump Breakers 3A and 3B trip; Reactor Recirculation Pumps Transfer to Slow speed.
- D. Reactor Recirculation Pump Breakers 3A and 3B trip; Reactor Recirculation Pumps trip to Off.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	202001 K6.04	
	Importance Rating	2.7	2.8
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – The Reactor Recirculation Pumps trip to Off, not transfer to Slow. C & D – Reactor Recirculation Pump Breakers 3A and 3B cannot be tripped on a loss of ED-1-A.			
Technical Reference(s): ONI-R42-1		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-006-R42 Obj. E; OT-3035-003-19 Obj. 7			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): The Candidate must utilize his knowledge of DC power supplies and Recirculation System pump logic to predict the response of the Recirculation System to a loss of DC power.			

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QUESTION Common 062

OAI-0201, Operations General Instructions and Operating Practices, requires that the Unit Supervisor or Shift Manager supervise valve alignments during RHR Shutdown Cooling Mode operations with E12-F008 and E12-F009 open.

Which one of the following describes the reason for this requirement?

- A. To prevent a RHR water hammer.
- B. To prevent an inadvertent RPV drain down.
- C. To prevent exceeding the RPV cooldown rate limit.
- D. To prevent exceeding the RHR Heat Exchanger flow limit.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	205000 K5.02	
	Importance Rating	2.8	2.9
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, C & D – These issues are valid concerns when operating RHR in Shutdown Cooling Mode, however, the requirement stated in OAI-0201 is not based on addressing these.			
Technical Reference(s): OAI-0201, SOI-E12		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-E12 Obj. J; OT-3039-008-02 Obj. A			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

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QUESTION Common 063

Following an automatic initiation of LPCI, which one of the following conditions must be met in order to shift RHR Loop A to the Suppression Pool Cooling mode in accordance with SOI-E12, Residual Heat Removal System.

- A. The LPCI initiation logic must be reset on panel P601 in order to open RHR A TEST VALVE TO SUPR POOL, 1E12-F024A.
- B. The LPCI initiation logic must be bypassed on panel P629 in order to open RHR A TEST VALVE TO SUPR POOL, 1E12-F024A.
- C. 110 seconds must elapse in order to close RHR A HX'S BYPASS VALVE, 1E12-F048A.
- D. 10 minutes must elapse in order to close RHR A HX'S BYPASS VALVE, 1E12-F048A.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	219000 A4.06	
	Importance Rating	3.9	3.7
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – 1E12-F024A has override capability therefore resetting the LPCI logic is not required.</p> <p>B – 1E12-F053A has bypass capability, not 1E12-F024A.</p> <p>C – 110 seconds is the time delay for the automatic opening of 1E12-F048A after receipt of a LPCI signal, not for closing of the valve.</p>			
Technical Reference(s): SDM-E12, SOI-E12		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-E12 Obj. B, E			
Question Source:	Bank # 788	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> C </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
<p>Comments (Why is it an upper level question):</p> <p>The Candidate must apply his knowledge of valve logic operation in order to identify the correct requirements for operating the RHR system based on the initial conditions provided.</p>			

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QUESTION Common 064

The following plant conditions exist:

- RHR Loop A started in the LPCI mode on a high Drywell pressure signal.
- RHR Pump A was shutdown by taking its control switch to the STOP position.

Which one of the following conditions will automatically re-start RHR Pump A?

Assume no further operator actions are taken.

- A. Automatic Depressurization System (ADS) initiation signal occurs.
- B. Drywell pressure signal clears and re-occurs.
- C. Containment Spray initiation signal occurs.
- D. RPV low water level (L1) signal occurs.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	2	1
	K/A#	226001 A3.07	
	Importance Rating	3.5	3.5
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – An ADS initiation signal does <u>not</u> cause an automatic RHR pump start. ADS requires a low pressure ECCS pump (RHR or LPCS) to be in operation in order to generate an ADS initiation signal.</p> <p>B – The RHR LOCA logic does <u>not</u> automatically reset if the initiating conditions clear. The logic is manually reset by the operator using the Seal-in Reset PB.</p> <p>D – The RHR LOCA logic is already sealed-in. The RPV low water level signal would therefore have no further effect.</p>			
Technical Reference(s): SDM-E12		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-E12 Obj. F, G			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u>Perry June 2001</u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> C </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
<p>Comments (Why is it an upper level question):</p> <p>The Candidate is required to predict the response of the RHR System based on initial conditions provided.</p>			

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QUESTION Common 065

The following plant conditions exist:

- The plant is in HOT SHUTDOWN.
- RPV water level is 200 inches and stable.
- RPV pressure is 250 psig and stable.
- The MFP is in operation with the SULC in MANUAL and 0% output.
- A vacuum exists in the Main Condenser.
- The Reactor Head Vent is lined up to the MSLs.
- The C85 Pressure Setpoint is adjusted for 200-400 psig above RPV pressure.

The Unit Supervisor directs the Control Room Operator to open the MSIVs in accordance with SOI-B21, Nuclear Steam Supply Shutoff, Automatic Depressurization, and Nuclear Steam Supply Systems.

Which one of the following describes the expected RPV water level response when the MSIVs are opened?

- A. Level initially increases and then stabilizes below the original level.
- B. Level initially increases and then stabilizes at its original level.
- C. Level initially decreases and then stabilizes below the original level.
- D. Level initially decreases and then stabilizes at its original level.

ANSWER: A

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	2	3
	K/A#	239001 A1.07	
	Importance Rating	3.7	3.7
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>B - Level initially increases (swells) due to the temporary drop in RPV pressure when the MSIVs are opened (the MSLs are initially at a vacuum). Level then decreases to a new lower value because some of the actual water volume in the RPV flashed to steam in order to fill the volume of MSL piping which was initially void of steam.</p> <p>C & D – Level initially increases (swells) due to the temporary drop in RPV pressure when the MSIVs are opened (the MSLs are initially at a vacuum).</p>			
Technical Reference(s): SOI-B21, LER 88-014, LER 88-015		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-005-B21-N11 Obj. G, OT-3046-006-03 Obj. 1			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____		
	Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question): The Candidate must predict the response of one critical parameter (RPV water level) based on opening the MSIVs when RPV water temperature is > 200°F.			

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QUESTION Common 066

The following plant conditions exist:

- The plant is operating at 65% power.
- Alarm LOAD SET RUNBACK STATOR CLG is received on panel P680.
- The Turbine-Generator runback reduces Main Generator load to 25% of rated.
- No operator actions are taken.

Which one of the following describes the reactor power response to this event, including the reason why?

- A. Reactor power remains unchanged because the Bypass Valves open to compensate for the reduction in Main Turbine load.
- B. Reactor power decreases and stabilizes at a lower value because the Reactor Recirculation FCVs runback to compensate for the reduction in Main Turbine load.
- C. Reactor power increases and then the reactor scrams because the Bypass Valves open but cannot fully compensate for the reduction in Main Turbine load.
- D. Reactor power increases and stabilizes at a higher value because the Reactor Recirculation FCVs runback but cannot fully compensate for the reduction in Main Turbine load.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	245000 K3.03	
	Importance Rating	3.9	4.0
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – The reactor eventually scrams on high pressure because the capacity of the Bypass Valves is exceeded as the Main Turbine is unloaded. Reactor power will increase due to the rising reactor pressure until the reactor scrams. At which time, reactor power decreases to subcritical levels.</p> <p>B – This is the expected response of a Load Limit Setback, not a Stator Cooling Runback.</p> <p>D - There is no FCV runback (this occurs during a Load Limit Setback).</p>			
Technical Reference(s): SDM N41/51, SDM N32/C85, ARI H13-P680-8(B6)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-N41/51 Obj. D, OT-3036-002-N32/C85 Obj. D & M, OT-3036-004-N43 Obj. G			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____		
	Comprehension or Analysis <u> A </u>		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question): The Candidate must predict the plant wide effect of receiving a SWC Runback based on his knowledge of plant systems response and analysis of the initial conditions provided.			

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QUESTION Common 067

Which one of the following describes the two off-site sources of power to the Class 1E Distribution System required in MODES 1, 2, and 3?

- A. Unit 1 Startup Transformer via LH-1-A; Unit 2 Startup Transformer via LH-2-A.
- B. Unit 1 Startup Transformer via LH-1-A; Unit 1 Startup Transformer via LH-2-A.
- C. Unit 2 Startup Transformer via LH-2-A; Unit 2 Startup Transformer via LH-1-A.
- D. Unit 2 Startup Transformer via LH-1-A; Unit 1 Startup Transformer via LH-1-A.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	2	1
	K/A#	262001 K2.01	
	Importance Rating	3.3	3.6
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>B & C – With these two lineups the sources of power originate from the same Startup Transformer, thus they constitute only a single off-site power source.</p> <p>D – This lineup powers the Class 1E buses through the same Interbus Transformer, thus it constitutes only a single off-site power source.</p>			
Technical Reference(s): SOI-R10(13Kv), Tech Spec Bases, SDM-R10		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-006-R10 Obj. B, G, K; OT-3037-001-12 Obj. A, B			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____		
	Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question): The Candidate must evaluate each of the proposed electrical lineups to determine which one meets the requirements specified in the question.			

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QUESTION Common 068

The plant is operating at 100% power when a loss of the Division 1 ATWS Inverter and ATWS Distribution Panel EV-1-A occurs.

Which one of the following describes the expected plant response to this event?

- A. A Half Scram occurs due to APRM UPSCALE trips.
- B. A Half Scram occurs due to APRM INOP trips.
- C. A Full Scram occurs due to APRM UPSCALE trips.
- D. A Full Scram occurs due to APRM INOP trips.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	262002 K1.19	
	Importance Rating	2.9	3.1
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>C & D – APRMs A, C, E, and G are the APRMs powered from EV-1-A. A loss of these APRMs will only generate a Half Scram signal.</p> <p>A – On a loss of this panel, an APRM will fail downscale, not upscale.</p>			
Technical Reference(s): SDM-R14/R15, SDM-C51(PRM & OPRM), ARI-H13-P680-6(B5)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-002-R14/15 Obj.D; OT-3036-005-C51(PRM & OPRM) Obj. B, D, H			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____		
	Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question): The Candidate is required to utilize his knowledge of APRM power supplies and failure modes to predict the response of a loss of APRM power on the Reactor Protection System.			

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QUESTION Common 069

The plant is in a Refueling Outage with Core Alterations in progress.

The Refueling Supervisor reports that a spent fuel bundle has been damaged and bubbles have been observed coming from the bundle.

The Unit Supervisor has entered ONI-J11-2, Fuel Bundle Rupture During Fuel Handling.

Which one of the following is the expected response of the Containment Ventilation Exhaust Radiation Monitor (D17-K609A-D) to this event, including an Immediate Action to be taken in accordance with ONI-J11-2?

- A. The Containment Evacuation Alarm activates; notify Radiation Protection.
- B. The Containment Evacuation Alarm activates; announce evacuation of Containment.
- C. The Containment Vessel and Drywell Purge (M14) system isolates; notify Radiation Protection.
- D. The Containment Vessel and Drywell Purge (M14) system isolates; announce evacuation of Containment.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	272000 A2.12	
	Importance Rating	3.3	4.0
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A & B – The Containment Atmosphere Radiation Monitor initiates this alarm, not the Containment Ventilation Exhaust Radiation Monitor.</p> <p>C – The action to notify Radiation Protection is a Supplemental Action of the ONI, not an Immediate Action.</p>			
Technical Reference(s): ONI-J11-2, SDM-D17A		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-D17A Obj. D; OT-3036-007-J11 Obj. I			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
<p>Comments (Why is it an upper level question):</p> <p>The Candidate must predict the response of a fuel bundle rupture on the Radiation Monitoring System and identify the correct procedural action to the event.</p>			

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QUESTION Common 070

The Fire Service Water System (P54-WTR) is in Standby Readiness when a loss of off-site power occurs.

All Emergency Diesel Generators automatically start and re-energize their respective buses.

No operator actions have been taken.

Which one of the following describes the response, if any, of the Fire Service Water system to this event?

- A. The Motor Fire Service Pump and Diesel Fire Service Pump remain in Standby Readiness.
- B. Only the Motor Fire Service Pump automatically starts.
- C. Only the Diesel Fire Service Pump automatically starts.
- D. The Motor Fire Service Pump and Diesel Fire Pump automatically start.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	286000 K4.05	
	Importance Rating	3.7	3.8
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, B & D – The Motor Fire Service Pump will lose power during a loss of off-site power event (F2G-04), thus only the Diesel Fire Service Pump is available to start.			
Technical Reference(s): SOI-P54(WTR), ONI-R10, SDM-P54(WTR)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-005-P54(WTR) Obj. C, D, F; OT-3036-006-R10 Obj. J			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____		
	Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question): The Candidate must utilize his knowledge of system power supplies and automatic start signals to predict the impact of a loss of off-site power on the Fire Service Pumps.			

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QUESTION Common 071

The plant is operating at 100% power. AEGT System (M15) Train A is in secured status.

A trip of AEGT System Fan B would affect the function of the _____.

- A. Primary Containment.
- B. Secondary Containment.
- C. Intermediate Building.
- D. Fuel Handling Building.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	2	1
	K/A#	290001 K6.03	
	Importance Rating	3.8	4.0
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, B, D – The AEGT System is a support system for only the Secondary Containment structure.			
Technical Reference(s): SDM-M15, TS 3.6.4.1 & 3.6.4.3		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-005-M15 Obj. A, B, H, OT-3037-001-10 Obj. A, B, H			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

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QUESTION Common 072

Which one of the following identifies the indication available for monitoring Control Room temperature?

- A. NUMAC temperature indicator on panel P632.
- B. NUMAC temperature indicator on panel P642.
- C. Riley temperature indicator on panel P904.
- D. Riley temperature indicator on panel P800.

ANSWER: C.

Perry Nuclear Power Plant
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Data Sheets

Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	290003 A4.04	
	Importance Rating	2.8	3.0
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, B & D – The Control Room temperature is not monitored at these locations.			
Technical Reference(s): SDM-M25/26		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-COMBINED-000-M25/26 Obj. D			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

Perry Nuclear Power Plant
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QUESTION Common 073

Which one of the following identifies the power supplies to the Unit 1 Service and Instrument Air Compressors?

	<u>Service Air Compressor</u>	<u>Instrument Air Compressor</u>
A.	Bus H11	Bus H11
B.	Bus H11	Bus H12
C.	Bus H12	Bus H11
D.	Bus H12	Bus H12

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	300000 K2.01	
	Importance Rating	2.8	2.8
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, B & C – These combinations of power supplies are incorrect.			
Technical Reference(s): SDM-P51/52, SDM-R10		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-006-R10 Obj. C			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

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QUESTION Common 074

The plant is operating at 100% power when a leak in the Reactor Recirculation Pump Heat Exchanger (seal cooler) occurs.

Which one of the following describes the effect of this event on the Nuclear Closed Cooling System?

- A. The Surge Tank level decreases; the radiation monitor reading decreases.
- B. The Surge Tank level decreases; the radiation monitor reading increases.
- C. The Surge Tank level increases; the radiation monitor reading decreases.
- D. The Surge Tank level increases; the radiation monitor reading increases.

ANSWER: D.

Perry Nuclear Power Plant
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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	2	2
	K/A#	400000 K1.04	
	Importance Rating	2.9	3.1
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A & B – At 100% power the pressure in the RCS is higher than the pressure in the NCC system, thus water will flow into the NCC system causing an increase in Surge Tank level.</p> <p>C - At 100% power the pressure in the RCS is higher than the pressure in the NCC System, thus the inflow of radioactive water into the NCC system will cause the radiation monitor reading to increase, not decrease.</p>			
Technical Reference(s): SDM-P43, SDM-D17A, ARI-H13-P970-1(E1), ARI-H13-P906-1(A1)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-D17A Obj. B, D; OT-COMBINED-000-P43 Obj. B, D, I			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____		
	Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question): The Candidate must utilize his knowledge of normal system operating parameters and system design, to predict the effect on the NCC system of a leakage path between the RCS and the NCC system.			

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QUESTION Common 075

The FPCC System (G41) is operating in a normal lineup per SOI-G41(FPCC), Fuel Pool Cooling And Cleanup System.

During surveillance stroke time testing, Containment Pools Return Inboard Isolation Valve, 1G41-F140, is closed and will not open.

Which one of the following describes the impact on FPCC Surge Tank level, including an action that will control the FPCC Surge Tank level trend?

- A. Level decreases; open Containment Pools Supply from CST Control Valve, 1G41-F130.
- B. Level decreases; close Containment Pools Supply Isolation Valve, 1G41-F100.
- C. Level increases; open Fuel Pool Surge Tank Drain Valve, G41-F619A(B).
- D. Level increases; close Containment Pools Supply Flow Control Valve, 1G41-F090.

ANSWER: B.

Perry Nuclear Power Plant
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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	2
	Group #	3	3
	K/A#	233000 A2.05	
	Importance Rating	2.5	2.5
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – Surge Tank level will decrease however, opening this valve adds water directly to the Upper Containment Pools and not the Surge Tanks.</p> <p>C & D – Surge Tank level will decrease, not increase, because inventory is being pumped to the Upper Containment Pools without a return path back to the Surge Tanks.</p>			
Technical Reference(s): SDM-G41(FPCC), ARI-H13-P970-1(D3)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-006-G41 Obj. B, C, D, E			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question): The Candidate must utilize his knowledge of system flowpaths to predict the impact on the system and select the action that will control the adverse surge tank level trend.			

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QUESTION RO 076

Which one of the following is the implication of inadvertently cooling down the Reactor Coolant System below 70°F?

- A. The probability of brittle fracture increases.
- B. The probability of ductile failure increases.
- C. The probability of erosion corrosion increases.
- D. The probability of stress corrosion cracking increases.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	
	Group #	3	
	K/A#	290002 K5.05	
	Importance Rating	3.1	
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B & D – A high RCS temperature would increase the probability of these occurring, not a low RCS temperature. C – The probability of this occurring is maximum at 270°F, not below 70°F.			
Technical Reference(s): GP Thermo Text Ch. 10, MCD & ATAA Text Ch. 9		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3401-000-04 Obj. H; OT-3302-004-10 Obj. 5, 8			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u>		
	Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question): 			

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QUESTION RO 077

Which one of the following describes the implication of an out of sequence control rod pattern?

Significant fuel damage could occur _____.

- A. if a Control Rod Drop accident occurs below the LPSP.
- B. if a Control Rod Drop accident occurs between the LPSP and HPSP.
- C. if a Rod Withdrawal Error event occurs between the LPSP and HPSP.
- D. if a Rod Withdrawal Error event occurs above the HPSP.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	
	Group #	1	
	K/A#	201005 K5.04	
	Importance Rating	2.7	
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>B – An out of sequence control rod does not affect the degree of fuel damage if the CRDA occurs above the LPSP.</p> <p>C & D – An out of sequence control rod does not affect the degree of fuel damage if this event occurs under the conditions specified. The RWL function of the Rod Pattern Controller provides protection for this event regardless of rod sequence.</p>			
Technical Reference(s): SDM-C11(RCIS)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-C11(RCIS) Obj. B			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

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QUESTION RO 078

The first reactor startup following a refueling outage is in progress in accordance with IOI-1, Cold Startup.

Each IRM channel Range 6 and Range 7 reading has been recorded in the table below.

Which one of the following groups of IRM channels all exceed the $\pm 3/125$ tolerance between the Range 7 reading and the Range 6 reading (when divided by 3.1623)?

IRM CHANNEL LINEARITY TABLE

IRM CHANNEL	RANGE 6 READING	RANGE 7 READING	RANGE 6 \div 3.1623	SAT/UNSAT	INITIALS
A	50	15			
E	60	14			
C	40	14			
G	50	10			
B	60	24			
F	50	20			
D	70	21			
H	60	20			

- A. Channels A, C, F, and G
- B. Channels A, C, D, and H
- C. Channels B, E, F, and G
- D. Channels B, D, E, and H

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	
	Group #	1	
	K/A#	215003 A4.07	
	Importance Rating	3.6	
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – Only channels F and G in this group are UNSAT. B – No channels in this group are UNSAT. D – Only channels B and E in this group are UNSAT.			
Technical Reference(s): IOI-1, SDM-C51(IRM)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-C51(IRM) Obj. B; OT-3046-003-03a Obj. A			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____		
	Comprehension or Analysis <u> A </u>		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question): The Candidate is required to perform calculations and analyze the results to determine proper IRM operation.			

Perry Nuclear Power Plant
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QUESTION RO 079

Which one of the following water level instrument ranges, including the trip logic arrangement, is used to initiate a RFPT Level 8 trip?

- A. Narrow Range; 2 Feedwater Control System channels, one of which must be the channel selected for input into the Feedwater Control System.
- B. Narrow Range; any 2 out of 3 Feedwater Control System channels.
- C. Wide Range; 2 Feedwater Control System channels, one of which must be the channel selected for input into the Feedwater Control System.
- D. Wide Range; any 2 out of 3 Feedwater Control System channels.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	
	Group #	1	
	K/A#	216000 K1.12	
	Importance Rating	3.6	
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – The requirement that one of the channels must be the channel selected for input is not correct. C & D – The RFPT Level 8 trip is initiated by Narrow Range, not Wide Range Instruments.			
Technical Reference(s): SDM-C34, SDM-B21(NBPI)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-006-C34 Obj. C; OT-3036-004-B21(INST) Obj. B			
Question Source:	Bank #		
	Modified Bank # 1006	<u> X </u>	(Note changes or attach parent)
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question):			

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QUESTION RO 080

The following plant conditions exist:

- The plant is operating at 20% power.
- The Main Generator has been synchronized to the grid.
- SB&PR Channel A is in control.
- SB&PR Channel B is in TEST.

Which one of the following describes the response of only the Bypass Valves if SB&PR Channel A pressure transmitter fails downscale?

Assume no operator actions are taken.

- A. The Bypass Valves open to regulate reactor pressure.
- B. The Bypass Valves fail open and cannot regulate reactor pressure.
- C. The Bypass Valves remain closed to regulate reactor pressure.
- D. The Bypass Valves fail closed and cannot regulate reactor pressure.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	
	Group #	1	
	K/A#	241000 K3.06	
	Importance Rating	4.1	
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A & B – The Bypass Valves will receive a closed signal along with the Turbine Control Valves, thus they cannot open.</p> <p>C – Since the Turbine Control Valves fail closed, the Bypass Valves remaining closed will not regulate reactor pressure.</p>			
Technical Reference(s): ONI-C85-1, SDM-N32/C85		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-COMBINED-000-N32/C85 Obj. G, P			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
<p>Comments (Why is it an upper level question):</p> <p>The Candidate must predict the effect that a pressure regulator failure downscale will have on the operation of the Bypass Valves.</p>			

Perry Nuclear Power Plant
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QUESTION RO 081

The following plant conditions exist:

- The plant is operating at 75% power.
- RFPT B and MFP are operating on the Master Level Controller.
- RFPT A is operating on the RFP A Flow Controller.
- The STARTUP FDW PUMP SELECT SWITCH is in the MFP position.
- The Control Room Operator is in the process of replacing the MFP with RFPT A.
- RFPT B unexpectedly trips.
- No operator actions are taken.

Which one of the following describes the final controller status of the operating feed pumps due to this event.

- A. The MFP is operating on the Startup Level Controller and RFPT A is operating on the Startup Level Controller.
- B. The MFP is operating on the Master Level Controller and RFPT A is operating on the RFP A Flow Controller.
- C. The MFP is operating on the Startup Level Controller and RFPT A is operating on the RFP A Flow Controller.
- D. The MFP is operating on the Master Level Controller and RFPT A is operating on the Startup Level Controller.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	
	Group #	1	
	K/A#	259002 A1.05	
	Importance Rating	2.9	
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – The SULC can only control one feed pump at a time, thus it can only control the MFP based on the initial conditions.</p> <p>B – The signal switching circuit prevents the MFP from operating on the Master Level Controller by itself.</p> <p>D – Since the STARTUP FDW PUMP SELECT SWITCH is selected to MFP, the MFP is automatically switched to the SULC.</p>			
Technical Reference(s): SDM-C34		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-006-C34 Obj. C, D			
Question Source:	Bank # 1120	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> C </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
<p>Comments (Why is it an upper level question):</p> <p>The Candidate must predict the effect that a trip of an operating RFP has on the Feedwater Level Control System configuration, based on the initial conditions provided.</p>			

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QUESTION RO 082

The plant is operating at 100% power with the RWCU system operating in the Normal Recirculation Mode in accordance with SOI-G33, Reactor Water Cleanup System.

The following alarms are received on panel P680:

- RWCU F/D INLET TEMP HI
- RWCU ISOL F/D TEMP HI

Which one of the following describes the expected response of the RWCU System Containment Isolation Valves? \

- A. Only outboard isolation valve, 1G33-F004, automatically closes.
- B. Only inboard isolation valve, 1G33-F001, automatically closes.
- C. Only inboard and outboard isolation valves, 1G33-F001 and 1G33-F004, automatically close.
- D. All inboard and outboard isolation valves automatically close.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	
	Group #	2	
	K/A#	204000 A3.04	
	Importance Rating	3.4	
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B, C & D – Based on the initial conditions provided, the outboard isolation valve, 1G33-F004, is the only valve that will close.			
Technical Reference(s): SDM-G33		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-005-G33 Obj. D			
Question Source:	Bank # 392	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> C </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question): The Candidate is required to predict the response of the RWCU system based on the initial conditions provided.			

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QUESTION RO 083

The following plant conditions exist:

- The plant is operating at 100% power.
- Two Hotwell Pumps are in operation.
- Two Condensate Booster Pumps are in operation.
- Hot Surge Tank (HST) level control is in Automatic.
- Condensate Booster Pump C is tagged out for corrective maintenance.

Condensate Booster Pump A trips due to a ground fault.

Which one of the following describes the impact on the Condensate system, including an action that can be taken to correct this condition?

- A. HST level decreases; reduce reactor power to stabilize HST level.
- B. HST level decreases; manually open HST Level Control Valve, 1N21-F230 and / or HST Level Control Bypass Valve, 1N21-F220, to stabilize HST level.
- C. Hotwell level decreases; reduce reactor power to stabilize Hotwell level.
- D. Hotwell level decreases; manually open HWL Normal level Control Makeup Valve, 1N21-F140 and / or HWL Emergency Makeup From CST Control Valve, 1N21-F135, to stabilize Hotwell level.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	
	Group #	2	
	K/A#	256000 A2.01	
	Importance Rating	3.3	
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B – With the plant at 100% power, opening both F220 and F230 will not stabilize HST level. C & D – Hotwell level will increase due to this event, not decrease.			
Technical Reference(s): SDM-N21, ARI-H13-P680-2(A6), (E3)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-004-N21/N61 Obj. B, C, D			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____		
	Comprehension or Analysis <u> A </u>		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question): The Candidate must predict the impact that a loss of CBP will have on the Condensate System and decide on the appropriate corrective action based on his knowledge of plant response.			

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QUESTION RO 084

During the performance of plant rounds, a PO reports that the Division 1 battery voltage is reading 130 VDC, which is below the specifications on the Plant Equipment Rounds.

The Control Room Operator directs him to adjust the FLOAT potentiometer for the on-service battery charger to obtain 134 VDC in accordance with SOI-R42 (Div 1), section 5.4.

Which one of the following describes the indication the Control Room Operator will observe on DIV 1 BATT AMPS meter, 1R42-R100, on panel P877?

Assume that the loading on the DC bus remains constant.

The DIV 1 BATT AMPS meter will indicate a value in _____.

- A. the CHARGE region with the charging rate dependent on the number of DC loads.
- B. the CHARGE region with the charging rate independent of the number of DC loads.
- C. the DISCHARGE region with the charging rate dependent of the number of DC loads.
- D. the DISCHARGE region with the charging rate independent on the number of DC loads.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	
	Group #	2	
	K/A#	263000 A1.01	
	Importance Rating	2.5	
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – The charging rate is determined by the difference in voltage between the battery terminal voltage and the charger output voltage. It is not affected by the loading on the bus provided that the bus loading remains constant.</p> <p>C & D – Raising the setting on the FLOAT potentiometer will increase the charger output voltage. Since the battery was initially producing 130 VDC, this action will cause a charge indication, not a discharge indication.</p>			
Technical Reference(s): SDM-R42, SOI-R42 (Div 1)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-006-R42 Obj. B			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
<p>Comments (Why is it an upper level question):</p> <p>The Candidate must predict the response of the DC distribution system following a system re-alignment based on the initial conditions provided.</p>			

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QUESTION RO 085

The plant is operating at 100% power.

SJAE and Preheater / Recombiner A is in operation when the RECOMBINER A INLET TEMP LOW alarm is received on panel P845.

The Control Room Operator observes that Recombiner A inlet temperature is 250°F and continuing to decrease.

Continued operation with SJAE and Preheater / Recombiner A could result in _____.

- A. ice formation in the Charcoal Adsorbers from excessive moisture due to higher than normal hydrogen / oxygen recombination.
- B. physical damage to the Recombiner internals from excessive temperature due to higher than normal hydrogen / oxygen recombination.
- C. explosive hazard internal to the system from high hydrogen concentrations due to lower than normal hydrogen / oxygen recombination.
- D. desiccant breakdown in the Gas Dryer Beds from high oxygen concentrations due to lower than normal hydrogen / oxygen recombination.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	
	Group #	2	
	K/A#	271000 K5.09	
	Importance Rating	2.6	
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A & B – Recombiner low inlet temperature would decrease or inhibit the catalytic recombination process, not enhance the recombination process.</p> <p>D – There is no relationship between the amount of oxygen in the process stream and the ability of the gas dryer desiccant to perform its function.</p>			
Technical Reference(s): SDM-N64, SOI-N64/62		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-003-N64 Obj. B, C, F, I			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
<p>Comments (Why is it an upper level question):</p> <p>The Candidate must predict the impact and the reason why, of an abnormal condition on components in the Off-Gas System.</p>			

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QUESTION RO 086

Which of the following Drywell and / or Containment sumps provide a direct readout of sump level and sump fill rate in the Control Room in order to monitor Reactor Coolant System leakage?

- A. Drywell Floor Drain Sump and Containment Floor Drain Sump.
- B. Containment Floor Drain Sump and Containment Equipment Drain Sump.
- C. Containment Equipment Drain Sump and Drywell Equipment Drain Sump.
- D. Drywell Equipment Drain Sump and Drywell Floor Drain Sump.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	
	Group #	3	
	K/A#	268000 A4.01	
	Importance Rating	3.4	
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, B, C – Only the DW FDS and DW EDS sumps have a direct readout in the Control Room for sump level and sump fill rate.			
Technical Reference(s): SDM-E31		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-003-E31 Obj. B, C, E			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u>		
	Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question):			

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QUESTION RO 087

The Containment Vessel and Drywell Purge System (M14) is being started up in the Intermittent mode in order to support work in Containment during an outage.

A lake-effect snowstorm is blanketing the site with heavy snow and outside air temperature is +32°F.

Which one of the following describes the potential impact on the M14 system due to the adverse weather conditions, including the action the Control Room Operator will direct per SOI-M14 in order to prevent this condition?

- A. To prevent the Supply Fan from tripping on supply air low temperature during startup, direct an I&C technician to bypass the supply air low temperature trip interlock.
- B. To prevent the Supply Fan from tripping on supply air low temperature during startup, direct a Plant Operator to raise the Supply Air Temperature Controller setting to its maximum value.
- C. To prevent the Supply Fan from tripping on supply air low flow during startup, direct an I&C technician to bypass the supply air low flow trip interlock.
- D. To prevent the Supply Fan from tripping on supply air low flow during startup, direct a Plant Operator to raise the Supply Fan Air Flow Controller setting to its maximum value.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	2	
	Group #	3	
	K/A#	288000 A2.05	
	Importance Rating	2.6	
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – SOI-M14 does not allow an I&C technician to bypass the supply air low temperature trip interlock.</p> <p>C & D – Even though SOI-M14 recognizes that snow loading of the Supply Plenum roughing filters may occur and can result in a supply air low flow condition, there is no Supply Fan trip on supply air low flow.</p>			
Technical Reference(s): SDM-M14, SOI-M14		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-003-M14, Obj. B, C, D, F; OT-3046-006-03 Obj. 1			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
<p>Comments (Why is it an upper level question):</p> <p>The Candidate is required to determine the potential impact to the operation of the M14 system based on the initial conditions provided, including an action the operator can direct to maintain the M14 system in operation (once it is started).</p>			

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QUESTION RO 088

While conducting an evolution on panel P601 with two Non-Licensed Operators in the field, an alarm is received that was not expected.

The Shift Manager is observing the evolution in the field.

Which of the following personnel shall be informed of the receipt of the alarm in accordance with the Operations Section 'Control Room Response to Annunciators' policy?

- A. The Unit Supervisor and the Shift Manager.
- B. The Shift Manager and the Operations Foreman.
- C. The Reactor Operator At-The-Controls and the Unit Supervisor.
- D. The Reactor Operator At-The-Controls and the Operations Foreman.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	3	
	Group #		
	K/A#	Gen. 2.1.17	
	Importance Rating	3.5	
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A, B, & D – Per the OPS policy for an unexpected alarm, the receipt of an unexpected alarm shall be verbalized by the RO (ie, conducting the evolution on P601) by a SRO (ie, SRO in the Control Room which is the US) and acknowledged by the RO-ATC.</p>			
Technical Reference(s): OPS Section Expectations Handbook		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3039-001-04 Obj. A			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

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QUESTION RO 090 / SRO 100

Following a LOCA, Chemistry is preparing to draw samples in the Post Accident Sample Room (P87).

Which one of the following systems should be verified in service to ensure proper exhaust ventilation and filtration for the Post Accident Sample Room?

- A. Annulus Exhaust Gas Treatment System (M15).
- B. Intermediate Building Ventilation System (M33).
- C. Fuel Handling Building Ventilation System (M40).
- D. Containment Vessel and Drywell Purge Supply System (M14).

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	3	3
	Group #		
	K/A#	Gen. 2.1.27	
	Importance Rating	2.8	2.9
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – The M15 system only supplies the reactor annulus with a filter exhaust path.</p> <p>B – Although located in the Intermediate Building the M33 system only provides supply air and has no filtration capability for contaminated exhaust.</p> <p>D – M14 system only supplies the Reactor Water Sampling fume hood in containment with a filtered exhaust path.</p>			
Technical Reference(s): SDM-M40, SDM-P87, SOI-P87		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-002-M40 Obj. B			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u>Perry Jan. 2002</u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question):			

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QUESTION RO 091

The plant is in MODE 3 due to a MSIV isolation and reactor scram. SRVs are being used to maintain RPV pressure 700 – 900 psig.

The following plant conditions exist:

- Suppression Pool water level (corrected) 18 ft 8 in
- Containment average air temperature 92°F
- Drywell average air temperature 148°F
- Suppression Pool average temperature 106°F

Which of the following Limiting Condition for Operations (LCOs) are NOT met based on the current plant conditions?

- A. Suppression Pool water level and Drywell average air temperature.
- B. Drywell average air temperature and Suppression Pool average temperature.
- C. Suppression Pool average temperature and Containment average air temperature.
- D. Containment average air temperature and Suppression Pool water level.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	3	
	Group #		
	K/A#	Gen. 2.2.22	
	Importance Rating	3.4	
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>B – Only Drywell ave air temperature has exceeded its LCO limit ($\leq 145F$).</p> <p>C – Neither parameter has exceeded its LCO limit.</p> <p>D – Only SP water level has exceeded its LCO limit (≤ 18 ft 6 in).</p>			
Technical Reference(s): Technical Specifications Section 3.6		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3037-001-10 Obj. A			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

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QUESTION RO 092

During performance of a surveillance, the Control Room Operator notes that a specific surveillance step needs to be a conditional step ('if-then' format) rather than a mandatory step, based on current plant conditions.

After discussion with the Unit Supervisor and Responsible System Engineer, the decision is made to change the surveillance step in order to facilitate completion of the surveillance.

The change will only affect the current working copies of the surveillance being used in the Control Room and in the field. The change will expire upon completion of the surveillance.

Which one of the following procedure changes meets the general requirements stated above, as described in NOP-SS-3001, Procedure Review and Approval?

- A. Change/Correction to Multiple Procedures.
- B. Non-Permanent Instruction Change.
- C. Procedure Correction.
- D. Limited Use Change.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	3	
	Group #		
	K/A#	Gen. 2.2.11	
	Importance Rating	2.5	
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A & C – Based on the change requirements stated in the initial conditions, only the 'Limited Use Change' meets these specific requirements as described in NOP-SS-3001.</p> <p>B – This is a description of the type of change (which is no longer the correct terminology) from superceded PAP-0522 (replaced by NOP-SS-3001).</p>			
Technical Reference(s): NOP-SS-3001		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3039-007-01 Obj. C			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
<p>Comments (Why is it an upper level question):</p> <p>The Candidate is required to determine the type of alteration or change to be processed based on the specified change requirements provided in the initial conditions.</p>			

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QUESTION RO 093 / SRO 098

Which one of the following is a responsibility of a Reactor Operator in the Control Room during fueling handling operations in MODE 5?

- A. Authorize commencement of fuel movements.
- B. Document fuel movements on the Fuel Movement Checklist.
- C. Ensure the Control Room fuel tag board is maintained current during Core Alterations.
- D. Monitor SRM count rate and reactor period when a fuel assembly is being loaded into the RPV.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	3	3
	Group #		
	K/A#	Gen. 2.2.30	
	Importance Rating	3.5	3.3
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A & C - The Unit Supervisor (SRO) is responsible for these activities (PAP-0802).</p> <p>B – The Refueling Supervisor and Fuel handling Supervisor are responsible for documenting fuel movements on the Fuel Movement Checklist (PAP-0802).</p>			
Technical Reference(s): IOI-9, PAP-0802		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3035-005-12 Obj. B; OT-3039-007-01 Obj. C			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

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QUESTION RO 094

The Containment Vessel and Drywell Purge System is operating in the Intermittent Mode.

SOI-M14, Containment Vessel and Drywell Purge System, contains a Precaution to “ensure charcoal filter temperature remains less than 300°F”.

Which one of the following is the reason for this Precaution?

- A. To prevent humidity buildup in the charcoal filter.
- B. To prevent an automatic deluge of the charcoal filter.
- C. To prevent spontaneous combustion of the charcoal filter.
- D. To prevent the airborne release of gaseous radioactive iodine.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	3	
	Group #		
	K/A#	Gen. 2.3.9	
	Importance Rating	2.5	
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>B – There is no automatic deluge of the charcoal filter.</p> <p>A & C – These are all potential effects of a high temperature, but are not the bases for this temperature limit per SOI-M14.</p>			
Technical Reference(s): SOI-M14		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-003-M14 Obj. G			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u>Perry Jan. 2002</u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question):			

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QUESTION RO 095

Which one of the following conditions requires the Control Room Operator to verify that a liquid radwaste discharge has automatically terminated?

- A. Service Water Pump Discharge Header Low pressure.
- B. Discharge Tunnel Service Water Low flow.
- C. Emergency Service Water Pump A Low pressure.
- D. Unit 1 Emergency Service Water Low flow.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	3	
	Group #		
	K/A#	Gen. 2.3.11	
	Importance Rating	2.7	
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A, C, D – These conditions may reduce dilution flow for the discharge, but the only condition which causes the discharge to automatically terminate and is required to be verified, is Discharge Tunnel Service Water low flow			
Technical Reference(s): SDM-P41, ARI-H13-P970 (A8), SDM-G50(FDCS)		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-COMBINED-000-P41 Obj. A, D, I			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u>		
	Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question):			

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QUESTION RO 096

Which one of the following identifies a portion of a Plant Communication system that is reserved for emergency and Control Room communications, per PAP-0202, Communications?

- A. Extension 5634 of the Private Branch Exchange (PBX) Phone System.
- B. Channel 5-G of the RMT (CEI 800-MHz Trunked) System.
- C. Line 5 of the Public Address (PA) System.
- D. Channel F2 of the Plant Radio System.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	3	
	Group #		
	K/A#	Gen. 2.4.43	
	Importance Rating	2.8	
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – This is the PBX extension for the RO-ATC desk which is used for all types of communications (not just emergency communications).</p> <p>B – This communication system is used by Off-Site Radiation Monitoring Teams for communications with the TSC and EOF.</p> <p>D – This is the Radio frequency reserved for use by Maintenance personnel.</p>			
Technical Reference(s): PAP-0202		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3039-007-01 Obj. C			
Question Source:	Bank # 1107	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question):			

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QUESTION RO 097

Immediately following a reactor scram, the following plant conditions exist:

- Reactor power 0%
- RPV pressure 940 psig
- RPV water level +196 inches
- One control rod is stuck Position 48
- Drywell pressure 0.8 psig
- Drywell temperature 142°F
- Containment temperature 99°F

Which of the following Plant Emergency Instruction(s) is / are required to be entered based on the plant conditions described above?

- A. PEI-T23, Containment Control and PEI-B13, RPV Control (Non-ATWS).
- B. PEI-T23, Containment Control and PEI-B13, RPV Control (ATWS).
- C. Only PEI-B13, RPV Control (Non-ATWS).
- D. Only PEI-T23, Containment Control.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	3	
	Group #		
	K/A#	Gen. 2.4.1	
	Importance Rating	4.3	
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A - No entry conditions have been met that require entry into PEI-B13, RPV Control (Non-ATWS).</p> <p>B / C – There are <u>no</u> direct entry conditions into PEI-B13, RPV Control (ATWS); it is entered from PEI-B13, RPV Control (Non-ATWS). In addition, <u>no</u> entry conditions have been met that require entry into PEI-B13, RPV Control (Non-ATWS).</p> <p>* - Perry EOPs do not contain Immediate Actions.</p>			
Technical Reference(s): PEI-T23, PEI-B13 RPV Control (Non-ATWS), PEI-B13, RPV Control (ATWS), PEI Bases Document		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3402-005-02 Obj. B; OT-3402-005-03 Obj. B; OT-3402-004-07 Obj. B			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> Perry June 2001 </u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question): 			

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QUESTION RO 098

A fire exists in Reactor Recirculation Pump A. The fire was reported when the CO₂ system automatically initiated at 1358.

The CNTMT CO₂ SUPPLY OUTBOARD ISOL VALVE, 1P54-F340, was opened by the Control Room Operator at 1440.

Which one of the following describes the current status of the CO₂ system?

CO₂ for the Reactor Recirculation Pump fire was _____.

- A. not automatically released into the Drywell; therefore, the CO₂ System will need to be manually discharged.
- B. not automatically released into the Drywell; therefore, a Drywell entry will be required to suppress the fire.
- C. automatically released into the Drywell and was discharged for the required amount of time.
- D. automatically released into the Drywell and was not discharged for the required amount of time.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	3	
	Group #		
	K/A#	Gen. 2.4.27	
	Importance Rating	3.0	
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>C & D – The CO₂ System will have timed out after 40 minutes, therefore, it will not automatically discharge once P54-F340 was opened.</p> <p>B – The CO₂ System may still be manually initiated, therefore, a Drywell entry would not be required.</p>			
Technical Reference(s): ONI-P54		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-005-P54(WTR) Obj. G; OT-3036-002-P54(CO ₂) Obj. D			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> Perry Jan. 2001 </u>	
	Previous Quiz / Test	<u> Oct. 2002 Audit #1 </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	<u> C </u>
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
<p>Comments (Why is it an upper level question):</p> <p>The Candidate is required to calculate the time period that has transpired in order to determine if the Recirc CO₂ System automatically discharged for the minimum dump time or if a manual initiation will have to be performed.</p>			

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QUESTION RO 099

Which one of the following describes the performance of ONI steps while executing the PEIs?

- A. ONI steps shall always be performed.
- B. ONI steps shall only be performed when authorized by the Unit Supervisor if they do not conflict with PEI steps.
- C. ONI steps shall only be performed when authorized by the Shift Manager and Unit Supervisor.
- D. ONI steps shall never be performed.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	3	
	Group #		
	K/A#	Gen. 2.4.8	
	Importance Rating	3.0	
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – ONI steps must only be performed if they do not conflict with PEI steps. C – Dual SRO concurrence by the Shift Manager and Unit Supervisor is not required. D – ONI steps are allowed to be performed when they do not conflict with PEI steps.			
Technical Reference(s): PEI Bases Document		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3402-005-01 Obj. B			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 _____		
Comments (Why is it an upper level question):			

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QUESTION RO 100

The following plant conditions exist:

- PEI-B13, RPV Control (Non-ATWS), has been entered on low RPV water level.
- No other PEI Entry Conditions have been met.
- All high pressure injections systems are unavailable.
- RPV water level continues to slowly decrease.

Which one of the following describes the reason why Emergency Depressurization may be required based on these plant conditions?

- A. To reduce the stored energy contained in the RPV prior to reaching plant conditions where insufficient pressure suppression capability may exist to safely accommodate SRV opening or a loss of coolant accident.
- B. To terminate or minimize the discharge of reactor coolant from unisolable primary system breaks.
- C. To minimize radioactivity released from the RPV to Containment or surrounding areas.
- D. To establish or maintain adequate core cooling.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #	3	
	Group #		
	K/A#	Gen. 2.4.6	
	Importance Rating	3.1	
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A, B, C – Based on the plant conditions provided, there is no indication of a LOCA or a Containment control condition in order to account for one of these reasons.</p>			
Technical Reference(s): PEI-B13 (ED), PEI Bases Document		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3402-005-12 Obj. A			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____		
	Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 _____		
Comments (Why is it an upper level question): The Candidate is required to evaluate the plant conditions provided in order to determine the correct reason why Emergency Depressurization would need to be performed.			

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QUESTION SRO 076

Which one of the following ONI actions is the Unit Supervisor NOT allowed to direct while concurrently executing the specified PEI?

- A. Closing all MSIVs in order to isolate a small steam line break in the Turbine Building per ONI-N11, Pipe Break Outside Containment, while using the Bypass valves to control RPV pressure per PEI-B13, RPV Control (Non-ATWS).
- B. Initiating RCIC to maintain RPV water level per ONI-R10, Loss Of AC Power, while terminating and preventing all injection into the RPV except for boron and CRD per PEI-B13, RPV Control (ATWS).
- C. Closing all MSIVs in order to control cooldown rate per ONI-C85-2, Pressure Regulator Failure – Open, while using the Bypass valves to control RPV pressure per PEI-B13, RPV Control (ATWS).
- D. Attempting to close an SRV that inadvertently opened per ONI-B21-1, SRV Inadvertent Opening/Stuck Open, while using SRVs to control RPV pressure per PEI-B13, RPV Control (Non-ATWS).

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	Gen. 2.4.8	
	Importance Rating		3.7
Proposed Question: See attached			
Proposed Answer: See attached (The ONI action to initiate RCIC directly conflicts with the PEI-B13 action which is directing RCIC to be tripped).			
<p>Explanation (Why the distractors are incorrect):</p> <p>A & C – This ONI action would be allowed since RPV pressure control could be shifted to the SRVs in PEI-B13.</p> <p>D – This ONI action would be allowed to ensure that positive control of RPV pressure could be established per PEI-B13.</p>			
Technical Reference(s): PEI Bases Document		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3402-005-01 Obj. B			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> A </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> X </u>		
<p>Comments (Why is it an upper level / SRO question):</p> <p>The SRO Candidate is required to analyze whether the specified ONI action can be directed based on the specified PEI conditions and the hierarchy guidance provided in the PEI Bases Document in order to determine which ONI action conflicts with the PEI actions. The decision to direct ONI and PEI actions is a SRO decision.</p>			

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QUESTION SRO 077

Which one of the following ONI-D51, Earthquake, Subsequent Actions, will assist in controlling a potential off-site radioactive release from the plant?

- A. Manually startup all ESW loops from Standby Readiness.
- B. Manually shutdown all Underdrain and Temporary Underdrain Pumps.
- C. Evacuate the Turbine Building and Off-Gas building if a failure of the Off-Gas System has occurred.
- D. Shutdown the Control and Computer Room Humidification System if the system cannot be inspected within 20 minutes.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	Gen. 2. 3.11	
	Importance Rating		3.2
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – The reason for this action is to maintain the ESW loops filled, not to control an off-site rad release.</p> <p>C – This action will minimize exposure to plant personnel, but does not control an off-site rad release.</p> <p>D – This action will prevent the loss of the CRER system, not prevent an off-site rad release.</p>			
Technical Reference(s): ONI-D51		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-002-D51A Obj. E; OT-3035-004-11 Obj. A			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> X </u>		
<p>Comments (Why is it an upper level / SRO question):</p> <p>The SRO Candidate is required to apply his knowledge of system operations as they would apply to an earthquake situation and determine the action that would control any off-site release. The prioritization of ONI Subsequent Actions based on station conditions is a SRO responsibility, and thus requires the SRO Candidate to have knowledge of the bases of Subsequent Actions as they relate to controlling an off-site radiation release.</p>			

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QUESTION SRO 080

The following plant conditions exist:

- PEI-N11, Containment Leakage Control, has been entered on Area temperature due to a steam leak in the RCIC Pump Room.
- All attempts to isolate the leak have been unsuccessful.
- PEI-B13, RPV Control (Non-ATWS) has been entered.
- All control rods have been fully inserted.
- RCIC Pump Room Area temperature has exceeded its Maximum Safe Operating Conditions Value.

Which one of the following additional conditions contained in PEI-N11 would require the Unit Supervisor to direct an Emergency Depressurization?

- A. Steam Tunnel Area temperature exceeds its Maximum Safe Operating Conditions Value.
- B. RWCU Pump Room Area temperature exceeds its Maximum Safe Operating Conditions Value.
- C. RCIC Pump Room Area radiation level exceeds its Maximum Safe Operating Conditions Value.
- D. RCIC Pump Room Area water level exceeds its Maximum Safe Operating Conditions Value.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	Gen. 2.4.6	
	Importance Rating		4.0
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>B – The RCIC Pump Room and RWCU Pump Room are considered to be one 'area'. Therefore, the criteria that 2 or more Areas have exceeded their Area Temperature MSOCV has not been met in order to ED.</p> <p>C & D – You must exceed the MSOCV for 2 or more Areas for the same parameter (Temperature, Radiation, or Water Level) before ED is required. This is an indication that the problem has spread. The problem is currently limited to only the RCIC Pump Room.</p>			
Technical Reference(s): PEI-N11, PEI Bases Document		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-001-17 Obj. C, D			
Question Source:	Bank # 1300 <u> X </u> Modified Bank # _____ New _____	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> X </u>		
<p>Comments (Why is it an upper level / SRO question):</p> <p>The SRO Candidate is required to determine when Emergency Depressurization will be required based on the initial plant conditions provided and his knowledge of PEI-N11 and the supporting PEI Bases Document. Assessment of plant conditions and directing the appropriate actions in the EOPs is the responsibility of the SRO.</p>			

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QUESTION SRO 078

The plant is in MODE 1 and a Containment purge is scheduled for your shift.

As the Unit Supervisor, which one of the following is an administrative restriction for the Containment Vessel and Drywell Purge System (CVDWP) that you should enforce, when possible?

- A. The CVDWP System shall be operated in the Refuel Mode.
- B. The Containment purge should be conducted between the hours of 1100 and 1600.
- C. The Containment Purge Valves should not be open for greater than 1000 hours in the last 365 days.
- D. The 42-inch Containment Purge Supply Outboard Isolation Damper (M14-F040) shall not be opened.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	Gen. 2.3.9	
	Importance Rating		3.4
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – The CVDWP Refuel mode shall not be used during Mode 1. C – There is no time restriction for operation of the purge valves with ITS. D – There are no restrictions on the use of the 42 inch purge supply outboard isolation damper with ITS.			
Technical Reference(s): SOI-M14		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-003-M14 Obj. G			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u>Perry Jan. 2002</u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> X </u>	
Comments (Why is it an upper level / SRO question): Knowledge of plant administrative requirements that govern the operation of equipment with the intent to limit off-site radiation dose rates is a SRO responsibility.			

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QUESTION SRO 079

PEI-B13, RPV Control (Non-ATWS), was entered due to low RPV water level.

No other PEI Entry Conditions were initially met.

Ten minutes later, the following parameters are reported:

- RPV water level is +170 inches and increasing.
- Drywell pressure is 1.68 psig and increasing.

Which one of the following actions is required?

- A. Exit PEI-B13, RPV Control (Non-ATWS), and enter PEI-T23, Containment Control.
- B. Exit PEI-B13, RPV Control (Non-ATWS), and re-enter PEI-B13, RPV Control (Non-ATWS), at the beginning.
- C. Enter PEI-T23, Containment Control, and continue executing PEI-B13, RPV Control (Non-ATWS), without re-entering at the beginning.
- D. Enter PEI-T23, Containment Control, and continue executing PEI-B13, RPV Control (Non-ATWS), and re-enter at the beginning.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	Gen. 2.4.1	
	Importance Rating		4.6
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – B13 can not be exited when entry conditions are still met.</p> <p>B – High drywell pressure is also an entry condition for T23.</p> <p>C – Since high drywell pressure is an entry condition for B13, the procedure must be re-entered from the beginning while continuing to execute B13.</p> <p>* - Perry EOPs do not contain Immediate Actions.</p>			
Technical Reference(s): PEI-T23, PEI Bases Document		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3402-005-02 Obj. B&D; OT-3402-004-09 Obj. B			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> Perry Jan. 2002 </u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> A </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> X </u>	
<p>Comments (Why is it an upper level / SRO question):</p> <p>The SRO Candidate is required to make a decision regarding entry of a new PEI (T23) and the re-entry of the current PEI (B13-RPV Control Non-ATWS). The SRO is responsible for the proper entry and execution of the PEIs.</p>			

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QUESTION SRO 081

Which one of the following situations requires the Shift Manager to verbally notify both the Shift Engineer and the Operations Section Manager per PAP-0201, Conduct of Operations?

- A. Entry in any ONI, PEI, or EPI.
- B. Inadvertent release of radioactive liquid or gas.
- C. Failure or malfunction of any major equipment.
- D. Inability to meet Generation Dispatcher requests.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	Gen. 2.1.17	
	Importance Rating		3.6
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>B, C & D – All of these situations require the notification of the Ops Section Manager, but they do not require the notification of the Shift Engineer per PAP-0201.</p>			
Technical Reference(s): PAP-0201		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3039-008-02 Obj. A			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> X </u>		
<p>Comments (Why is it an upper level / SRO question):</p> <p>These reporting requirements are specifically designated as the responsibility of the Shift Manager.</p>			

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QUESTION SRO 082

The plant is operating at 100% power when the following events occur at shift turnover:

- The on-coming Shift Manager is informed that only one of the on-coming licensed Reactor Operators will be able to report for work.
- The Shift Manager immediately starts taking action to call-in a replacement.
- Shift turnover is completed and the entire off-going shift leaves for home.
- A replacement licensed Reactor Operator is found and reports to the Control Room 1 hour and 45 minutes later.

Which one of the following describes if the requirements of PAP-0126, Shift Staffing and Shift Relief, were followed, including the reason for your decision?

- A. All requirements were followed because the replacement licensed Reactor Operator arrived with 2 hours.
- B. All requirements were followed because only 1 licensed Reactor Operator is required in MODE 1.
- C. All requirements were not followed because a licensed Reactor Operator from the off-going shift should have been held over until the replacement arrived.
- D. All requirements were not followed because 3 licensed Reactor Operators are required in MODE 1.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	Gen. 2.1.4	
	Importance Rating		3.4
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A & B – Given the sequence of events provided, the procedural requirements were not followed.</p> <p>D – This is an incorrect reason. Even though crews may typically have 3 Control Room Operators assigned, only 2 licensed Reactor Operators are required in MODE 1. The Operations Foreman is not required to be licensed.</p>			
Technical Reference(s): PAP-0126		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3039-007-01 Obj. C			
Question Source:	Bank # 424	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> A </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> X </u>	
<p>Comments (Why is it an upper level / SRO question):</p> <p>The SRO Candidate must utilize his knowledge of the shift staffing requirements and evaluate the provided chain of events to determine procedural compliance. Maintaining compliance with shift staffing requirements is designated as a Shift Manager responsibility</p>			

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QUESTION SRO 083

As the Unit Supervisor, you are performing a pre-job brief with the Non-Licensed Operator who will be the Lead Test Performer for a Surveillance Test Instruction (SVI).

The Non-Licensed Operator identifies several action steps within the Prerequisites section that, if performed in parallel, would expedite completion of the SVI.

Which one of the following correctly describes the procedural guidance for this particular situation involving the performance of Prerequisite steps in parallel?

The Unit Supervisor _____.

- A. can review and then authorize the performance of Prerequisite steps in parallel per PAP-1105, Surveillance Test Control.
- B. can review and then authorize the performance of Prerequisite steps in parallel per NOP-SS-3001, Procedure Review and Approval.
- C. must obtain the Shift Manager's review and authorization to perform Prerequisite steps in parallel per PAP-1105, Surveillance Test Control.
- D. must obtain the Shift Manager's review and authorization to perform Prerequisite steps in parallel per NOP-SS-3001, Procedure Review and Approval.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	Gen. 2.2.12	
	Importance Rating		3.4
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – This is the responsibility of the Shift Manager, not the Unit Supervisor. B & D – NOP-SS-3001 does not contain guidance for surveillance instruction usage, only guidance for instruction changes.			
Technical Reference(s): PAP-1105; PAP-0528		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3039-008-03 Obj. A; OT-3039-001-04 Obj. A			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u>Perry Jan. 2002</u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> X </u>	
Comments (Why is it an upper level / SRO question): The decision to perform prerequisite action steps in parallel or out of sequence is designated as the responsibility of the Shift Manager.			

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QUESTION SRO 084

Which one of the following describes who is authorized to approve an emergent Simple Change if the Procedure Owner is not available during off-hours per NOP-SS-3001, Procedure Review and Approval?

- A. Only the Unit Supervisor.
- B. Only the Shift Manager.
- C. The Unit Supervisor and a member of the plant management staff who is knowledgeable in the affected area.
- D. The Shift Manager and a member of the plant management staff who is knowledgeable in the affected area.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	Gen. 2.2.11	
	Importance Rating		3.4
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – The US is not authorized to approve the change.</p> <p>C & D – Only the Shift Manager approval is required. The requirement of a plant management staff member has been superseded by NOP-SS-3001.</p>			
Technical Reference(s): NOP-SS-3001		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3039-007-01 Obj. C			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> X </u>		
<p>Comments (Why is it an upper level / SRO question):</p> <p>The approval authority for a procedure change in this situation is specifically designated as a Shift Manager responsibility.</p>			

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QUESTION SRO 085

The plant is operating at 100% power with all plant equipment OPERABLE.

Which one of the following conditions would require the Unit Supervisor to declare Primary Containment Inoperable and take Actions per Technical Specification 3.6.1.1, Primary Containment-Operating?

- A. The Suppression Pool temperature is 101°F during RCIC surveillance testing.
- B. The Annulus door to the Auxiliary Building is found propped open.
- C. The Drywell outer airlock door is found open and cannot be closed.
- D. The Suppression Pool level (corrected) is 18 ft 8 in.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	Gen. 2.2.22	
	Importance Rating		4.1
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – The limit on Suppression Pool temperature during RCIC testing is 105°F, thus the Suppression Pool is still OPERABLE.</p> <p>B – This condition would impact Secondary Containment OPERABILITY, not Primary Containment.</p> <p>C – This condition would impact Drywell OPERABILITY, not Primary Containment.</p>			
Technical Reference(s): TS 3.6.1.1, Bases 3.6.1.1		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3037-001-10 Obj. A, D			
Question Source:	Bank # 436	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> A </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> X </u>	
<p>Comments (Why is it an upper level / SRO question):</p> <p>The SRO Candidate must analyze a set of plant conditions to determine compliance with the Primary Containment Tech Spec LCO. Performing Operability Determinations is the function of the SRO.</p>			

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QUESTION SRO 086

Which one of the following describes the bases for Technical Specification 3.9.1, Refueling Equipment Interlocks, in accordance with Perry Technical Specifications?

- A. Ensures that fuel assemblies are not loaded with any control rod withdrawn.
- B. Ensures that no more than one control rod may be withdrawn at a time.
- C. Ensures that each hoist has sufficient load capacity for handling fuel assemblies and control rods.
- D. Ensures that personnel access is controlled into potentially high radiation areas immediately adjacent to the system.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	Gen. 2.2.25	
	Importance Rating		3.7
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>B – This is the bases for TS 3.9.2, One-Rod-Out Interlock.</p> <p>C – This is the bases for OR 6.5.4, Refueling Platform.</p> <p>D – This is the bases for OR 6.5.6, IFTS.</p>			
Technical Reference(s): Bases 3.9.1		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3037-000-13 Obj. B			
Question Source:	Bank # 964	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> X </u>	
<p>Comments (Why is it an upper level / SRO question):</p> <p>Knowledge of Facility Operating License and Tech Spec Bases is required for the SRO.</p>			

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QUESTION SRO 087

An Unusual Event has been declared at the Perry Plant.

Which one of the following communications systems would the Emergency Coordinator direct to be used to notify Ashtabula, Lake, and Geauga County officials of the Unusual Event?

- A. Emergency Response Network.
- B. Emergency Notification System.
- C. Dialogic Automated Callout System.
- D. State/County Executive Discussion Line.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	Gen. 2.4.43	
	Importance Rating		3.5
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>B – This system is used to notify the NRC.</p> <p>C – This system is used to notify Perry ERO personnel.</p> <p>D – This system is used to respond to questions and inquiries but not to make notifications per EPI-B1.</p>			
Technical Reference(s): PAP-0202, EPI-B1		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): EPL-0823-004-01 Obj. 7; OT-3039-007-01 Obj. C			
Question Source:	Bank # 1111 <u> X </u>	(Note changes or attach parent)	
	Modified Bank # <u> </u>		
	New <u> </u>		
Question History:	Previous NRC Exam <u> </u>		
	Previous Quiz / Test <u> </u>		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u>		
	Comprehension or Analysis <u> </u>		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 <u> X </u>		
<p>Comments (Why is it an upper level / SRO question):</p> <p>The state and county notification requirements during E-plan events is the responsibility of the SRO acting as Emergency Coordinator.</p>			

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QUESTION SRO 088

Which one of the following defines the term, "Cannot be restored above", while implementing the Plant Emergency Instructions (PEIs)?

- A. Take the action necessary to preclude the stated action, occurrence, etc.
- B. Take the action necessary to prevent the value of the parameter from exceeding specified limits.
- C. The value of the parameter is not able to be returned above a specified figure after having previously exceeded the specified figure.
- D. The value of the parameter is not able to be kept above a specified figure.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	Gen. 2.4.17	
	Importance Rating		3.8
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – This is the definition of "Prevent". B – This is the definition of "Maintain". D – The is the definition of "Cannot be maintained above".			
Technical Reference(s): PEI Bases		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3402-005-01 Obj. C			
Question Source:	Bank # _____ Modified Bank # 245 <u> X </u> New _____	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge <u> X </u> Comprehension or Analysis _____		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> X </u>		
Comments (Why is it an upper level / SRO question): Knowledge of the definitions contained in the PEI Bases is required to correctly implement the EOPs. The implementation of the plant EOPs is the responsibility of the SRO.			

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QUESTION SRO 089

Which one of the following situations allows the Shift Manager to dispatch the Fire Brigade outside the Protected Area per ONI-P54, Fire?

ONI-P54, Attachment 3: Fire Emergency, is provided for reference.

- A. A brush fire at the Perry Outdoor Family Center that can affect the safety of the plant.
- B. A diesel fuel oil truck fire just south of the intersection of Parmly and Center Roads that does not affect the safety of the plant.
- C. A fire inside the Perry Transmission Yard Building that can affect the safety of the plant.
- D. A fire inside the Administration Building that does not affect the safety of the plant.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		3
	Group #		
	K/A#	Gen. 2.4.27	
	Importance Rating		3.5
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A & B – These two fires are located outside of the Owner Controlled Area. The Fire Brigade may not be dispatched to a fire outside of the Owner Controlled Area.</p> <p>D – This fire is outside of the Protected Area and inside the Owner Controlled Area. The Fire Brigade may only be dispatched for a fire in this area if the fire can affect plant safety/operability.</p>			
Technical Reference(s): ONI-P54		Reference Attached: <u> X </u> (Attach if not previously provided)	
<p>Proposed references to be provided to applicants during examination:</p> <p>ONI-P54, Attachment 3: Fire Emergency</p>			
Learning Objective (As available): OT-3036-005-P54(WTR) Obj. G; OT-3035-003-15 Obj. A			
Question Source:	Bank # _____	(Note changes or attach parent)	
	Modified Bank # _____		
	New <u> X </u>		
Question History:	Previous NRC Exam _____		
	Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____		
	Comprehension or Analysis <u> A </u>		
10 CFR Part 55 Content:	55.41 <u> X </u>		
	55.43 <u> X </u>		
<p>Comments (Why is it an upper level / SRO question):</p> <p>The SRO Candidate must analyze the four situations provided and determine which one meets the procedure requirements for dispatching the Fire Brigade. The decision to dispatch the Fire Brigade is the responsibility of the Shift Manager.</p>			

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QUESTION SRO 090

The plant is operating at 100% power when a loss of off-site power occurs. The following plant conditions exist:

- The Division 1 and Division 2 Diesel Generators failed to start.
- Bus EH13 is energized from the Division 3 Diesel Generator.
- ONI-R10, Loss of AC Power, has been entered.
- Manpower is available to restore one of the EH buses.

Which one of the following describes which EH bus the Unit Supervisor should restore first, including the reason why, per ONI-R10.

- A. Restore Bus EH12 in order to restore low pressure ECCS.
- B. Restore Bus EH12 in order to restore Bus XF1A.
- C. Restore Bus EH11 in order to restore low pressure ECCS.
- D. Restore Bus EH11 in order to restore Bus XF1A.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		1
	Group #		1
	K/A#	295003 Gen. 2.4.22	
	Importance Rating		4.0
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – Bus EH12 should be restored first, however, this is not the reason specified in ONI-R10. C & D – Bus EH12 should be restored first, not Bus EH11.			
Technical Reference(s): ONI-R10		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-006-R10 Obj. C, J; OT-3035-005-19 Obj. A			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> A </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> X </u>		
Comments (Why is it an upper level / SRO question): The SRO Candidate must utilize his knowledge of ONI-R10 General Guidelines and of the electrical distribution system to determine the correct course of action. Assessing plant conditions and determining the course of action is the responsibility of the SRO.			

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QUESTION SRO 091

A reactor scram has occurred from 100% power. The following conditions exist:

- ONI-C71-1, Reactor Scram, has been entered.
- All Immediate Actions for ONI-C71-1 have been completed.
- All control rods are fully inserted.
- No scram conditions currently exist.

Which one of the following describes the condition that should be met in order for the Unit Supervisor to direct resetting the scram, including the potential adverse impact to the CRDH system?

- A. Reasonable assurance that the Exhaust Water Header has re-pressurized to RPV pressure; to prevent excessive control rod speeds during subsequent control rod withdrawals.
- B. Reasonable assurance that the Exhaust Water Header has re-pressurized to RPV pressure; to prevent excessive thermal stress on the SDV if multiple scrams occur.
- C. Reasonable assurance that another scram signal will not be generated; to prevent excessive control rod speeds during subsequent control rod withdrawals.
- D. Reasonable assurance that another scram signal will not be generated; to prevent excessive thermal stress on the SDV if multiple scrams occur.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		1
	Group #		1
	K/A#	295006 AK2.03	
	Importance Rating		3.8
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – Re-pressurization of the Exhaust Water Header is accomplished by operation of the CRDH Pressure Equalizing Valves. Failure of these valves will create this consequence, however it is not a factor in the decision to reset the scram.</p> <p>B – There is no relationship between the Exhaust Water Header and thermal stress on the SDV.</p> <p>C – The adverse consequence provided is incorrect. Operation of the CRDH Pressure Equalizing Valves prevents this condition.</p>			
Technical Reference(s): ONI-C71-1		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-006-C71 Obj. I; OT-3035-003-01 Obj. A			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> X </u>		
<p>Comments (Why is it an upper level / SRO question):</p> <p>The SRO Candidate is required to utilize his knowledge of the bases of procedural steps and of CRDH system operation to select the correct condition for resetting the scram as well as the consequence of an incorrect decision. The assessment of plant conditions and the decision to direct actions in the AOPs is the responsibility of the SRO.</p>			

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QUESTION SRO 092

The reactor is operating at 75% power when the following alarms occur on panel P601:

- DRYWELL PRESS A(B) HIGH
- DRYWELL AIR COOLERS DRAIN FLOW HI
- DW UNIDENTIFIED RATE OF CHANGE HIGH

Which one of the following conditions would be the cause of all of these alarms?

- A. Recirculation Pump inner seal (only) failure.
- B. Upper Drywell Cooler tube leak.
- C. Inboard MSIV outer packing (only) failure.
- D. RPV Condensing Pot leak.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		1
	Group #		1
	K/A#	295010 AA2.01	
	Importance Rating		3.8
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – A failure of <u>only</u> the inner seal would direct water to the DW Equipment Drain Sump (and would not cause DW pressure to increase).</p> <p>B – This would be an NCC leak which is a low-energy water system (and therefore could not cause DW pressure to increase).</p> <p>C - A failure of <u>only</u> the outer packing would not result in any leakage into the Drywell.</p>			
Technical Reference(s): ARI-H13-P601-20 (E3), ARI-H13-P601-18 (C1 & F1).		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3036-003-E31 Obj. C			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> Perry Jan. 2002 </u>	
	Previous Quiz / Test	<u> X </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> </u>	
Comments (Why is it an upper level question): NOTE: - This question appears only on the SRO exam in order to meet K/A selection. It is <u>not</u> one of the 25 required SRO license level questions.			

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QUESTION SRO 093

PEI-T23, Containment Control, and PEI-B13, RPV Control (Non-ATWS), have been entered due to high Drywell pressure.

The Control Room Operator reports that the 'SPMU TRAIN A(B) TIMER RUNNING' alarms have been received on panel P601. Suppression Pool water level is 17.5 ft. and steady.

Which one of the following describes the appropriate ARI action that the Unit Supervisor is allowed to direct, including the reason for this action, based on these plant conditions?

Inhibiting the automatic operation of both SPMU trains _____.

- A. is allowed because the Drywell Weir Wall will overflow.
- B. is allowed because Suppression Pool level can be restored using other systems.
- C. is NOT allowed because a LOCA signal is present.
- D. is NOT allowed because the SPMU system will become Inoperable.

ANSWER: C.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		1
	Group #		1
	K/A#	295030 EA1.04	
	Importance Rating		4.0
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A & B – Based on the plant conditions provided, inhibiting operation of the SPMU system is not allowed.</p> <p>D – The reason given is incorrect. The Tech Spec status of SPMU is not discussed in the procedures for inhibiting the system. Tech Spec systems may be taken out of service provided Actions are entered.</p>			
Technical Reference(s): ARI-H13-P601-20 (G2), PAP-0205, CR-02-02602		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3039-008-02 Obj. A; OT-3036-003-G43 Obj. D; OT-3403-003-04b			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> </u>	
	Comprehension or Analysis	<u> A </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> X </u>	
<p>Comments (Why is it an upper level / SRO question):</p> <p>The SRO Candidate must analyze the plant conditions and select the correct action to take based on his knowledge of system operation and procedure requirements. The assessment of plant conditions and the selection of appropriate procedures, including the decision to override safety systems, is the responsibility of the SRO.</p>			

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QUESTION SRO 094

PEI-B13, RPV Control (ATWS), has been entered.

Which one of the following Pressure Control actions would allow the Unit Supervisor to exceed the RPV cooldown rate limit of 100°F/hr?

- A. Maintaining RPV pressure below the Heat Capacity Limit using Bypass Valves.
- B. Stabilizing RPV pressure below 1000 psig using SRVs.
- C. Performing a controlled depressurization of the RPV using Bypass Valves.
- D. Performing a controlled depressurization of the RPV using sustained SRV openings when air is unavailable.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		1
	Group #		1
	K/A#	295037 EK2.10	
	Importance Rating		4.1
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): B, C & D – Exceeding the RPV cooldown rate limit in these steps is not allowed.			
Technical Reference(s): PEI Bases		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT-3402-005-04b Obj. D			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> X </u>		
Comments (Why is it an upper level / SRO question): The SRO Candidate is required to apply his knowledge of EOP action steps and their bases in order to identify the correct action step. Knowledge of EOP actions and bases is the responsibility of the SRO.			

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QUESTION SRO 095

During execution of PEI-D17, Radioactivity Release Control, a step directs the Unit Supervisor to "Restart Heater Bay Building HVAC" if it is shutdown.

Which one of the following describes the bases for this step?

- A. Ensures that Turbine Building air is filtered prior to release to the environment.
- B. Ensures that Turbine Building air is monitored prior to release to the environment.
- C. Allows for continued access to the Turbine Building without exceeding the Maximum Safe Operating Conditions value for HVAC Exhaust Radiation.
- D. Allows for an alternate lineup for the Heater Bay Ventilation System to take a suction from the Auxiliary Building.

ANSWER: B.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		1
	Group #		1
	K/A#	295038 EK1.02	
	Importance Rating		4.4
Proposed Question: See attached			
Proposed Answer: See attached			
Explanation (Why the distractors are incorrect): A – The Heater Bay Ventilation system is not a filtered release point. C – Maximum Safe Operating Conditions are parameters monitored in PEI-N11, not PEI-D17. There is no MSOC value for Heater Bay Ventilation in PEI-N11. D – There is no alternate lineup between the Heater Bay and Auxiliary Ventilation systems.			
Technical Reference(s): PEI Bases		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT 3402-003-15 Obj. C			
Question Source:	Bank # 1088	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> </u>	Perry 2002 Audit #2 (RO)
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> X </u>	
Comments (Why is it an upper level / SRO question): Knowledge of EOP Bases is the responsibility of the SRO.			

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QUESTION SRO 096

Which one of the following describes the reason for Emergency Depressurization per PEI-D17, Radioactivity Release Control?

- A. To prevent an unnecessary evacuation of on-site personnel.
- B. To maintain core submergence to minimize any further fuel damage.
- C. To discharge the heat energy and radioactivity to the Main Condenser instead of the environment.
- D. To reduce the driving head of an unisolable leak outside of the Primary Containment.

ANSWER: D.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		1
	Group #		1
	K/A#	295038 EK3.04	
	Importance Rating		3.9
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>A – On-site personnel would have been evacuated in this event at the Site Area Emergency Level.</p> <p>B – Emergency Depressurization for this reason is applicable to the bases of PEI-B13, RPV Control, not PEI-D17.</p> <p>C – An Emergency Depressurization discharges the heat energy and radioactivity inside Containment, not the Main condenser.</p>			
Technical Reference(s): PEI Bases		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: NONE			
Learning Objective (As available): OT 3402-003-15 Obj. C			
Question Source:	Bank #	<u> X </u>	(Note changes or attach parent)
	Modified Bank #	<u> </u>	
	New	<u> </u>	
Question History:	Previous NRC Exam	<u> LaSalle 1997 </u>	
	Previous Quiz / Test	<u> </u>	
Question Cognitive Level:	Memory or Fundamental Knowledge	<u> X </u>	
	Comprehension or Analysis	<u> </u>	
10 CFR Part 55 Content:	55.41	<u> X </u>	
	55.43	<u> X </u>	
Comments (Why is it an upper level / SRO question): Knowledge of EOP Bases is the responsibility of the SRO.			

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QUESTION SRO 097

Which one of the following describes the implications of operating to the left of the Minimum Reactor Vessel Metal Temperature Curves contained in Technical Specification 3.4.11, RCS Pressure and Temperature (P/T) Limits?

Technical Specification Figure 3.4.11-1(e) is provided for reference.

- A. This is an unanalyzed condition that increases the probability of brittle failure.
- B. This is an unanalyzed condition that increases the probability of ductile failure.
- C. This is an analyzed condition that increases the probability of brittle failure.
- D. This is an analyzed condition that increases the probability of ductile failure.

ANSWER: A.

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Examination Outline Cross-Reference	Level:	RO	SRO
	Tier #		2
	Group #		3
	K/A#	290002 K5.05	
	Importance Rating		3.3
Proposed Question: See attached			
Proposed Answer: See attached			
<p>Explanation (Why the distractors are incorrect):</p> <p>B – Operation in this area increases the probability of brittle failure, not ductile failure.</p> <p>C & D – Operation in this area is an unanalyzed condition.</p>			
Technical Reference(s): TS 3.4.11, Bases 3.4.11		Reference Attached: <u> X </u> (Attach if not previously provided)	
Proposed references to be provided to applicants during examination: Technical Specification Figure 3.4.11-1(e)			
Learning Objective (As available): OT-3037-007-08 Obj. C, F			
Question Source:	Bank # _____ Modified Bank # _____ New <u> X </u>	(Note changes or attach parent)	
Question History:	Previous NRC Exam _____ Previous Quiz / Test _____		
Question Cognitive Level:	Memory or Fundamental Knowledge _____ Comprehension or Analysis <u> C </u>		
10 CFR Part 55 Content:	55.41 <u> X </u> 55.43 <u> X </u>		
<p>Comments (Why is it an upper level / SRO question):</p> <p>The SRO Candidate must utilize his knowledge of Tech Spec Bases and applicable Safety Analysis to identify the consequences of the given condition. Knowledge of Tech Spec bases and facility Safety Analysis is the responsibility of the SRO.</p>			