

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	2	
	Group #	1	
	K/A #	003 G2.4.50	
	Importance Rating	3.3	

Emergency Procedures / Plan Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.

Proposed Question: Common 1

Given the following:

- The plant is at 100% power.
- The following alarm is received:
  - RCP 1A CCW Seal Cooler Outlet Valve Closed
- The RO verifies that the valve is closed.
- RCP 1A CCW Return temperature indicates 125 degrees F and rising slowly.

Which ONE (1) of the following describes the plant condition, and the action required?

- A. CCW Return from RCP 1A exceeded it's high setpoint; trip the reactor and trip 1A RCP.
- B. CCW Return from RCP 1A exceeded it's high setpoint; attempt to restore CCW flow to RCP 1A seal cooler by opening the seal cooler outlet valve.
- C. The Seal Cooler Outlet Valve should NOT be closed; trip the reactor and trip 1A RCP.
- D. The Seal Cooler Outlet Valve should NOT be closed; attempt to restore CCW flow to RCP 1A seal cooler by opening the seal cooler outlet valve.

Proposed Answer: D

Explanation (Optional):

- A. Incorrect. High setpoint is 145, valve closes at 155. Trip not required at this point
- B. Incorrect. High setpoint is 145, valve closes at 155. Action is correct
- C. Incorrect. Reactor trip is not required if the bypass valve can be reopened.
- D. Correct. Valve closes at 155 degrees, it should not be closed. Alarm response says to attempt to reopen

Technical Reference(s) OP-500-008 D-4 (Attach if not previously provided)  
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Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPO10 Obj 03 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10  
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Comments:

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	2		
	Group #	1		
	K/A #	003 K6.02		
	Importance Rating	2.7		
Knowledge of the effect of a loss or malfunction on the following will have on the RCPS: RCP seals and seal water supply				
Proposed Question:	Common 2			
<p>OP-902-005, Station Blackout Recovery, directs the operator to verify closed the CCW non safety header containment isolation valves, CC-641, CC-710, ad CC-713 to isolate CCW to Containment. What is the reason for this?</p> <p>A. To prevent thermal shocking the CEDM coolers when restarting the CCW pumps.</p> <p>B. To prevent water hammer in Cntmt Bldg piping when restarting the CCW pumps.</p> <p>C. To prevent thermal shocking the RCPs when restarting the CCW pumps.</p> <p>D. To prevent running out the CCW pumps when restarting.</p>				

Proposed Answer:	C
Explanation (Optional):	
<p>A. Incorrect. CCW valves are isolated to prevent thermal shocking RCP upon CCW pump restart and readmission to RCPs after extended loss of cooling.</p> <p>B. Incorrect. CCW valves are isolated to prevent thermal shocking RCP upon CCW pump restart and readmission to RCPs after extended loss of cooling</p> <p>C. Correct.</p> <p>D. Incorrect. CCW valves are isolated to prevent thermal shocking RCP upon CCW pump restart and readmission to RCPs after extended loss of cooling</p>	

Technical Reference(s)	OP-902-005 step 6 TGOP-902-005 Step 6	(Attach if not previously provided)

Proposed references to be provided to applicants during examination:	None
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Learning Objective:	WLP-OPS-PPO10 Obj 01	(As available)
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Question Source:	Bank #	X	
	Modified Bank #		(Note changes or attach parent)

	New		
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Question History:	Last NRC Exam	Waterford 2004
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Question Cognitive Level:	Memory or Fundamental Knowledge	X
	Comprehension or Analysis	

10 CFR Part 55 Content:	55.41	7

Comments:
WF3-NRC-5734-N

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>1</u>	<u>          </u>
	K/A #	<u>004 A3.02</u>	<u>          </u>
	Importance Rating	<u>3.6</u>	<u>          </u>

Ability to monitor automatic operation of the CVCS, including: Letdown Isolation

Proposed Question: Common 3

The plant status is as follows:

- Reactor power is 100%.
- Charging Pump B is running.
- Charging Pump A and AB control switches are in AUTO.
- Standby Charging Pump Selector Switch is in the AB-A position.
- Charging Pump B trips and no operator actions are taken.

SELECT the statement that describes the response of the Chemical and Volume Control System (CVCS) to this event.

- A. Letdown flow will lower to and remain at 28 GPM due to lowering pressurizer level.
- B. Letdown flow will stabilize at a lower value until a backup charging pump is started, then return to the normal value.
- C. Letdown flow will bypass the in-service CVCS ion exchanger due to high temperature downstream of the Letdown Heat Exchanger.
- D. Letdown will isolate due to high temperature downstream of the Regenerative Heat Exchanger.

Proposed Answer: D

Explanation (Optional):

- A. Incorrect. If a charging pump trips, letdown will no longer be cooled, and will isolate on high temperature after a short time period. Lowering letdown is credible because charging is lost, so PZR input would be lower
- B. Incorrect. Credible because PZR level would be lowering
- C. Incorrect. High temperature does exist, but at a different point in the system. In this case, letdown HX still has cooling
- D. Correct.

Technical Reference(s) OP-901-112 (Attach if not previously provided)

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Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPO10 Obj 03 (As available)

Question Source: Bank # X  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7  
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Comments:  
WF3-OPS-41-A

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>1</u>	<u>          </u>
	K/A #	<u>005 A4.03</u>	<u>          </u>
	Importance Rating	<u>2.8</u>	<u>          </u>

Ability to manually operate and/or monitor in the control room: RHR temperature, PZR heaters and flow, and nitrogen

Proposed Question: Common 4

Given the following:

The plant is in Mode 4.  
RCS temperature is stable.  
SDC Train A is in service in accordance with OP-009-005.

Which ONE (1) of the following describes the action that will be taken to establish an RCS cooldown?

- A. SDC A Train Temperature Control Valve will be throttled closed, with SDC total flow remaining constant.
- B. SDC A Train Temperature Control Valve will be throttled open, with SDC total flow remaining constant.
- C. SDC A Train Flow Control Valve will be throttled closed, with SDC flow through the Shutdown Cooling Heat Exchanger rising.
- D. SDC A Train Flow Control Valve will be throttled open, with total SDC flow rising.

Proposed Answer: B

Explanation (Optional):

- A. Incorrect. TCV will be throttled open. Credible because flow control valve will throttle in opposite direction
- B. Correct. Open valve on outlet of SDC HX, causes more flow, establishes cooldown rate
- C. Incorrect. Credible because this would occur for changing flow through the flow control (bypass) valve. It will not cause a cooldown, however, and would not be performed to initiate a cooldown
- D. Incorrect. If this action was performed, RCS temperature would rise. (heatup)

Technical Reference(s) SDC SD (Attach if not previously provided)  
OP-009-005

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-SDC00 obj 5 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 5  
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Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>1</u>	<u>          </u>
	K/A #	<u>006 K3.01</u>	<u>          </u>
	Importance Rating	<u>4.1</u>	<u>          </u>

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

Proposed Question: Common 5

Given the following:

- A reactor trip has occurred.
- SIAS is actuated.
- NO HPSI Pumps are running, and CANNOT be started.
- LPSI Pumps are operating normally.
- The crew has just transitioned to OP-902-008 due to no HPSI flow.
- All other equipment is operating as required.
- RCS temperature is 556 degrees F and stable.
- RCS pressure is approximately 1100 psig and lowering slowly.

Of the following choices, which ONE (1) describes ONLY safety functions that are jeopardized as a result of the HPSI pump failure?

- A. RCS Heat Removal and Core Heat Removal
- B. RCS Inventory and RCS Pressure Control
- C. Core Heat Removal and Maintenance of Vital Auxiliaries
- D. RCS Heat Removal and RCS Pressure Control

Proposed Answer: B

Explanation (Optional):

- A. Incorrect. SGs/EFW provide heat removal for these conditions
- B. Correct. No PZR level or pressure and no HPSI flow. RCS heat removal is EFW and ADVs. MVAC is power
- C. Incorrect. Heat Removal provided by EFW, MVAC provided by electrical power
- D. Incorrect. RCS heat removal provided by SGs and EFW

Technical Reference(s) SFSC for LOCA/SPTAs (Attach if not previously provided)

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Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPE08 obj 6 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10  
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Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>1</u>	<u>          </u>
	K/A #	<u>007 K3.01</u>	<u>          </u>
	Importance Rating	<u>3.3</u>	<u>          </u>

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

Proposed Question: Common 6

A Steam Generator Tube Rupture has occurred that resulted in an automatic SIAS/CIAS.

Which ONE of the following could result in a Quench Tank Rupture Disc failure and rising containment pressure, due to automatic alignment to the Quench Tank?

- A. RCP Control Bleedoff
- B. RCP Vapor Seal Leak Off
- C. Reactor Head Vent Header
- D. Pressurizer Vent Header

Proposed Answer: A

Explanation (Optional):

A is correct because RC-606, RCP Control Bleedoff Inside Containment Isolation Valve closes on a CIAS, redirecting RCP control bleedoff to the quench tank through a relief valve.

B is incorrect because RCP vapor seal leakoff is directed to the Reactor Drain Tank at all times.

C is incorrect because the Reactor head vent must be aligned to the quench tank manually.

D is incorrect because the Pressurizer vent must be aligned to the quench tank manually.

Technical Reference(s) W3-OPS-LP-RCS00 (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-RCS00 obj 2 (As available)

Question Source: Bank #   X    
Modified Bank #            (Note changes or attach parent)  
New           

Question History: Last NRC Exam   2003 NRC #32  

Question Cognitive Level: Memory or Fundamental Knowledge             
Comprehension or Analysis   X  

10 CFR Part 55 Content: 55.41   3    
          

Comments:  
WF3-NRC-6013-B

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>1</u>	<u>          </u>
	K/A #	<u>008 K1.04</u>	<u>          </u>
	Importance Rating	<u>3.3</u>	<u>          </u>

Knowledge of the physical connections and/or cause-effect relationships between the CCWS and the following systems: RCS, in order to determine source(s) of RCS leakage into the CCWS

Proposed Question: Common 7

Given the following:

- The plant is at 100% power.
- CCW Surge Tank level is rising slowly.
- VCT level is slowly lowering.
- The following alarms are received:
  - CCW A ACTIVITY HIGH
  - CCW B ACTIVITY HIGH

No other alarms are received.

Of the choices below, which ONE (1) of the following describes the location of the leak?

- A. 1B RCP Seal Cooler.
- B. Letdown Heat Exchanger
- C. Fuel Pool Heat Exchanger
- D. Waste Gas Compressor B

Proposed Answer: B

Explanation (Optional):

- A. Incorrect. Would have temperature alarms or isolation
- B. Correct. Only possibility with no other alarms, and VCT level lowering. (Means leak from RCS)
- C. Incorrect. Fuel Pool heat exchanger is at a lower pressure than CCW, rad alarm would not be in
- D. Incorrect. Waste Gas compressor will be on NNS, and operates at a lower pressure

Technical Reference(s) OP-901-411 (Attach if not previously provided)  
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Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPO40 obj 1 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 11  
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Comments:



Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge   X    
Comprehension or Analysis \_\_\_\_\_

10 CFR Part 55 Content: 55.41   4    
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Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>1</u>	<u>          </u>
	K/A #	<u>010 A1.04</u>	<u>          </u>
	Importance Rating	<u>3.6</u>	<u>          </u>

Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the PZR PCS controls including: Effects of temperature change during solid operation

Proposed Question: Common 9

Given the following:

- The plant is in Mode 4.
- Solid Plant operations are in progress.
- CCW flow is reduced to the in-service SDC Heat Exchanger.

Which ONE (1) of the following describes the effect on the plant?

The Letdown Back Pressure Control Valve must be throttled...

- Closed to raise RCS pressure to restore it to setpoint.
- Closed to lower RCS pressure to restore it to setpoint.
- Open to raise RCS pressure to restore it to setpoint.
- Open to lower RCS pressure to restore it to setpoint.

Proposed Answer: D

Explanation (Optional):

- Incorrect. Wrong direction, but if valve closed, pressure would rise
- Incorrect. Wrong direction, and pressure would rise, not lower.
- Incorrect. Correct direction, but opposite pressure effect. Credible because this valve controls backpressure
- Correct. Lowering CCW flow to SDC will cause temperature to rise. If temperature rises, RCS pressure will rise. To restore pressure to original value, the Letdown Pressure control valve will open to allow more letdown flow.

Technical Reference(s) Charging/Letdown SD (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-CVC00 obj 3 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 14  
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Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>1</u>	<u>          </u>
	K/A #	<u>012 K2.01</u>	<u>          </u>
	Importance Rating	<u>3.3</u>	<u>          </u>

Knowledge of bus power supplies to the following: RPS channels, components, and interconnections

Proposed Question: Common 10

Given the following:

- The plant is at 100% power.
- A loss of SUPS MD occurs.

Which ONE (1) of the following describes the effect on the Plant Protection System?

Reactor Trip Switchgear Breakers....

- 3, 4, 7, and 8 OPEN; reactor trip occurs.
- 3, 4, 7, and 8 OPEN; reactor trip does NOT occur.
- 1, 2, 5, and 6 OPEN; reactor trip occurs.
- 1, 2, 5, and 6 OPEN; reactor trip does NOT occur.

Proposed Answer: B

Explanation (Optional):

- Incorrect. Correct breakers but reactor trip does not occur, as power to CEDMCS is not interrupted with these breakers open
- Correct. Loss of MB will open 4 RTCBs. The breakers are not de-energized, power is still available
- Incorrect. Incorrect breakers and effect. These are Train A powered
- Incorrect. Incorrect breakers, correct effect

Technical Reference(s) PPS SD (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPS00 obj 07 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7  
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Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>1</u>	<u>          </u>
	K/A #	<u>012 A3.07</u>	<u>          </u>
	Importance Rating	<u>4.0</u>	<u>          </u>

Ability to monitor automatic operation of the RPS, including: Trip breakers

Proposed Question: Common 11

Given the following:

- A manual reactor trip was initiated using the pushbuttons on CP-8 ONLY.
- Reactor Trip Breakers open as required, resulting in a reactor trip.

Which ONE (1) of the following describes the indication for the reactor trip system 30 seconds after the event?

- A. K1 – K4 lights illuminated.
- B. K1 – K4 lights extinguished.
- C. K1 and K4 lights illuminated; K2 and K3 lights extinguished.
- D. K1 and K4 lights extinguished; K2 and K3 lights illuminated.

Proposed Answer: B

Explanation (Optional):

- A. Incorrect. Credible because the lights are either on or off with a reactor trip or without one
- B. Correct.
- C. Incorrect. Credible because this condition will exist for a few seconds when the PB is depressed on CP-8.
- D. Incorrect. Opposite condition will exist for a few seconds when PB is depressed on CP-8

Technical Reference(s) WLP-OPS -PPS00 (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPS00 obj 14 (As available)





Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis   X  

10 CFR Part 55 Content: 55.41   7    
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Comments:  
WF3-NRC-4104-N

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>1</u>	<u>          </u>
	K/A #	<u>013 K5.02</u>	<u>          </u>
	Importance Rating	<u>2.9</u>	<u>          </u>

Knowledge of the operational implications of the following concepts as they apply to the ESFAS: Safety system logic and reliability  
Proposed Question: Common 13

The following plant conditions exist:

- An EFAS actuation has occurred
- S/G-1 level = 10% NR
- S/G-1 Pressure = 580 psia
- S/G-2 level = 20% NR
- S/G-2 Pressure = 710 psia

WHICH ONE (1) of the following describes the operation of the EFW System?

EFW is...

- A. Feeding #1 SG ONLY
- B. Feeding #2 SG ONLY
- C. Feeding BOTH SGs
- D. Isolated to both SGs

Proposed Answer: B

Explanation (Optional):

- A. Incorrect. Wrong SG, it is at a lower pressure and would be locked out
- B. Correct. SG 2 has higher pressure and meets criteria for EFW
- C. Incorrect. Level criteria is met for feed, so SGs would be fed. Since #1 is at low pressure, feed is blocked
- D. Incorrect. EFW will be supplied to #2 SG based on its level and pressure

Technical Reference(s) EFW (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-EFW obj 6 (As available)



Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>1</u>	<u>          </u>
	K/A #	<u>022 K2.01</u>	<u>          </u>
	Importance Rating	<u>3.0</u>	<u>          </u>

Knowledge of power supplies to the following: Containment Cooling Fans

Proposed Question: Common 14

Which ONE (1) of the following states the direct power supply to Containment Fan Cooler C?

- A. 480 VAC SWGR 31A-S
- B. 480 VAC SWGR 31B-S
- C. 480 VAC MCC 317A-S
- D. 480 VAC MCC 317B-S

Proposed Answer: C

Explanation (Optional):

- A. Incorrect. Supply to CEDM Fans A/C
- B. Incorrect. Supply to CEDM Fans B/D
- C. Correct.
- D. Incorrect. Supply to Containment Fan Cooler B/D

Options are plausible because they are safety related power supplies at the same voltage. Credible to choose B train supplies because the applicant may not understand that Fan Cooler C is an A train component

Technical Reference(s) SD CCS Rev 7, Table 3 (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-CCS00 obj. 04 (As available)

Question Source: Bank #             
 Modified Bank #            (Note changes or attach parent)  
 New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge   X    
Comprehension or Analysis \_\_\_\_\_

10 CFR Part 55 Content: 55.41   5    
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Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>1</u>	<u>          </u>
	K/A #	<u>022 A4.01</u>	<u>          </u>
	Importance Rating	<u>3.6</u>	<u>          </u>

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

Proposed Question: Common 15

Given the following:

- The plant was at 100% power.
- Containment Fan Coolers A, B, & D were operating.
- Containment Fan Cooler C was in Standby.
- Due to an RCS leak, the reactor was manually tripped and SI was manually actuated.

Which ONE (1) of the following describes the response of the Containment Fan Coolers during the event?

Containment Fan Coolers A, B, & D...

- A. Immediately stop when SIAS is actuated. They will restart in slow speed 7 seconds after the SIAS. Containment Fan Cooler C starts in slow speed 7 seconds after the SIAS.
- B. Immediately shift to slow speed when SIAS is initiated. Containment Fan Cooler C starts in slow speed immediately upon the SIAS actuation.
- C. Stop 7 seconds after the SIAS actuation, then immediately restart in slow speed. Containment Fan Cooler C starts in slow speed 7 seconds after the SIAS actuation.
- D. Continue to run in fast speed on SIAS. Shift to slow speed 7 seconds after the SIAS actuation. Containment Fan Cooler C starts in slow speed 7 seconds after the SIAS actuation.

Proposed Answer: A

Explanation (Optional):

- A. Correct. Fans trip; they start in slow speed at sequencer block 3 (7 seconds)

- B. Incorrect. Fans shift speed at 7 seconds, not immediately
- C. Incorrect. Fans trip immediately, then start in slow speed after 7 seconds
- D. Incorrect. Fans trip first

Technical Reference(s) SD CCS R7, pg 28 (Attach if not previously provided)

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Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-CCS00 obj. 01 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge X  
Comprehension or Analysis \_\_\_\_\_

10 CFR Part 55 Content: 55.41 5  
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Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	2	
	Group #	1	
	K/A #	026 K1.02	
	Importance Rating	4.1	

Knowledge of the physical connections and/or cause-effect relationships between the CSS and the following systems: Cooling water  
Proposed Question: Common 16

Given the following:

- The plant was at 100% power.
- Control switches for CCW flow control valves, CC-963A and B, are in the SET PNT position.
- Subsequently, a LOCA occurs.
- SIAS, CIAS, MSIS, and CSAS have actuated.

Which ONE (1) of the following describes the operation of CCW to the Shutdown Cooling Heat Exchangers for this event?

- A. Both CCW flow control valves received a signal to open fully when SIAS actuated.
- B. Both CCW flow control valves received a signal to open to their setpoint when the SIAS actuated.
- C. ONE CCW flow control valve received a signal to open fully when SIAS actuated. The other CCW flow control valve received a signal to open fully when CSAS actuated.
- D. ONE CCW flow control valve received a signal to open to its setpoint when SIAS actuated. The other CCW flow control valve received a signal to open to its setpoint when CSAS actuated.

Proposed Answer: C

Explanation (Optional):

- A. Incorrect. Valves open fully, but one valve opens on each signal
- B. Incorrect. Setpoint value is non-ESF. Valves will open fully
- C. Correct. CC-963A on CSAS, CC-963B on SIAS. Both will go to full open on an ESF signal, regardless of control switch position
- D. Incorrect. Correct actuation, but setpoint value is exceeded due to ESF actuation

Technical Reference(s) CS SD (Attach if not previously provided)  
\_\_\_\_\_

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-CC00 obj 5 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge X  
Comprehension or Analysis \_\_\_\_\_

10 CFR Part 55 Content: 55.41 5  
\_\_\_\_\_

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	2	
	Group #	1	
	K/A #	026 K4.01	
	Importance Rating	4.2	

Knowledge of CSS design feature(s) and/or interlock(s) which provide for the following: Source of water for CSS, including recirculation phase after LOCA

Proposed Question: Common 17

Given the following:

- A LOCA has occurred.
- All systems are operating as designed.
- RCS pressure is 700 psia.
- Containment pressure is 18 psia.
- RWSP level is 9% and lowering.
- NO operator actions have been taken.

Which ONE of the following describes the alignment of the Containment Spray System?

- A. SIS Sump Outlet valves, SI-602A and B open  
RWSP Outlet Isolation valves, SI-106A and B open  
CS Pump Recirculation valves, SI-120A and B closed
- B. SIS Sump Outlet valves, SI-602A and B open  
RWSP Outlet Isolation valves, SI-106A and B open  
CS Pump Recirculation valves, SI -120A and B open
- C. SIS Sump Outlet valves, SI-602A and B closed  
RWSP Outlet Isolation valves, SI-106A and B open  
CS Pump Recirculation valves, SI -120A and B open
- D. SIS Sump Outlet valves, SI-602A and B closed  
RWSP Outlet Isolation valves, SI-106A and B open  
CS Pump Recirculation valves, SI -120A and B closed

Proposed Answer: B

Explanation (Optional):

- A. Incorrect. Recirc valves remain open
- B. Correct. Less than 10% RWSP, RAS actuates. SIS Sump suction valves realign; other valves are manually operated.
- C. Incorrect. Non-RAS alignment
- D. Incorrect. Non-RAS alignment with recirc valves closed

Technical Reference(s) CS SD (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-CS00 obj 4 (As available)

Question Source: Bank # \_\_\_\_\_  
 Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
 New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
 Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 5

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>1</u>	<u>          </u>
	K/A #	<u>039 A1.05</u>	<u>          </u>
	Importance Rating	<u>3.2</u>	<u>          </u>

Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the MRSS controls including: RCS T-ave

Proposed Question: Common 18

Given the following:

- A reactor trip has occurred.
- The crew has transitioned to OP-902-001, Reactor Trip Recovery.
- SG #1 and SG #2 pressures are 1050 psig.
- SG #1 and SG #2 NR levels are off-scale low.
- SG #1 and SG #2 Th and Tc indicate 554 degrees F and stable.

Which ONE of the following describes the action required in OP-902-001?

- A. Raise feedwater flow to restore SG levels to a minimum of 5% NR; Maintain RCS temperature stable using SBCS.
- B. Raise feedwater flow to restore SG levels to a minimum of 5% NR; Lower RCS temperature to below 550 degrees F using SBCS.
- C. Raise feedwater flow to restore SG levels to 50% - 70% NR; Maintain RCS temperature stable using SBCS.
- D. Raise feedwater flow to restore SG levels to 50% - 70% NR; Lower RCS temperature to below 550 degrees F using SBCS.

Proposed Answer: D

Explanation (Optional):

- A. Incorrect. Incorrect level and incorrect temperature control
- B. Incorrect. SG level should be raised to 50-70%. Correct SBCS control
- C. Incorrect. RCS temperature must be lowered to 550
- D. Correct. RCS heat removal requires trend to 50% to 70% SG level and Tcold below 550.

Technical Reference(s) OP-902-001 (Attach if not previously provided)

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\_\_\_\_\_

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPE01 obj 16 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10  
\_\_\_\_\_

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>1</u>	<u>          </u>
	K/A #	<u>059 K1.03</u>	<u>          </u>
	Importance Rating	<u>3.1</u>	<u>          </u>

Knowledge of the physical connections and/or cause-effect relationships between the MFW and the following systems: S/GS

Proposed Question: Common 19

Given the following:

- The plant is at 40% power.
- All control systems are in their normal automatic alignments.
- The Feedwater Flow signal to SG #1 fails low.

Which ONE of the following describes the effect of SG level control?

- A. Control system response will cause an increase in SG level, but will be offset by a level error signal. SG #1 level will stabilize at the program setpoint.
- B. Control system response will cause an increase in SG level, but will be offset by a level error signal. SG #1 level will stabilize above the program setpoint.
- C. Control system response will cause a decrease in SG level, but will be offset by a level error signal. SG #1 level will stabilize at the program setpoint.
- D. Control system response will cause a decrease in SG level, but will be offset by a level error signal. SG #1 level will stabilize below the program setpoint.

Proposed Answer: A

Explanation (Optional):

- A. Correct. If feed flow fails low, then feed will increase to that SG. Once SG level goes above program, the level signal will cause feed to decrease until the SG returns to program
- B. Incorrect. SG level dominance will return level to program
- C. Incorrect. Opposite failure in SG level, correct stabilization
- D. Incorrect. Opposite failure in SG level, incorrect stabilization

Technical Reference(s) WLP-OPS-FWC00 (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-FWC obj 4 (As available)

Question Source: Bank # X  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7  
\_\_\_\_\_

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>1</u>	<u>          </u>
	K/A #	<u>061 K2.02</u>	<u>          </u>
	Importance Rating	<u>3.7</u>	<u>          </u>

Knowledge of bus power supplies to the following: AFW electric driven pumps

Proposed Question: Common 20

Given the following:

- The plant is in Mode 3 following a reactor trip.
- EFW Pumps are in service.
- AB Bus powered from Train A
- EFW Pump AB trips on overspeed

Which ONE (1) of the following describes a fault that will temporarily reduce EFW flow?

- A. 86G2 actuation on UAT sudden pressure
- B. 86 STA actuation on SUT sudden pressure
- C. AB3 to A3 feeder trips on overcurrent
- D. AB31 to A3 feeder trips on overcurrent

Proposed Answer: B

Explanation (Optional):

- A. Incorrect. UAT should not be in service post trip. SUT will be supplying 4 KV bus 2A
- B. Correct.
- C. Incorrect. AB3 Bus does not provide power to Emergency Feedwater Pump AB, as compared to A3 and B3.
- D. Incorrect. While AB31 Bus does provide power to EFW Pump AB Stop valve, loss of power to this valve does not prevent pump operation (steam driven).

Technical Reference(s) SD 4KV R4, Figure 3 (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-EFW00 obj. 03 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7  
\_\_\_\_\_

Comments:

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	2		
	Group #	1		
	K/A #	062 G2.4.6		
	Importance Rating	3.1		

Emergency Procedures/Plan: Knowledge of symptom based EOP mitigation strategies

Proposed Question: Common 21

Given the Following:

- EFW pump A is OOS due to a pump bearing replacement.
- At 0930 the reactor was manually tripped due to loss of both Main Feedwater pumps
- Tavg is 547°F.
- EFAS-1 and EFAS-2 actuated one minute after the trip.
- EFW Pump AB tripped on overspeed when EFAS occurred due to a failure of the EFW pump governor.
- EFW Pump B is running normally.
- OP-902-006, Loss of Main Feedwater Recovery Procedure has been entered.
- The time is now 1010.

Based on given plant conditions, how many RCPs must be secured?

- A. Only 1
- B. Only 2
- C. Only 3
- D. All 4

Proposed Answer: D

Explanation (Optional):

- A. Incorrect.
- B. Incorrect.
- C. Incorrect.
- D. Correct.

Technical Reference(s) OP-902-006 (Attach if not previously provided)

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Proposed references to be provided to applicants during examination:	None
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Learning Objective:	WLP-OPS-PPE06 obj 4	(As available)
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Question Source:	Bank #	X	
	Modified Bank #		(Note changes or attach parent)
	New		

Question History:	Last NRC Exam	
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Question Cognitive Level:	Memory or Fundamental Knowledge	X
	Comprehension or Analysis	

10 CFR Part 55 Content:	55.41	10

Comments:
WF3-NRC-6137-A



Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge   X    
Comprehension or Analysis \_\_\_\_\_

10 CFR Part 55 Content: 55.41   7    
\_\_\_\_\_

Comments:  
WF3-NRC-82-B

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	2		
	Group #	1		
	K/A #	064 K6.08		
	Importance Rating	3.2		

Knowledge of the effect of a loss or malfunction of the following will have on the ED/G system: Fuel oil storage tanks	
Proposed Question:	Common 23
<p>Given the following conditions:</p> <ul style="list-style-type: none"> <li>• Emergency Diesel Generator 'B' is operating at 4.4 kW for OP-903-068 surveillance testing.</li> <li>• The following alarm is received:             <ul style="list-style-type: none"> <li>• EDG B FUEL OIL XFER PUMP PWR LOST</li> </ul> </li> <li>• Fuel Oil Feed Tank "B" indicates 100 percent on CP-1</li> <li>• The RAB watch reports that the breaker for Fuel Oil Transfer Pump 'B' breaker is tripped, and the motor is too hot to touch.</li> </ul> <p>Based on these conditions, what is the MAXIMUM time Emergency Diesel Generator 'B' can continue to operate with no additional actions?</p> <p>A. 1 hour</p> <p>B. 2 hours</p> <p>C. 1 day</p> <p>D. 7 days</p>	

Proposed Answer:	B
Explanation (Optional):	
<p>A. Incorrect. The auto start setpoint of the Fuel Oil Transfer pump is -30 inches which corresponds to a 1 hours run time plus 10 %</p> <p>B. Correct. The feed tank holds a two-hour supply of fuel based on 600 gal capacity and 307</p>	

gal/hr consumption.  
 C. Incorrect.  
 D. Incorrect. The Storage tank holds about a seven-day supply of fuel

Technical Reference(s)	SD EDG Page 16	(Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-EDG obj 7 (As available)

Question Source:	Bank #		
	Modified Bank #		(Note changes or attach parent)
	New	X	

Question History: Last NRC Exam

Question Cognitive Level:	Memory or Fundamental Knowledge	X
	Comprehension or Analysis	

10 CFR Part 55 Content:	55.41	8

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	2	
	Group #	1	
	K/A #	064 A4.09	
	Importance Rating	3.2	

Ability to manually operate and/or monitor in the control room: Establishing power from the ring bus (to relieve ED/G)

Proposed Question: Common 24

Given the following:

- A Station Blackout has occurred.
- Both EDGs were started.
- Off-Site power is available.
- 4.16 KV Bus A2 is energized from off-site.
- 4.16 KV Bus A3 is energized from the EDG.

Which ONE of the following describes how off-site power will be restored to 4.16 KV Bus A3 from off-site?

- A. Synchroscope moving slowly clockwise, parallel across the A2 to A3S tie breaker.
- B. Synchroscope moving slowly clockwise, parallel across the A3S to A2 tie breaker.
- C. Synchroscope moving slowly counter-clockwise, parallel across the A2 to A3S tie breaker.
- D. Synchroscope moving slowly counter-clockwise, parallel across the A3S to A2 tie breaker.

Proposed Answer: B

Explanation (Optional):

- A. Incorrect. Wrong breaker
- B. Correct. Appendix 12 supplies info. Counter clockwise is plausible because the restoration is opposite from what is normally performed. A2 to A3S tie does not have synchroscope input
- C. Incorrect. Wrong direction, but credible because power is being restored opposite to the way the busses are normally paralleled

D. Incorrect. Wrong direction, but credible because power is being restored opposite to the way the busses are normally paralleled

Technical Reference(s) Appendix 12-C (Attach if not previously provided)  
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Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPE08 obj 9 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge X  
Comprehension or Analysis \_\_\_\_\_

10 CFR Part 55 Content: 55.41 10  
\_\_\_\_\_

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>1</u>	<u>          </u>
	K/A #	<u>073 K1.01</u>	<u>          </u>
	Importance Rating	<u>3.6</u>	<u>          </u>

Knowledge of the physical connections and/or cause-effect relationships between the PRM system and the following systems:  
Those systems served by PRMs

Proposed Question: Common 25

Given the following:

- The plant is at 40% power.
- Blowdown discharge to Circ Water is in progress.
- BD-303, Blowdown to Circ Water and Metal Waste Pond Isolation Valve, closes.

Which ONE of the following caused the valve to close?

- High radiation on the Blowdown Radiation Monitor.
- High Radiation on the Circ Water Radiation Monitor.
- Trip of the running Blowdown Pump.
- Hi Ph alarm on Blowdown Proportional Sampler.

Proposed Answer: B

Explanation (Optional):

- Incorrect. BD-303 closes on circ water rad. BD rad monitor closes a different valve
- Correct. LP says that circ water rad will isolate
- Incorrect. BD Pump trip will stop flow, but not isolate BD-303
- Incorrect. Alarm only, pH will not cause isolation

Technical Reference(s) WLP-OPS-BD00 (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-BD00 obj 2 (As available)



Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	2		
	Group #	1		
	K/A #	076 A2.01		
	Importance Rating	3.5		

Ability to (a) predict the impacts of the following malfunctions or operations on the SWS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of SWS

Proposed Question: Common 26

Given the following:

- The plant is at 100% power.
- TCW Pump B is in service.
- TCW Pump A is tagged for repair.
  
- The following alarms are received in the control room:
  - TURB CLNG WTR PUMP B TRIP/TROUBLE
  - TURB CLNG WATER DISCH HDR PRESS LO
  
- Operator actions fail to restore TCW flow.

Which ONE of the following describes the impact AND the actions required IAW OP-901-512 for these conditions?

- A. Generator Winding damage, Trip the reactor.
- B. Loss of Generator Hydrogen, Trip the reactor.
- C. Generator Winding damage, Initiate a plant shutdown to remove the main generator from service.
- D. Loss of Generator Hydrogen, Initiate a plant shutdown to remove the main generator from service.

Proposed Answer: A

Explanation (Optional):

- A. Correct. Section E1 of AOP
- B. Incorrect. Main Generator will be damaged if operating for 2-3 minutes with no TCW. Generator H2 will be maintained by air side and hydrogen side seal oil.
- C. Incorrect. A reactor trip is required because the Main Generator will be damaged if

operating for 2-3 minutes with no TCW  
 D. Incorrect. A reactor trip is required because the Main Generator will be damaged if operating for 2-3 minutes with no TCW

Technical Reference(s)	OP-901-512, E1	(Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective:	WLP-OPS-PPO50 obj 3	(As available)
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Question Source:	Bank #		
	Modified Bank #		(Note changes or attach parent)
	New	X	

Question History:	Last NRC Exam	
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Question Cognitive Level:	Memory or Fundamental Knowledge	X
	Comprehension or Analysis	

10 CFR Part 55 Content:	55.41	10

Comments:

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	2		
	Group #	1		
	K/A #	078 A3.01		
	Importance Rating	3.1		

Ability to monitor automatic operation of the IAS, including: Air pressure	
Proposed Question:	Common 27
Given the following conditions:	
<ul style="list-style-type: none"> <li>• 100 percent power</li> <li>• Instrument Air Header pressure is 120 psig</li> </ul>	
An air leak occurs, causing Instrument Air Header pressure to drop to 100 psig. Which of the following describes the status of the instrument air system?	
<p>A. SA-125 Station Air Backup is OPEN, SA-123 Air dryer Bypass is OPEN</p> <p>B. SA-125 Station Air Backup is CLOSED, SA-123 Air dryer Bypass is OPEN</p> <p>C. SA-125 Station Air Backup is OPEN, SA-123 Air dryer Bypass is CLOSED</p> <p>D. SA-125 Station Air Backup is CLOSED, SA-123 Air dryer Bypass is CLOSED</p>	

Proposed Answer:	C
Explanation (Optional):	
<p>A. Incorrect. SA-125 opens at 105 psig SA-123 opens at 95 psig</p> <p>B. Incorrect. SA-125 opens at 105 psig SA-123 opens at 95 psig</p> <p>C. Correct</p> <p>D. Incorrect. SA-125 opens at 105 psig SA-123 opens at 95 psig</p>	

Technical Reference(s)	OP-003-016 pg 26	(Attach if not previously provided)

Proposed references to be provided to applicants during examination:	None
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Learning Objective:	WLP-OPS-AIR00 obj. 01	(As available)
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Question Source:	Bank #		
	Modified Bank #		(Note changes or attach parent)

	New	X	
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Question History:	Last NRC Exam	
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Question Cognitive Level:	Memory or Fundamental Knowledge	X
	Comprehension or Analysis	

10 CFR Part 55 Content:	55.41	5

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	2	
	Group #	1	
	K/A #	103 A2.03	
	Importance Rating	3.5	

Ability to (a) predict the impacts of the following malfunctions or operations on the containment system-and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations Phase A and B isolation

Proposed Question: Common 28

Given the following:

- The plant is operating at 100% power.
- The following alarms are received:
  - CSAS TRAIN A LOGIC INITIATED
  - CTMT SPRAY HDR A ISOL VLV UPSET
- CSAS Train 'A' trip path indicators are extinguished on the ESF System Status Panel and on the PPS ROM.
- Containment pressure is 15.2 psia.

Which ONE of the following describes the impact of these indications, and the action required?

- A. Loss of RCP seal cooling; immediately trip the reactor and perform Standard Post Trip Actions.
- B. Loss of RCP seal cooling; stop Containment Spray Pumps and attempt to restore cooling per OP-901-504, Inadvertent ESFAS Actuation.
- C. Loss of RCP Motor Cooling; immediately trip the reactor and perform Standard Post Trip Actions.
- D. Loss of RCP Motor Cooling; stop Containment Spray Pumps and close Spray Header isolation valves per OP-901-504, Inadvertent ESFAS Actuation.

Proposed Answer: B

Explanation (Optional):

- A. Incorrect. Seal cooling is the primary concern, but reactor trip is not required
- B. Correct. Seal cooling is primary concern, action is correct
- C. Incorrect. Incorrect concern, incorrect action
- D. Incorrect. Effect is incorrect. Concern is RCP seals

Technical Reference(s) OP-901-504 (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPO50 obj 3 (As available)

Question Source: Bank # \_\_\_\_\_

Modified Bank # \_\_\_\_\_ (Note changes or attach parent)

New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_

Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>2</u>	<u>          </u>
	K/A #	<u>001 K5.06</u>	<u>          </u>
	Importance Rating	<u>3.8</u>	<u>          </u>

Knowledge of the following operational implications as they apply to the CRDS: Effects of control rod motion on axial offset

Proposed Question: Common 29

Given the following:

- The plant is at 100% power
- Turbine Governor Valve #4 fails Closed.
- Crew performs a rapid power reduction to 92% to match Tave and Tref.
- Crew inserted CEAs to control Axial Shape Index (ASI) during the power reduction.
- As a result of the CEAs being driven in the following core conditions exist:
  - Upper half power 55%
  - Lower half power 45%

Which ONE of the following is the correct Axial Shape Index (ASI) for the given core power conditions, and in which direction is ASI moving due to this event?

- A. +0.1; towards positive.
- B. +0.1; towards negative.
- C. -0.1; towards positive.
- D. -0.1; towards negative.

Proposed Answer: D

Explanation (Optional):

- A. Incorrect. Wrong value. Wrong trend
- B. Incorrect. Wrong value but correct trend
- C. Incorrect. Correct value but wrong trend
- D. Correct.

Technical Reference(s) W3 OPS LP-TS04 (Attach if not previously provided)

\_\_\_\_\_  
\_\_\_\_\_

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-TS04 obj 3 (As available)

Question Source: Bank # X  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 1  
\_\_\_\_\_

Comments:  
W3-OPS-6471-A (modified)

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>2</u>	<u>          </u>
	K/A #	<u>002 K1.06</u>	<u>          </u>
	Importance Rating	<u>3.7</u>	<u>          </u>

Knowledge of the physical connections and/or cause-effect relationships between the RCS and the following systems: CVCS  
Proposed Question: Common 30

Given the following:

- Reactor power is 50%.
- Tavg is 553 degrees F.
- RCS pressure is 2235 psig.
- PZR Level Control System setpoint is selected to Reactor Regulating System.
- PZR level is 36%, recovering to setpoint after a brief transient.

Which ONE (1) of the following describes the operation of Charging and Letdown for these conditions?

- A. 1 Charging Pump running with maximum Letdown.
- B. 2 Charging Pumps running with maximum Letdown.
- C. 3 Charging Pumps running with minimum Letdown.
- D. 2 Charging Pumps running with minimum Letdown.

Proposed Answer: C

Explanation (Optional):

- A. Incorrect. If letdown was maximum, charging would most likely be 1 pump only
- B. Incorrect. Based on parameters, letdown would be minimized. Credible because there is a mismatch
- C. Correct. PZR level is more than 3% below program (setpoint). Therefore, letdown will minimize and all charging pumps (both backups) will start
- D. Incorrect.

Technical Reference(s) CVCS SD (Attach if not previously provided)

Proposed references to be provided to applicants during examination: Duplicate reference,  
OP-901-112, Att. 1

Learning Objective: WLP-OPS-CVC00 obj 3 (As available)

Question Source: Bank # X  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7  
\_\_\_\_\_

Comments:  
WF3-NRC-39-A

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>2</u>	<u>          </u>
	K/A #	<u>014 A4.02</u>	<u>          </u>
	Importance Rating	<u>3.4</u>	<u>          </u>

Ability to manually operate and/or monitor in the control room: Control rod mode-select switch

Proposed Question: Common 31

Given the following:

- The plant is at 100% power.
- All CEAs are fully withdrawn.
- CEDMCS is in Manual Individual for CEA Exercise per OP-903-005.
- ONE (1) Reg Group 2 CEA drops to the bottom of the core.
- The reactor does NOT trip.
- LPD and DNBR Pre-Trips are received on 2 channels.
- The crew enters OP-901-102, CEA or CEDMCS Malfunctions.

Which ONE of the following describes the next action required in accordance with OP-901-102?

- A. Trip the reactor; perform Standard Post Trip Actions.
- B. Place CEDMCS in MANUAL-SEQUENTIAL; match Tav<sub>g</sub> to Tref using CEAs or by adjusting turbine load.
- C. Place CEDMCS in OFF; match Tav<sub>g</sub> to Tref using turbine load or by adjusting RCS boron concentration.
- D. Place CEDMCS in MANUAL GROUP OR OFF; take action to clear the pre-trips and restore reactor power to less than 100% on all channels.

Proposed Answer: C

Explanation (Optional):

- A. Incorrect. Credible because action is correct if trips are in, not pre-trips
- B. Incorrect. Would match Tave and Tref with boron or turbine load. Also CEDMCS in wrong position
- C. Correct.
- D. Incorrect. All actions correct with exception of CEDMCS position

Technical Reference(s) OP-901-102 (Attach if not previously provided)  
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Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPO10 obj 3 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10  
\_\_\_\_\_

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>2</u>	<u>          </u>
	K/A #	<u>015 A3.03</u>	<u>          </u>
	Importance Rating	<u>3.9</u>	<u>          </u>

Ability to monitor automatic operation of the NIS, including: Verification of proper functioning/operability

Proposed Question: Common 32

Given the following:

- A Reactor Startup is in progress.
- The ATC operator declares that the Reactor is Critical.
- Power indicates 5E-4% on the Log Power Channels.
- The ATC operator is then directed to perform a channel check of the Log Power Channels.

Which ONE of the following describes how this channel check is accomplished?

- Verify all Log Power Channels read within 1/2 decade on their meters at CP-7
- Verify all Log Power Channels overlap and agree within 1/2 decade of the Startup Channels at CP-7
- Verify all Log Power Channels read within 1/2 linear distance between decades on their meters at CP-7
- Verify all Log Power Channels overlap and agree within 1/2 linear distance between decades against the Startup Channels at CP-7

Proposed Answer: C

Explanation (Optional):

- Incorrect. 1/2 decade is not sufficient overlap on a LOG meter
- Incorrect. Startup Channels would be deenergized at this power level
- Correct. They are checked on a linear scale between decades on the log meter
- Incorrect. Startup channels deenergized at this power

Technical Reference(s) OP-010-003 (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-ENI obj 16 (As available)

Question Source: Bank # X  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge X  
Comprehension or Analysis \_\_\_\_\_

10 CFR Part 55 Content: 55.41 2  
\_\_\_\_\_

Comments:  
OPS-06991



Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge   X    
Comprehension or Analysis \_\_\_\_\_

10 CFR Part 55 Content: 55.41   5    
\_\_\_\_\_

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>2</u>	<u>          </u>
	Group #	<u>2</u>	<u>          </u>
	K/A #	<u>028 K3.01</u>	<u>          </u>
	Importance Rating	<u>3.3</u>	<u>          </u>

Knowledge of the effect that a loss or malfunction of the HRPS will have on the following: Hydrogen concentration in Containment  
Proposed Question: Common 34

Given the following:

- A LOCA has occurred.
- Containment Hydrogen concentration is 1% and rising slowly.
- The crew is placing Hydrogen Recombiners in service.
- "B" Hydrogen Recombiner trips and CANNOT be restarted.

Which ONE of the following describes the effect on containment hydrogen concentration?

Hydrogen concentration will...

- Remain below 4% for the duration of the event.
- Remain below 4% for 24 hours, then rise above 4%.
- Rise above 4% but remain below 8% for the duration of the event.
- Rise above 8% but remain below 13% for the duration of the event.

Proposed Answer: A

Explanation (Optional):

- Correct. 1 recombiner can perform design function
- Incorrect. Credible because design basis takes into account a 24 hour time period.
- Incorrect. Credible because 4% is limit, but 8% is closer to explosive limit, and also logical because half of capacity is gone
- Incorrect. Credible because the purpose is to maintain below explosive limit, which is 13%. 8% is logical due to half capacity being lost

Technical Reference(s) WLP-OPS-HRA00 (Attach if not previously provided)

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Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-HRA00 obj 4 (As available)

Question Source: Bank # X  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge X  
Comprehension or Analysis \_\_\_\_\_

10 CFR Part 55 Content: 55.41 5  
\_\_\_\_\_

Comments:  
WF3-NRC-1293-A

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	2		
	Group #	2		
	K/A #	033 A2.03		
	Importance Rating	3.1		

Ability to (a) predict the impacts of the following malfunctions or operations on the Spent Fuel Pool Cooling System ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations:  
Abnormal Spent Fuel Pool water level or loss of water level

Proposed Question: Common 35

Given the following:

- The RAB watch has just completed opening the Fuel Transfer Tube Gate Valve in the FHB.
- The RAB Watch reports that SFP level dropped to 41 feet when he was opening the valve.

Which ONE (1) of the following describes the impact on the unit, and the action required In accordance with OP-901-513?

- A. Low Spent Fuel Pool level Alarm only, fill from Primary Makeup.
- B. Low Spent Fuel Pool Level Alarm and CMU Auto makeup Valve Opens to refill the SFP
- C. Low Spent Fuel Pool Level Alarm and running SFP Cooling Pump trips, fill from Condensate Storage Pool.
- D. Low Spent Fuel Pool Alarm and FHB Isolation Actuation occurs, fill form the Refueling Water Storage Pool.

Proposed Answer: C

Explanation (Optional):

- A. Incorrect. SFP cooling pumps trips at 41.6 feet. Primary makeup is not used to fill SFP
- B. Incorrect. SFP cooling pumps trips at 41.6 feet, CMU makeup is aligned manually
- C. Correct. SFP Cooling pumps trip at 41' 6". SFP is filled from CSP or RWSP
- D. Incorrect. SFP Cooling pumps trip at 41' 6". Alarm at 43' 9". Do not isolate FHB vent, just check it

Technical Reference(s)	OP-901-513	(Attach if not previously provided)

Proposed references to be provided to applicants during examination:	None
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Learning Objective:	WLP-OPS-FS00 obj 3	(As available)
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Question Source:	Bank #	X	
	Modified Bank #		(Note changes or attach parent)
	New		

Question History:	Last NRC Exam	
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Question Cognitive Level:	Memory or Fundamental Knowledge	X
	Comprehension or Analysis	

10 CFR Part 55 Content:	55.41	10
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Comments: WF3-NRC-2246-A
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Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge   X    
Comprehension or Analysis \_\_\_\_\_

10 CFR Part 55 Content: 55.41   14    
\_\_\_\_\_

Comments:  
Modified from SONGS previous NRC 2007

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	2		
	Group #	2		
	K/A #	045 K4.43		
	Importance Rating	2.8		

Knowledge of MT/G system design feature(s) and/or inter-lock(s) which provide for the following: T-ave. program, in relation to SDS controller

Proposed Question: Common 37

Given the following:

- The plant is operating at 100% power.
- Tav<sub>g</sub> and PZR level are on program.
- A Main Turbine Governor Valve fails closed.
- Generator load drops by approximately 30%.

Which ONE of the following describes the operation of the SBCS for this condition?

- A. All 6 SBCS valves are available to modulate, Quick Open is blocked for all 6 valves
- B. All 6 SBCS valves are available to modulate and for Quick Open.
- C. SBCS valves 1 through 5 are available for Quick Open, Valve 6 is blocked.
- D. SBCS valves 1 through 5 are available to modulate, Valve 6 is blocked.

Proposed Answer: B

Explanation (Optional):

- A Incorrect. Valves will quick open, modulation also available
- B Correct. Quick open blocked by Tav<sub>g</sub> <562 on reactor trip. #6 valve blocked on any reactor trip. Quick open is available to all valves to maintain steam pressure during a load rejection
- C Incorrect. Credible because conditions could exist with reactor trip that would result in this function
- D Incorrect. Quick open would only be blocked for 1 valve if a trip occurred, modulation is available

Technical Reference(s) WLP-OPS-SBC00 (Attach if not previously provided)

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Proposed references to be provided to applicants during examination:	None
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Learning Objective:	WLP-OPS-SBC obj 4	(As available)
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Question Source:	Bank #		
	Modified Bank #		(Note changes or attach parent)
	New	X	

Question History:	Last NRC Exam	
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Question Cognitive Level:	Memory or Fundamental Knowledge	
	Comprehension or Analysis	X

10 CFR Part 55 Content:	55.41	7

Comments:



Question Source: Bank #   X    
Modified Bank #            (Note changes or attach parent)  
New           

Question History: Last NRC Exam   WF3 2003  

Question Cognitive Level: Memory or Fundamental Knowledge   X    
Comprehension or Analysis           

10 CFR Part 55 Content: 55.41   11    
                          

Comments:  
W3-NRC-6077-A

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	1		
	Group #	1		
	K/A #	007 EA2.02		
	Importance Rating	4.3		

Ability to determine or interpret the following as they apply to a reactor trip: Proper actions to be taken if the automatic safety functions have not taken place

Proposed Question: Common 39

Given the following:

- The plant was at 100% power.
- A reactor trip occurred.
- The crew is performing Standard Post Trip Actions.
- BOTH Generator Output Breakers remain closed.
- The Generator Exciter Field Breaker remains closed.

Which of the following will the BOP perform in response to the generator not being tripped?

- A. Manually OPEN all 3 breakers from CP-1.
- B. Transfer BOTH electrical busses from the UAT to the SUT.
- C. Manually trip the Main Generator using EITHER GENERATOR EMERG TRIP pushbutton.
- D. Manually trip the Main Generator using BOTH GENERATOR EMERG TRIP pushbuttons.

Proposed Answer: D

Explanation (Optional):

- A. Incorrect. Busses must be transferred first
- B. Incorrect. After bus transfer, breakers must be opened
- C. Incorrect. Not enough action. BOTH pushbuttons must be depressed
- D. Correct.

Technical Reference(s)	OP-902-000, step 2.b contingency	(Attach if not previously provided)
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Proposed references to be provided to applicants during examination:	None
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Learning Objective:	WLP-OPS-PPE01 obj. 09	(As available)
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Question Source:	Bank #		
	Modified Bank #		(Note changes or attach parent)
	New	X	

Question History:	Last NRC Exam	
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Question Cognitive Level:	Memory or Fundamental Knowledge	X
	Comprehension or Analysis	

10 CFR Part 55 Content:	55.41	10

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	_____
	Group #	1	_____
	K/A #	008 AK1.01	_____
	Importance Rating	3.2	_____

Knowledge of the operational implications of the following concepts as they apply to a Pressurizer Vapor Space Accident:  
Thermodynamics and flow characteristics of open or leaking valves

Proposed Question: Common 40

Given the following:

- The unit is stable at 100% power.
- A pressurizer safety valve opens and fails to reseal, remaining 25% open.
- A reactor trip occurs.
- RCS pressure stabilizes at 1600 psig.
- SI actuates.

Which of the following indications would the operator expect to see as a result of this event in the next 30 minutes?

- A. Safety tailpipe temperature would increase to greater than 600 °F and then decrease to 450 °F.
- B. Safety tailpipe temperature would increase to greater than 600 °F and then stabilize.
- C. Safety tailpipe temperature would increase to between 220 and 344 °F and then decrease and stabilize.
- D. Safety tailpipe temperature would increase to between 220 and 344 °F and then slowly increase and stabilize at 600 °F.

Proposed Answer: C

Explanation (Optional):

- a. incorrect - the temperature is correct for pressures of 2240
- b. incorrect - the temperature is correct for pressures of 2240
- c. correct - since it relieves to the QT, the pressure will increase until the rupture disc relieves (124 psig) and then the pressure (and temperature ) will decrease and eventually stabilize
- d. incorrect - will not continue to increase once the QT rupture disc relieves.

Technical Reference(s) Steam Tables, Thermo (Attach if not previously provided)  
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Proposed references to be provided to applicants during examination: Steam Tables

Learning Objective: WLP-OPS-RCS00 obj. 2,6 (As available)

Question Source: Bank # X  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 14  
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Comments:  
Vogle 2005 written by NRC

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	
	Group #	1	
	K/A #	009 EA1.13	
	Importance Rating	4.4	

Ability to operate and monitor the following as they apply to a small break LOCA: ESFAS

Proposed Question: Common 41

Given the following:

- A SBLOCA has occurred.
- RCS pressure is 1600 psig and lowering.
- Containment pressure is 18 psia and rising.
- RWSP level is 82% and lowering.
- All actuations have occurred as required.

Which ONE of the following describes ALL of the actuations that have occurred?

SIAS...

- A. and CIAS ONLY
- B. CIAS and MSIS ONLY
- C. CIAS, MSIS, and CSAS ONLY
- D. CIAS, MSIS, CSAS, and RAS

Proposed Answer: C

Explanation (Optional):

- A. Incorrect. Containment pressure is high enough for MSIS and CSAS
- B. Incorrect. CSAS actuates at 17.7 psia
- C. Correct.
- D. Incorrect. RWSP would have to go below 10% to initiate RAS

Technical Reference(s) PPS SD (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPS00 obj 3 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7  
\_\_\_\_\_

Comments:

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	1		
	Group #	1		
	K/A #	011 G2.1.23		
	Importance Rating	3.9		

Conduct of Operations: Ability to perform specific system and integrated plant procedures during all modes of plant operation.

Proposed Question: Common 42

Given the following:

- a. A Small Break LOCA is in progress.
- b. The crew has diagnosed into OP-902-002, LOCA Recovery Procedure and performed all required steps.
- c. Containment Temperature is 205°F and slowly lowering.

Which of the following criteria would PRECLUDE transitioning into OP-009-005, Shutdown Cooling System procedure and placing a Shutdown Cooling Train in service.?

- A. RCS Subcooling is 28°F and slowly rising.
- B. Pressurizer Pressure is 420 psia and stable.
- C. RCS That is 345°F and stable.
- D. Pressurizer Level 33% and steady.

Proposed Answer: B

Explanation (Optional):

- A. Incorrect. Minimum subcooling requirement is met.
- B. Correct. Less than 392 psia required.
- C. Incorrect. That required to be less than 350°F.
- D. Incorrect. Pressurizer Level is required to be greater than 33%.

Technical Reference(s)	LOCA OP-902-002 OP-009-005, SDC System Procedure Precautions and Limitations.	(Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective:	WLP-OPS-PPE02 obj 17	(As available)
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Question Source:	Bank #		
	Modified Bank #		(Note changes or attach parent)
	New	X	

Question History:		
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Question Cognitive Level:	Memory or Fundamental Knowledge	X
	Comprehension or Analysis	

10 CFR Part 55 Content:	55.41	10

Comments:
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Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	1		
	Group #	1		
	K/A #	022 AK1.03		
	Importance Rating	3.0		

Knowledge of the operational implications of the following concepts as they apply to Loss of Reactor Coolant Pump Makeup: Relationship between charging flow and PZR level	
Proposed Question:	Common 43
<p>Plant status is as follows:</p> <ul style="list-style-type: none"> <li>• Reactor power is 70%.</li> <li>• The operating Charging Pump trips.</li> <li>• The backup Charging Pumps cannot be started.</li> </ul> <p>SELECT the highest Pressurizer level at which the reactor should be manually tripped.</p> <p>A. 48%</p> <p>B. 40%</p> <p>C. 37%</p> <p>D. 33%</p>	

Proposed Answer:	C
Explanation (Optional):	
<p>A. Incorrect. Trip not required this corresponds to program level plausible if wrong curve used</p> <p>B. Incorrect. Trip not required</p> <p>C. Correct. OP-901-112 Attachment A</p> <p>D. Incorrect. Trip should occur prior to this level</p>	

Technical Reference(s)	OP-901-112	(Attach if not previously provided)

Proposed references to be provided to applicants during examination:	OP-901-112, Att 1, PDB RCS Temp band vs power
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Learning Objective:	WLP-OPS-PPO10 obj. 03	(As available)
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Question Source:	Bank #	X	
	Modified Bank #		(Note changes or attach parent)
	New		

Question History:	Last NRC Exam	
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Question Cognitive Level:	Memory or Fundamental Knowledge	
	Comprehension or Analysis	X

10 CFR Part 55 Content:	55.41	10

Comments:
WF3-NRC-43-A

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	
	Group #	1	
	K/A #	025 AK1.01	
	Importance Rating	3.9	

Knowledge of the operational implications of the following concepts as they apply to Loss of Residual Heat Removal System: Loss of RHRS during all modes of operation

Proposed Question: Common 44

Given the following:

- The plant is in Mode 6.
- Shutdown Cooling Trains A and B are in service.
- The following alarm is received:
  - LPSI Pump B Flow Lost
  - Shutdown Cooling Trouble
- NO other alarms have been received.

Which ONE (1) of the following describes the event that has occurred, and the initial action required?

- A. LPSI Pump B has tripped; Close LPSI header B suction isolation valves.
- B. LPSI Pump B has tripped; Stabilize RCS temperature using LPSI Train A.
- C. SI-407 B, Loop 1 Suction Isol Downstream Outside Valve, closed; Trip LPSI Pump B.
- D. SI-407 B, Loop 1 Suction Isol Downstream Outside Valve, closed; Stabilize RCS temperature using LPSI Train A.

Proposed Answer: C

Explanation (Optional):

- A. Incorrect. If pump tripped, there would be another alarm
- B. Incorrect. Pump did not trip
- C. Correct. IOA requires trip of LPSI if a suction valve closes
- D. Incorrect. Correct failure but pump must be tripped

Technical Reference(s) OP-901-131 (Attach if not previously provided)  
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Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPO10 obj. 2 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # X (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10  
\_\_\_\_\_

Comments:  
WF3-NRC-1195-A

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	1		
	Group #	1		
	K/A #	026 G2.1.33		
	Importance Rating	3.4		

Conduct of Operations: Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	
Proposed Question:	Common 45
<p>Given the following conditions:</p> <ul style="list-style-type: none"> <li>• The unit is at 100% power.</li> <li>• CCW Pump AB is OOS.</li> </ul> <p>1200 CCW Pump "A" declared INOPERABLE due to a failed surveillance.                      1227 CCW Pump "B" also declared INOPERABLE due to the results of a common cause failure analysis.                      1254 Plant Shutdown to Mode 3 commenced.                      1319 CCW Pump "A" returned to OPERABLE status.                      1338 CCW Pump "B" returned to OPERABLE status.</p> <p>Which ONE (1) of the following describes the Technical Specification requirements for operation of the plant?</p> <p>Plant conditions...</p> <ul style="list-style-type: none"> <li>A. allowed the plant shutdown to be terminated no earlier than 1319.</li> <li>B. allowed the plant shutdown to be terminated no earlier than 1327.</li> <li>C. require that the Shutdown to Mode 3 is completed by 1827.</li> <li>D. require that the Shutdown to Mode 3 is completed by 1927.</li> </ul>	

Proposed Answer:	A
Explanation (Optional):	
<p>A. Correct. CSP minimum pool level is 92%</p> <p>B. Incorrect. SIT pressure is 600-677 psig</p> <p>C. Incorrect. RWSP boron concentration spec 2050-2900 ppm</p> <p>D. Incorrect. CS riser surveillance is &gt;149.5 MSL TS logs = &gt; 182 ft</p>	

Technical Reference(s)	TS 3.0.3, TS section 3.7	(Attach if not previously provided)
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Proposed references to be provided to applicants during examination:	None
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Learning Objective:	WLP-OPS-TS04 obj. 1,2	(As available)
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Question Source:	Bank #	X	
	Modified Bank #		(Note changes or attach parent)
	New		

Question History:	Last NRC Exam	
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Question Cognitive Level:	Memory or Fundamental Knowledge	
	Comprehension or Analysis	X

10 CFR Part 55 Content:	55.41	10

Comments:
WTSI Bank

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	_____
	Group #	1	_____
	K/A #	027 AK2.03	_____
	Importance Rating	2.6	_____

Knowledge of the interrelations between the Pressurizer Pressure Control Malfunctions and the following: Controllers and positioners

Proposed Question: Common 46

Given the following:

- The plant is at 100% power.
- Control Systems are in normal 100% power alignments.
- The Pressurizer Pressure Controller, RC-IPIC-0100, output fails HIGH.

Assuming no action by the crew, which ONE (1) of the following describes the initial effect on the plant?

- High Pressurizer Pressure reactor trip generated by PPS
- High Pressurizer Pressure reactor trip generated by CPCs
- Low Pressurizer Pressure reactor trip generated by PPS
- Low Pressurizer Pressure reactor trip generated by CPCs

Proposed Answer: D

Explanation (Optional):

- Incorrect. Wrong direction on pressure, wrong actuation
- Incorrect. Wrong direction on pressure, correct actuation.
- Incorrect. PPS trip will occur, but not prior to CPC trip
- Correct. If no action with a high output failure, PZR pressure will lower because controller calls for pressure to be reduced. CPCs will generate a trip prior to actual setpoint being met for PPS trip on low pressure.

Technical Reference(s) OP-004-006 (Attach if not previously provided)  
OP-901-120

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PLC00 obj. 7 (As available)

Question Source: Bank # X  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7  
\_\_\_\_\_

Comments:  
Distractors shuffled and question editorially modified  
WF3-NRC-5714-N

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	
	Group #	1	
	K/A #	029 EK2.06	
	Importance Rating	2.9	

Knowledge of the interrelations between the and the following an ATWS: Breakers, relays, and disconnects  
Proposed Question: Common 47

Given the following:

- The plant was at 100% power.
- A load rejection occurred.
- Reactor Trip on High Pressure was generated, but the reactor did not trip.

Which ONE (1) of the following describes the additional automatic action that takes place to shut down the reactor?

Diverse Reactor Trip System actuates at...

- 2350 psia to open CEDM MG Set feeder breakers.
- 2350 psia to open CEDM MG Set Load Contactors.
- 2435 psia to open CEDM MG Set feeder breakers.
- 2435 psia to open CEDM MG Set Load Contactors.

Proposed Answer: D

Explanation (Optional):

- Incorrect. Normal PPS trip setpoint (I need to look up this value)
- Incorrect. Normal PPS trip setpoint, correct action by DRTS
- Incorrect. Correct setpoint but incorrect trip
- Correct.

Technical Reference(s) WLP-OPS-ATS000 (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-ATS00 Obj. 03 (As available)

Question Source: Bank # X  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge X  
Comprehension or Analysis \_\_\_\_\_

10 CFR Part 55 Content: 55.41 5  
\_\_\_\_\_

Comments:  
WF3-NRC-3476-A

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	_____
	Group #	1	_____
	K/A #	038 EA1.16	_____
	Importance Rating	4.4	_____

Ability to operate and monitor the following as they apply to a SGTR: SG atmospheric relief valves and secondary PORV controllers and indicators

Proposed Question: Common 48

Given the following:

- A Steam Generator Tube Rupture on #1 SG is in progress.
- When the reactor was manually tripped, off-site power was lost.
- The crew has performed all Standard Post Trip Actions as required.
- Condenser Vacuum is currently 2.6 INHG.

Which ONE (1) of the following describes additional actions that will be taken for the SGTR in accordance with OP-902-007, Steam Generator Tube Rupture Recovery?

- Cooldown the RCS using SBCS to <520 degrees F; isolate SG #1 and maintain isolated. Do not allow any steam release from #1 SG.
- Cooldown the RCS using SBCS to <520 degrees F; once SG #1 is isolated, maintain at less than 1000 psia by operation of the Atmospheric dump valve, if necessary.
- Cooldown the RCS using the Atmospheric Dump Valves to <520 degrees F; isolate SG #1 and maintain isolated. Do not allow any steam release from #1 SG.
- Cooldown the RCS using the Atmospheric Dump Valves to <520 degrees F; once SG #1 is isolated, maintain at less than 1000 psia by operation of the Atmospheric dump valve, if necessary.

Proposed Answer: D

Explanation (Optional):

- Incorrect. SBCS unavailable, LOOP loses Circ Water for condenser, vacuum rises
- Incorrect. SBCS unavailable. SBCS is credible because it is normal operation
- Incorrect. Correct valves but incorrect action
- Correct. With loss of off-site power, SBCS will be unavailable. Once SG is isolated,

pressure is maintained less than 1000 psig to prevent release from safety valves

Technical Reference(s) OP-902-007 (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPE07 obj. 08 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	_____
	Group #	1	_____
	K/A #	055 G2.4.6	_____
	Importance Rating	3.1	_____

Emergency Procedures / Plan Knowledge of symptom based EOP mitigation strategies

Proposed Question: Common 49

Given the following:

- A station blackout has occurred.
- The crew is performing actions of OP-902-005, Station Blackout Recovery.
- The blackout is expected to last for approximately 1 hour.

Which ONE (1) of the following correctly describes the strategy for alignment of equipment during blackout recovery in accordance with OP-902-005?

- Reduce battery loading to extend battery life; close CCW supply valves to RCPs to prevent CCW pump runout and EDG overload when power is restored.
- Reduce battery loading to extend battery life; close CCW supply valves to RCPs to prevent thermal shock to RCP seals when power is restored.
- Verify RCP Controlled bleedoff valves are closed to minimize RCS leakage; close CCW supply valves to RCPs to prevent CCW pump runout and EDG overload when power is restored.
- Verify RCP Controlled bleedoff valves are closed to minimize thermal shock to RCPs when power is restored; close CCW supply valves to RCPs to prevent thermal shock to RCP seals when power is restored.

Proposed Answer: B

Explanation (Optional):

- Incorrect. Correct battery action, incorrect reason on CCW supply
- Correct. See OP-902-005 technical guide
- Incorrect. Correct reason on CBO, not correct reason on CCW valves
- Incorrect. Correct reason on CCW valves, but not on RCP CBO valves

Technical Reference(s) OP-902-005 (Attach if not previously provided)

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\_\_\_\_\_

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPE05 obj. 6 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge X  
Comprehension or Analysis \_\_\_\_\_

10 CFR Part 55 Content: 55.41 10  
\_\_\_\_\_

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	_____
	Group #	1	_____
	K/A #	056 AA2.57	_____
	Importance Rating	3.9	_____

Ability to determine and interpret the following as they apply to the Loss of Offsite Power: RCS hot leg and cold leg temperatures  
Proposed Question: Common 50

Given the following:

- A loss of off-site power occurred 10 minutes ago.
- The crew has completed Standard Post-Trip Actions.
- OP-902-003, Loss of Off-Site Power/Loss of Forced Circulation Recovery, is in progress.

Which ONE (1) of the following describes the plant response, and complies with the guidance in OP-902-003, for RCS heat removal?

- That will be rising post trip; SG pressure maintained at a maximum of 1025 psig to maintain Tcold within limits.
- That will be lowering post trip; SG pressure maintained at a maximum of 1025 psig to maintain Tcold within limits.
- That will be rising post trip; SG pressure maintained at a maximum of the lowest MSSV setpoint to maintain Tcold within limits.
- That will be lowering post trip; SG pressure maintained at a maximum of the lowest MSSV setpoint to maintain Tcold within limits.

Proposed Answer: A

Explanation (Optional):

- Correct. That will rise due to heatup of water with a LOOP. Tcold limit is 550, maintaining SGs at 1025 will maintain slightly below 550
- Incorrect. Opposite effect on That
- Incorrect. Pressure is maintained at 1025 to maintain Tc lower than MSSV
- Incorrect. Opposite effect on That

Technical Reference(s) OP-902-003 (Attach if not previously provided)

T&AA for LOOP

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPE05 obj. 4 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 2  
\_\_\_\_\_

Comments:

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	1		
	Group #	1		
	K/A #	057 AK3.01		
	Importance Rating	4.1		

Knowledge of the reasons for the following responses as they apply to the Loss of Vital AC Instrument Bus: Actions contained in EOP for loss of vital ac electrical instrument bus

Proposed Question: Common 51

Given the following:

- The plant is at 70% power.
- Auxiliary Component Cooling Water Pump "A" is running.
- A loss of bus MA has occurred.

Which ONE (1) of the following action(s) will be required to control Component Cooling Water temperature, and reason for the action?

- A. Manually control dry cooling tower and wet cooling tower train A fans because CC HX A ACC Outlet TCV (ACC-126A) fails closed, resulting in loss of temperature control.
- B. Manually throttle cooling tower wet basin M/U valve (CMU-410A) to maintain wet basin level because CC HX A ACC Outlet TCV (ACC-126A) fails closed, resulting in loss of Wet Basin level control..
- C. Manually control dry cooling tower and wet cooling tower train A fans because CC HX A ACC Outlet TCV (ACC-126A) fails open, resulting in loss of temperature control.
- D. Manually isolate cooling tower wet basin M/U valve (CMU-410A) to prevent a high wet basin level because CC HX A ACC Outlet TCV (ACC-126A) fails open.

Proposed Answer:

C

Explanation (Optional):

- A. Incorrect. Valve fails open, but actions correct
- B. Incorrect. Valve fails open, actions not correct
- C. Correct. Part of action for manually controlling CCW temperature with A ACCW in service.

D. Incorrect. Would throttle M/U valve, would not isolate it.

Technical Reference(s)	OP-901-312	(Attach if not previously provided)
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Proposed references to be provided to applicants during examination: None

Learning Objective:	WLP-OPS-CC00 obj. 03, 04 WLP-OPS-PPE30 obj. 03	(As available)
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Question Source:	Bank #		
	Modified Bank #		(Note changes or attach parent)
	New	X	

Question History: Last NRC Exam

Question Cognitive Level:	Memory or Fundamental Knowledge	
	Comprehension or Analysis	X

10 CFR Part 55 Content:	55.41	4

Comments:

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	1		
	Group #	1		
	K/A #	058 AK3.02		
	Importance Rating	4.0		

Knowledge of the reasons for the following responses as they apply to the Loss of DC Power: Actions contained in EOP for loss of dc power	
Proposed Question:	Common 52
<p>Given the following:</p> <ul style="list-style-type: none"> <li>• Emergency Diesel Generator 'A' is running loaded.</li> <li>• A loss of DC control power occurs.</li> </ul> <p>Which of the following describes the effect of the loss of DC control power on the EDG and its auxiliaries?</p> <p>A. The EDG fuel racks will trip and the EDG must be declared inoperable.</p> <p>B. The lube oil cooler temperature control valve will fail to the full cooling position.</p> <p>C. Fuel oil transfer pump starts and must be secured to prevent overfilling the feed tank.</p> <p>D. Jacket cooling water valves fail open and the jacket water heater loses power.</p>	

Proposed Answer:	C
Explanation (Optional):	
<p>A. Incorrect. Loss of DC will not trip fuel racks</p> <p>B. Incorrect.</p> <p>C. Correct.</p> <p>D. Incorrect.</p>	

Technical Reference(s)	OP-901-313	(Attach if not previously provided)

Proposed references to be provided to applicants during examination:	None
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Learning Objective:	WLP-OPS-PPO30 obj 3	(As available)
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Question Source:	Bank #	X	
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	Modified Bank #		(Note changes or attach parent)
	New		

Question History:	Last NRC Exam	
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Question Cognitive Level:	Memory or Fundamental Knowledge	X
	Comprehension or Analysis	

10 CFR Part 55 Content:	55.41	10

Comments:
WF3-NRC-5886-A

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	_____
	Group #	1	_____
	K/A #	E05 EK3.2	_____
	Importance Rating	3.3	_____

Knowledge of the reasons for the following responses as they apply to the (Excess Steam Demand) Normal, abnormal and emergency operating procedures associated with (Excess Steam Demand).

Proposed Question: Common 53

Given the following:

- The plant was at 100% power.
- An ESDE has occurred.
- The crew is performing actions of OP-902-004, Excess Steam Demand Recovery.

Which ONE (1) of the following describes the strategy for stabilizing the plant in OP-902-004?

- When EITHER CET temperature OR PZR pressure rise, stabilize RCS temperature to prevent overpressurization of the RCS.
- When BOTH CET temperature AND PZR pressure rise, stabilize RCS temperature to prevent overpressurization of the RCS.
- When EITHER CET temperature OR PZR pressure rise, initiate a controlled RCS cooldown to preclude a SGTR in the affected SG.
- When BOTH CET temperature AND PZR pressure rise, initiate a controlled RCS cooldown to preclude a SGTR in the affected SG.

Proposed Answer: B

Explanation (Optional):

- Incorrect. BOTH required, but correct strategy
- Correct.
- Incorrect. Initiate cooldown later. SGTR is a concern, but not strategy here. BOTH required
- Incorrect. Cooldown is not performed because an ESDE has already caused a cooldown

Technical Reference(s) OP-902-004 (Attach if not previously provided)  
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Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPE04 obj 7 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10  
\_\_\_\_\_

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	_____
	Group #	1	_____
	K/A #	065 AA2.06	_____
	Importance Rating	3.6	_____

Ability to determine and interpret the following as they apply to the Loss of Instrument Air: When to trip reactor if instrument air pressure is de-creasing

Proposed Question: Common 54

Given the following:

- The plant is at 100% power.
- A Loss of Instrument Air has occurred.
- The crew is performing actions of OP-901-511, Instrument Air Malfunction.
- Instrument Air header pressure is 80 psig and slowly lowering.

Which ONE (1) of the following actions is required in accordance with OP-901-511?

- Immediately trip the reactor; perform steps of OP-901-511 concurrently with Standard Post Trip Actions.
- Immediately trip the reactor; temporarily suspend use of OP-901-511; perform Standard Post Trip Actions; when complete, continue use of OP-901-511.
- Continue attempts to restore Instrument Air Header pressure; if Instrument Air header pressure lowers to 65 psig, trip the reactor; perform steps of OP-901-511 concurrently with Standard Post Trip Actions.
- Continue attempts to restore Instrument Air Header pressure; if Instrument Air header pressure lowers to 65 psig, trip the reactor; exit OP-901-511 and enter OP-902-000, Standard Post Trip Actions.

Proposed Answer: C

Explanation (Optional):

- Incorrect. 80 psig is credible because it is the point where shutdown is considered
- Incorrect. Do not suspend use of AOP
- Correct. 65 psig is trip criteria and procedure dictates parallel use with EOP
- Incorrect. Do not exit AOP

Technical Reference(s) OP-901-511 (Attach if not previously provided)

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Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPO50 obj 3 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10  
\_\_\_\_\_

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	
	Group #	1	
	K/A #	E05 EK3.2	
	Importance Rating	3.3	

Knowledge of the reasons for the following responses as they apply to the (Excess Steam Demand) Normal, abnormal and emergency operating procedures associated with (Excess Steam Demand).

Proposed Question: Common 55

Based on the following plant conditions:

- A Main Steam Line Break has occurred on SG-2
- The reactor tripped on Low Steam Generator Pressure
- SG-2 has just blown dry and the CRS has ordered performance of the necessary steps of OP-902-004 to stabilize RCS temperature and pressure

Which one of the following is the correct reason for feeding the least affected SG with EFW manually?

- To restore subcooled margin to within the P-T Curve limits.
- To reduce the positive reactivity addition from the rapid cooldown.
- To compensate for the inadequate size of the atmospheric dump valve.
- To override the Main Steam Isolation Signal which would block the automatic Emergency Feedwater signal

Proposed Answer: C

Explanation (Optional):

- Incorrect. Would have to minimize EFW to restore during ESDE
- Incorrect. Similar to A, opposite action on EFW than required
- Correct. If EFW was not manually supplied, heatup could occur. ESDE, want to stabilize temperature
- Incorrect. Placing EFW in manual would be performed after overriding; MSIS would only block EFW to affected SG

Technical Reference(s) TG-OP-902-004, Revision 10, page 33 (Attach if not previously provided)

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\_\_\_\_\_

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPE04 obj. 04 (As available)

Question Source: Bank # X  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 8  
\_\_\_\_\_

Comments:  
OPS-6794-A

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	_____
	Group #	1	_____
	K/A #	E06 EK2.1	_____
	Importance Rating	3.3	_____

Knowledge of the interrelations between the (Loss of Feedwater) and the following: Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.

Proposed Question: Common 56

Given the following conditions:

- The plant is at 100 percent power
- FWCS 1 and 2 in AUTOMATIC

Which of the following sets of conditions would result in entry to OP-902-006, Loss of Main Feedwater Recovery? (consider each condition separately)

- Condenser vacuum 21 in Hg **OR** EITHER S/G Narrow Range Level 81 Percent
- Condenser vacuum 19 in Hg **OR** EITHER S/G Wide Range Level 96 percent
- Condenser vacuum 15 in Hg **OR** BOTH S/G Narrow Range Levels 81 Percent
- Condenser vacuum 13 in Hg, **OR** BOTH S/G Wide Range Levels 96 percent

Proposed Answer: D

Explanation (Optional):

- Incorrect; 20 in Hg is Main Turbine Lo Vac trip, SG NR 81% is High level override setpoint
- Incorrect; 20 in Hg is Main Turbine Lo Vac trip, this would not result in loss of main feedwater, Both SG WR 96 % needed for Hi level isolation
- Incorrect; SG NR 81% is High Level override setpoint this would not result in loss of main feedwater
- Correct 13 in Hg is below FWPT lo Vac trip at 14 in Hg, Both SG WR level 96% is Hi level isolation causing FWIV to close these valves are quick closing valves and upon closure SG level would rapidly drop.

Technical Reference(s) OP-902-006 (Attach if not previously provided)  
OP-003-033

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPE06 obj 9 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 7  
\_\_\_\_\_

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	_____
	Group #	2	_____
	K/A #	001 AK3.02	_____
	Importance Rating	3.2	_____

Knowledge of the reasons for the following responses as they apply to the Continuous Rod Withdrawal: Tech Spec limits on rod operability

Proposed Question: Common 57

Given the following:

- Reactor power is 100%.
- ASI control is in progress.
- The PNPO inserts Reg Group 6.
- When the PNPO releases the SHIM Switch, CEA 23 continues to insert into the core.
- The PNPO takes the appropriate action and CEA 23 insertion stops.
- Final position of CEA 23 is 116.5".
- All other CEAs in Reg Group 6 are at 125.25".
- Reg Group 6 is placed on the HOLD Bus to troubleshoot the cause of the malfunction.

Which ONE (1) of the following actions is correct?

- A. Declare Reg Group 6 inoperable. CEA 23 remains operable.
- B. Declare CEA 23 inoperable. Reg Group 6 remains operable.
- C. Declare Reg Group 6 AND CEA 23 inoperable.
- D. CEA 23 AND Reg Group 6 remain operable unless Shutdown Margin CANNOT be verified within 1 hour.

Proposed Answer: B

Explanation (Optional):

- A. Incorrect. Reg group 6 not inop
- B. Correct. See TS 3.1.3 and basis
- C. Incorrect. Reg Group 6 is not inoperable, just 1 CEA
- D. Incorrect. The CEA out of alignment is inoperable, and part of the action is to ensure SDM requirements are met. Meeting SDM requirements does not return the misaligned CEA to operable status

Technical Reference(s) TS 3.1.3 (Attach if not previously provided)  
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Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-CED obj 8 (As available)

Question Source: Bank # X  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 6  
\_\_\_\_\_

Comments:  
WF3-NRC-5661-N

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>1</u>	<u>          </u>
	Group #	<u>2</u>	<u>          </u>
	K/A #	<u>003 AA2.01</u>	<u>          </u>
	Importance Rating	<u>3.7</u>	<u>          </u>

Ability to determine and interpret the following as they apply to the Dropped Control Rod: Rod position indication to actual rod position

Proposed Question:           Common 58

The Rod Bottom contact for each individual CEA provides easy identification of dropped CEAs and aids COLSS in detecting a dropped CEA by illuminating the:

- A. associated amber light on the CEA Mimic on CP-2 and resetting the pulse counter indication for the individual CEA to zero.
- B. associated green light on the CEDMCS control panel on CP-2 and resetting RSPT indications for the individual CEA to zero.
- C. associated red light on the CEDMCS control panel on CP-2 and resetting RSPT indications for the individual CEA to zero.
- D. CEA Disabled annunciator on CP-2 and resetting the pulse counter indication for the individual CEA to zero.

Proposed Answer:           A

Explanation (Optional):

- A. Correct.
- B. Incorrect. Amber light, not green
- C. Incorrect. Not red light , and pulse counter is not reset
- D. Incorrect. Pulse counter is not reset

Technical Reference(s)   OP-901-102                   (Attach if not previously provided)  
\_\_\_\_\_

Proposed references to be provided to applicants during examination: None

Learning Objective:       WLP-OPS-CED obj 3                   (As available)

Question Source:           Bank #                               
                                   Modified Bank #                                    (Note changes or attach parent)  
                                   New                       X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge   X    
Comprehension or Analysis \_\_\_\_\_

10 CFR Part 55 Content: 55.41   6    
\_\_\_\_\_

Comments:

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	1		
	Group #	2		
	K/A #	059 AK3.01		
	Importance Rating	3.5		

Knowledge of the reasons for the following responses as they apply to the Accidental Liquid Radwaste Release: Termination of release of radioactive liquid

Proposed Question: Common 59

Given the following:

- Waste Condensate Tank B is being discharged to the Circ Water system.
- The following indications are observed in the Control Room:
  - WASTE LIQUID DISCH ACTIVITY HI annunciator in alarm on CP-4
  - EFFLUENT RAD MONITORING SYS ACTIVITY HI-HI annunciator in alarm on CP-36

Based on the above conditions, which ONE of the following describes plant response?

- A. ONLY BM-547, Boron Management Discharge to Circ Water Auto Isolation Valve, closes, to prevent exceeding 10CFR50 Domestic Licensing of Production and utilization Facilities, limits.
- B. ONLY LWM-441, Liquid Waste to Circ Water Shutoff Valve, closes, to prevent exceeding 10CFR50, Domestic Licensing of Production and utilization Facilities, limits.
- C. BM-547, Boron Management Discharge to Circ Water Auto Isolation Valve, closes.  
BM-549, Boron Management Discharge to Circ Water Flow Control Valve closes to prevent exceeding 10CFR20 Standards for protection against Radiation, limits
- D. LWM-441, Liquid Waste to Circ Water Shutoff Valve, closes.  
LWM-442, Liquid Waste to Circ Water Control Valve, closes. to prevent exceeding 10CFR20 Standards for protection against Radiation, limits

Proposed Answer: D

Explanation (Optional):

- A. Incorrect. Valve does not close for this alarm
- B. Incorrect. Valve closes, but the flow control valve also closes

C. Incorrect. Both of these valves are initiated from a different rad monitor alarm  
D. Correct.

Technical Reference(s)	WLP-OPS-PPO40	(Attach if not previously provided)
	OP-901-414	

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-LWM obj 5 (As available)

Question Source:	Bank #	X	
	Modified Bank #		(Note changes or attach parent)
	New		

Question History: Last NRC Exam

Question Cognitive Level:	Memory or Fundamental Knowledge	X
	Comprehension or Analysis	

10 CFR Part 55 Content:	55.41	13

Comments:  
WF3-OPS-4222B

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	_____
	Group #	2	_____
	K/A #	060 AA1.02	_____
	Importance Rating	2.9	_____

Ability to operate and / or monitor the following as they apply to the Accidental Gaseous Radwaste: Ventilation system

Proposed Question: Common 60

The following plant conditions exist:

- 100% power, steady-state operations.
- No major equipment out of service.
- The following annunciators are received:
  - RAD MONITORING SYS ACTIVITY HI-HI on CP-36.
  - CLASS 1E RAD MONITORING SYS ACTIVITY HI-HI on CP-18.
  - The ATC notices that CROAI A NORTH (0200.1) rad monitor indicates red with a rising trend

Which of the following actions will occur because of this condition?

- A. Control Room Toilet Exhaust Fan A starts. BOTH Control Room Emergency Filtration Units A and B start.
- B. Control Room Toilet Exhaust Fan A starts. ONLY Control Room Emergency Filtration Unit A starts.
- C. Control Room Toilet Exhaust Fan A stops. BOTH Control Room Emergency Filtration Units A and B start.
- D. Control Room Toilet Exhaust Fan A stops. ONLY Control Room Emergency Filtration Unit A starts.

Proposed Answer: D

Explanation (Optional):

- A. Incorrect. Toilet Exhaust Fan stops, not start
- B. Incorrect. Toilet Exhaust Fan stops. Correct filtration alignment
- C. Incorrect. Incorrect filtration alignment
- D. Correct.

Technical Reference(s) OP-901-401 (Attach if not previously provided)  
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Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-HVC00 Objective 2 (As available)

Question Source: Bank # X  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 11  
\_\_\_\_\_

Comments:  
WF3-NRC-3504-A

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	1		
	Group #	2		
	K/A #	068 AA1.01		
	Importance Rating	4.3		

Ability to operate and / or monitor the following as they apply to the Control Room Evacuation:: S/G atmospheric relief valve

Proposed Question: Common 61

Given the following:

- The plant was at 100% power.
- A fire developed in the control room, requiring the control room to be evacuated.
- The crew is performing OP-901-502, Evacuation of Control Room and Subsequent Plant Shutdown.
- Atmospheric Dump Valves have spuriously opened

Which ONE of the following describes ONLY actions that will be performed prior to leaving the control room?

- A. Initiate RCS boration and de-energize Atmospheric Dump Valve Controllers.
- B. Trip RCPs and de-energize Atmospheric Dump Valve Controllers.
- C. Initiate RCS boration and Place Atmospheric Dump Valves in MANUAL with 0 output.
- D. Place Atmospheric Dump Valves in MANUAL with 0 output and trip RCPs.

Proposed Answer: D

Explanation (Optional):

- A. Incorrect. Do not de-energize controllers, place in manual. Boration initiated later
- B. Incorrect. Do not de-energize controllers
- C. Incorrect. Boration is initiated after evacuation
- D. Correct. ADVs in manual with 0 output only if they have spuriously opened.

Technical Reference(s)	OP-901-502	(Attach if not previously provided)

Proposed references to be provided to applicants during examination:	None
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Learning Objective:	WLP-OPS-PPO51 obj 2	(As available)
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Question Source:	Bank #		
	Modified Bank #		(Note changes or attach parent)
	New	X	

Question History:	Last NRC Exam	
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Question Cognitive Level:	Memory or Fundamental Knowledge	X
	Comprehension or Analysis	

10 CFR Part 55 Content:	55.41	10

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	
	Group #	2	
	K/A #	A16 G 2.1.19	
	Importance Rating	3.0	

Excess RCS Leakage ; Ability to use plant computer to obtain and evaluate parametric information on system or component status.

Proposed Question: Common 62

An RCS leak is in progress. The following conditions are observed on the Plant Monitoring Computer (PMC)

- RCS Pressure is 2225 psia and stable
- RCP1A CBO = 1.5 GPM
- RCP1B CBO = 1.7 GPM
- RCP2A CBO = 1.5 GPM
- RCP2B CBO = 1.3 GPM
- PZR level is 55% and steady
- VCT level is 49% and lowering
- Letdown Flow = 30 GPM
- Charging Pumps A and AB are running

Assuming no additional leakage from the RCS to other sources, determine the RCS leak rate.

- A. 8 GPM
- B. 14 GPM
- C. 52 GPM
- D. 58 GPM

Proposed Answer: C

Explanation (Optional):

- A. Incorrect 8 GPM would be answer if capacity of one charging (44gpm )pump used in calculations
- B. Incorrect 14 GPM would be answer if capacity on one charging pumps used in calculation and CBO flows not factored in
- C. Correct 2 charging pumps capacity =  $44 \times 2 = 88$  gpm CBO =  $6 \times 88 - 6 \times 30 = 52$  GPM
- D. Incorrect 58 GPM would be answer if capacity of 2 charging pumps used but CBO not

taken into account.

Technical Reference(s) OP-901-111 (Attach if not previously provided)  
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Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPO10 obj 3 (As available)

Question Source: Bank # X  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Last NRC Exam 2002

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10  
\_\_\_\_\_

Comments:  
WF3-NRC-5673-N

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	1		
	Group #	2		
	K/A #	A11 G2.1.27		
	Importance Rating	2.8		

Conduct of Operations: Knowledge of system purpose and or function.

Proposed Question: Common 63

During an ESDE inside containment, which ONE of the following components functions to provide a boundary to allow controlled EFW flow to the unaffected SG?

- A. Main Steam Isolation Valve.
- B. Main Feedwater Isolation Valve.
- C. Main Feedwater Regulating Valve.
- D. Startup Feedwater Regulating Valves

Proposed Answer: B

Explanation (Optional):

- A. Incorrect. MSIV ensures no more than 1 SG blows down
- B. Correct.
- C. Incorrect. Ensures that RCS cooldown will be limited by closing
- D. Incorrect. Same function as Main Feedwater Regulating Valve

Technical Reference(s)	TS Basis 3.7.1.6	(Attach if not previously provided)
	FW00 LP	

Proposed references to be provided to applicants during examination: None

Learning Objective:	WLP-OPS-FW00, obj 6	(As available)
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Question Source:	Bank #		
	Modified Bank #		(Note changes or attach parent)
	New	X	

Question History:	Last NRC Exam	
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Question Cognitive Level:	Memory or Fundamental Knowledge	X
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	Comprehension or Analysis	
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10 CFR Part 55 Content:	55.41	9

Comments:

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	1		
	Group #	2		
	K/A #	A13 AK1.1		
	Importance Rating	3.0		

Knowledge of the operational implications of the following concepts as they apply to the (Natural Circulation Operations) Components, capacity, and function of emergency systems.

Proposed Question: Common 64

Given the following:

- A loss of offsite power occurred 1 hour ago due to a tornado touching down in the switchyard
- EFW pumps are supplying Steam Generators
- That is currently 500°F
- CSP level is 85 percent
- DWST is unavailable due to tornado damage

Which of the following describes the AVAILABLE feedwater **AND** the MAXIMUM time remaining to place Shutdown Cooling in service?

- A. 99,000 gal, 6 hours.
- B. 99,000 gal, 10 hours.
- C. 150,000 gal, 6 hours.
- D. 150,000 gal, 10 hours.

Proposed Answer: A

Explanation (Optional):

- A. Correct. 27000 gal required, DWST= 0 CSP=179010-53000 = **99010** available curve 2J 1 hour after shutdown = 6 hours
- B. Incorrect. 10 hours if using wrong time after shutdown curve
- C. Incorrect. 150000 gal if 53000 not subtracted, 6 hours if curve 2H used
- D. Incorrect. 150000 gal if 53000 not subtracted curve 2j for 150000 = 10 hours

Technical Reference(s)	OP-902-003 step 24 OP-902-009 att 2-G, H, I, J	(Attach if not previously provided)

Proposed references to be provided to applicants during examination:	OP-902-009 att 2-G OP-902-009 att 2-H OP-902-009 att 2-I OP-902-009 att 2-J
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Learning Objective:	WLP-OPS-PPE01 obj 11	(As available)
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Question Source:	Bank #		
	Modified Bank #		(Note changes or attach parent)
	New	X	

Question History:	Last NRC Exam	
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Question Cognitive Level:	Memory or Fundamental Knowledge	
	Comprehension or Analysis	X

10 CFR Part 55 Content:	55.41	8

Comments:
W3-NRC-1704A

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	1	_____
	Group #	2	_____
	K/A #	E09 EK2.2	_____
	Importance Rating	3.7	_____

Knowledge of the interrelations between the (Functional Recovery) and the following: Facility's heat removal systems, including primary coolant, emergency coolant, the decay heat removal systems, and relations between the proper operation of these systems to the operation of the facility.

Proposed Question: Common 65

The following has occurred:

Emergency Feedwater Pump 'AB' is tagged for maintenance.  
 REACTOR TRIP occurred due to a loss of main feedwater.  
 On the trip, all offsite and onsite power was lost.  
 All Emergency Feedwater was lost  
 Both steam generators levels (WR.) indicate 10%  
 Both steam generators pressures indicate 15 psia  
 The 'B' Emergency Feedwater pump is now available  
 Power is restored to the Train "B"

Which ONE of the following describes the appropriate method for restoring feedwater?

- A. Slowly restore feed to ONE SG.
- B. Slowly restore feed to BOTH SGs.
- C. Rapidly restore feed to ONE SG.
- D. Rapidly restore feed to BOTH SGs.

Proposed Answer: A

Explanation (Optional):

- A. Correct. WR level at 10%, slowly initiate feed to prevent damage to SG components
- B. Incorrect. Only 1 SG is fed when they are both dry
- C. Incorrect. Dry SGs are fed slowly
- D. Incorrect. Levels too low, and only feed 1

Technical Reference(s) OP-902-008 (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPE08 obj 8, 9 (As available)

Question Source: Bank # X  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis X

10 CFR Part 55 Content: 55.41 10  
\_\_\_\_\_

Comments:  
W3-NRC-1186-A

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	3		
	Group #	1		
	K/A #	2.1.22		
	Importance Rating	2.8		

Ability to determine Mode of Operation.	
Proposed Question:	Common 66
Given the following plant conditions:	
<ul style="list-style-type: none"> <li>• RCS average temperature: 425 °F</li> <li>• All control rods: Fully inserted</li> <li>• RCS cooldown rate: 30F/hour</li> </ul>	
What is the current plant Mode as defined in Technical Specifications for these conditions?	
A. MODE 1	
B. MODE 2	
C. MODE 3	
D. MODE 4	

Proposed Answer:	C
Explanation (Optional):	
A. Incorrect. Mode 1 = >5% would require control rods to be withdrawn $K_{eff} \geq .99$	
B. Incorrect. shutdown control rods would be withdrawn $K_{eff} \geq .99$	
C. Correct. $<.99, 0\%.$ tavg >350	
D. Incorrect. Mode 4 350 > tavg >200	

Technical Reference(s)	TS Definitions	(Attach if not previously provided)

Proposed references to be provided to applicants during examination:	None
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Learning Objective:	WLP-OPS-TS00 Obj. 03	(As available)
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Question Source:	Bank #	X	Palisades NRC 2006
	Modified Bank #		(Note changes or attach parent)
	New		

Question History:	Last NRC Exam	Palisades NRC 2006
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Question Cognitive Level:	Memory or Fundamental Knowledge	X
	Comprehension or Analysis	

10 CFR Part 55 Content:	55.41	1

Comments:

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	3		
	Group #	1		
	K/A #	G2.1.11		
	Importance Rating	3.0		

Knowledge of less than 1 hour technical specification action statements for systems

Proposed Question: Common 67

Given the following conditions:

- Mode 5
- RCS Temperature 105°F
- SG #1 is being placed in wet layup using AFW pump
- SG temperature 100°F
- The Operator notices that SG #1 has been overfilled and SG pressure is at 300 psig

What is the SG status in regards to Technical Specifications?

- A. Pressure/temperature limitation satisfied
- B. SG temperature high and SG pressure high, pressure/temperature LCO NOT met.
- C. SG pressure and temperature low, pressure/temperature LCO NOT met.
- D. SG temperature low and SG pressure high, pressure/temperature LCO NOT met

Proposed Answer: D

Explanation (Optional):

- A. Incorrect. SG temp > 115 when SG press > 210 psig
- B. Incorrect. SG temp > 115 when SG press > 210 psig
- C. Incorrect. SG temp > 115 when SG press > 210 psig
- D. Correct.

Technical Reference(s)	TS section 3.7.2	(Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

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Learning Objective:	WLP-OPS-CB00 obj 7	(As available)
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Question Source:	Bank #	X	
	Modified Bank #		(Note changes or attach parent)
	New		

Question History:	Last NRC Exam	Waterford 1995
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Question Cognitive Level:	Memory or Fundamental Knowledge	
	Comprehension or Analysis	X

10 CFR Part 55 Content:	55.41	10

Comments:	
WF3-NRC -3556-A	



Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge   X    
Comprehension or Analysis \_\_\_\_\_

10 CFR Part 55 Content: 55.41   10    
\_\_\_\_\_

Comments:  
WTSI Generic Bank

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>3</u>	<u>          </u>
	Group #	<u>2</u>	<u>          </u>
	K/A #	<u>2.2.2</u>	<u>          </u>
	Importance Rating	<u>4.0</u>	<u>          </u>

Ability to manipulate the console controls as required to operate the facility between shutdown and designated power levels

Proposed Question: Common 69

Given the following:

- A normal power reduction from 100% to 60% power has been performed to remove a Feed Pump from service.
- ASI is trending toward -0.05.

Which ONE (1) of the following describes the CEA insertion limits or requirements associated with this power reduction?

- CEDMCS in MANUAL SEQUENTIAL; use of group 6 and group P ONLY.
- CEDMCS in MANUAL SEQUENTIAL; use of group 5, group 6, and group P is allowed.
- CEDMCS in MANUAL GROUP; use of group 6 and group P ONLY.
- CEDMCS in MANUAL GROUP; use of group 5, group 6, and group P is allowed.

Proposed Answer: D

Explanation (Optional):

- Incorrect. Wrong position; Wrong groups
- Incorrect. Wrong position. Correct groups
- Incorrect. Correct position, wrong groups
- Correct. Manual Group, use GRP 5,6,P. In this case, may borate CEAs out because ASI swing is negative after load decrease

Technical Reference(s) OP-010-004, Att. 9.4 (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPN01 obj 3 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New  X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis  X

10 CFR Part 55 Content: 55.41  6   
\_\_\_\_\_

Comments:

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	3		
	Group #	2		
	K/A #	2.2.13		
	Importance Rating	3.6		

Knowledge of tagging and clearance procedures.

Proposed Question: Common 70

Which ONE of the following is TRUE if a Motor Operated Valve is being tagged for isolation and must be manually closed?

- A. The Clearance's Tagged Position must be changed to Manually Closed.
- B. The MOV must be manually stroked to prove operability.
- C. The System Engineer must concur with closing the MOV manually.
- D. The MOV should be manually cracked off its shut seat when clearing the Danger Tag.

Proposed Answer: D

Explanation (Optional):

Incorrect. Tagout position must be changed to "Manually Torqued closed"  
 Incorrect. MOV must be electrically stroked to prove operability  
 Incorrect. SM/CRS permission required  
 Correct.

Technical Reference(s)	OP-102	(Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective:	WLP-OPS-PPA00 obj 2	(As available)
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Question Source:	Bank #	X	
	Modified Bank #		(Note changes or attach parent)
	New		

Question History:	Last NRC Exam	2002 Waterford
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Question Cognitive Level:	Memory or Fundamental Knowledge	X
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	Comprehension or Analysis	
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10 CFR Part 55 Content:	55.41	10

Comments:
W3-OPS-7261-A

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>3</u>	<u>          </u>
	Group #	<u>3</u>	<u>          </u>
	K/A #	<u>G2.3.11</u>	<u>          </u>
	Importance Rating	<u>2.7</u>	<u>          </u>

Ability to control radiation releases.

Proposed Question: Common 71

Given the following conditions:

- A Steam generator Tube Rupture has occurred on SG #1.
- Actions of 902-007, Steam Generator Tube Rupture Recovery, are in progress.
- RCPs are running.
- The crew is performing cooldown of the RCS to Shutdown Cooling Entry conditions.

Which ONE (1) of the following is the preferred method of cooling down the RCS for these conditions?

- A. Dump Steam to Condenser using SBCS from both SG #1 and SG #2 to minimize radiological releases.
- B. Dump Steam to Condenser using SBCS from SG #2 only to minimize radiological releases.
- C. Dump Steam to Atmosphere using the SG #1 and SG #2 Atmospheric Relief Valves to minimize secondary system contamination for ALARA concerns.
- D. Dump Steam to Atmosphere using the SG #2 Atmospheric Relief Valve only to minimize secondary system contamination for ALARA concerns.

Proposed Answer: B

Explanation (Optional):

B is correct. Steam to condenser using unaffected SG. (Affected SG is isolated at this point.)

A is incorrect. Do not use the affected SG if not required

C is incorrect. Only use ADVs if condenser is not available, and do not use affected SG

D is incorrect. ADVs are a backup to condenser

Technical Reference(s): OP-902-007 step 30 basis (Attach if not previously provided)

\_\_\_\_\_  
\_\_\_\_\_

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPE07 obj 8 (As available)

Question Source: Bank # X  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge X  
Comprehension or Analysis \_\_\_\_\_

10 CFR Part 55 Content: 55.41 10  
\_\_\_\_\_

Comments:  
SONGS 2006

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>3</u>	<u>          </u>
	Group #	<u>3</u>	<u>          </u>
	K/A #	<u>2.3.4</u>	<u>          </u>
	Importance Rating	<u>2.5</u>	<u>          </u>

Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized.

Proposed Question: Common 72

Given the following:

- A Waterford 3 employee has returned from working an outage at River Bend.
- The dose received at River Bend was 660 millirem.
- His TEDE radiation exposure for the year is 1820 millirem.
- The remainder of his dose was received at Waterford 3.

Which ONE (1) of the following describes the MAXIMUM dose the employee may receive prior to exceeding his ENS administrative dose limit for the year?

- A. 180 millirem
- B. 840 millirem
- C. 3180 millirem
- D. 3840 millirem

Proposed Answer: A

Explanation (Optional):

- A. Correct. 2 Rem per year total allowable TEDE
- B. Incorrect. Would equal 2 Rem W3 dose by itself
- C. Incorrect. Correct for federal TEDE limits
- D. Incorrect. Correct for federal TEDE limits for W3 dose alone

Technical Reference(s) ENS-RWT (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-RAD02 obj. 06 (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New  X

Question History: Last NRC Exam \_\_\_\_\_

Question Cognitive Level: Memory or Fundamental Knowledge \_\_\_\_\_  
Comprehension or Analysis  X

10 CFR Part 55 Content: 55.41  12   
\_\_\_\_\_

Comments:



Question Cognitive Level: Memory or Fundamental Knowledge   X    
Comprehension or Analysis           

10 CFR Part 55 Content: 55.41   10    
                                  

Comments:

Examination Outline Cross-reference:	Level	RO		SRO
	Tier #	3		
	Group #	4		
	K/A #	G2.4.2		
	Importance Rating	3.9		

Knowledge of system set points, interlocks and automatic actions associated with EOP entry conditions.	
Proposed Question:	Common 74
Which of the following requires entry into OP-902-000, Standard Post Trip Actions?	
<p>A. S/G water level 26% Narrow range</p> <p>B. Pressurizer Pressure 2308 psia.</p> <p>C. Departure from Nucleate Boiling Ratio 1.36</p> <p>D. Lo Steam Generator flow 23 psid</p>	

Proposed Answer:	A
Explanation (Optional):	
<p>A. Correct. SG level less than 27.4% requires a reactor trip</p> <p>B. Incorrect. PZR press 2308 is pretrip, 2350 is RX trip setpoint</p> <p>C. Incorrect. DNBR 1.36 is pretrip, Rx trip is 1.26</p> <p>D. Incorrect. Low SG flow RCS side = 19 PSID</p>	

Technical Reference(s)	PPS SD	(Attach if not previously provided)
	OP-902-000, OP-901-201	

Proposed references to be provided to applicants during examination:	None
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Learning Objective:	WLP-OPS-PPO20 obj 2	(As available)
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Question Source:	Bank #		
	Modified Bank #		(Note changes or attach parent)
	New	X	

Question History:	Last NRC Exam	
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Question Cognitive Level:	Memory or Fundamental Knowledge	X
	Comprehension or Analysis	

10 CFR Part 55 Content:	55.41	10

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	<u>3</u>	<u>          </u>
	Group #	<u>4</u>	<u>          </u>
	K/A #	<u>2.4.12</u>	<u>          </u>
	Importance Rating	<u>3.4</u>	<u>          </u>

Knowledge of general operating crew responsibilities during emergency operations.

Proposed Question: Common 75

Which ONE (1) of the following correctly describes the Operating Crew's requirement to verify Critical Safety Functions while performing EOPs?

- A. Required continuously
- B. Required every 10 minutes
- C. Required every 15 minutes
- D. Required every 25 minutes

Proposed Answer: A

Explanation (Optional):

- A. Correct. CSF monitoring is continuously required
- B. Incorrect. STA does CSFSC every 30 minutes
- C. Incorrect. Logical because it is close to actual time for CSFSC
- D. Incorrect. Crew continuously monitors CSFs, STA will do CSFSC at least every 30 minutes

Technical Reference(s) EOP Users Guide. (Attach if not previously provided)

Proposed references to be provided to applicants during examination: None

Learning Objective: WLP-OPS-PPA00 obj 2 (As available)

Question Source: Bank # X  
 Modified Bank #            (Note changes or attach parent)  
 New           

Question History: Last NRC Exam

Question Cognitive Level: Memory or Fundamental Knowledge   X    
Comprehension or Analysis           

10 CFR Part 55 Content: 55.41   10    
                                  

Comments:  
SONGS 2006 Audit

NRC comments from Tom Stetka 10/4/2007

ES-401-9 form to follow

General Overview:

10CFR55.41 distribution as follows:

41.10	35	twice number accustomed to seeing
41.7	16	
41.5	11	
41.2	0	
41.3	0	
41.13	0	
41.14	0	
41.9	0	
41.8	1	

Reevaluate CFR55.41 ties and redistribute to cover 0 covered items

Cognitive level is high in band when revising questions slant more towards lower end.

This makes for overall more difficult exam.

60 questions appear to be scenario based need to slant more towards systems based.

Example what is the power supply to 1A RCP bus, bus, bus, bus.

Generally speaking make the exam a little more fundamental.

Questions that are now considered Cognitive level 1

8, 10, 11, 21, 24, 26, 32, 33, 34, 36, 38, 39, 47, 49, 52, 58, 61, 62, 63, 64, 66, 68, 70, 71, 73, 75,  
and some others

Comments on questions:

2, 6, 21, 22, 23, 26, 27, 35, 37, 39, 42, 43, 45, 51, 52, 56, 59, 61, 62, 63, 64, 66, 67, 70, 74