

Examination Outline Cross-reference:	Level	RO	SRO
	Tier		1
	Group		1
	K/A 000007 G2.4.30		Knowledge of events which involve system operations that should be reported to outside agencies.
	Importance Rating		3.6

Proposed Question: 76

The following conditions exist on Unit 2:

- A spurious closure of 21 MSIV occurred while operating at 100% power
- The reactor tripped and immediate actions of E-0, Reactor Trip and Safety Injection were performed.
- NPO reports that 21 MSIV was tampered with.
- The SG safeties and Pressurizer PORVs functioned as designed.
- Tave peaked at 570 F and Pressure Peaked at 2285 psig
- Two rods failed to insert on the unit trip.
- Recovery operations are in progress utilizing ES-0.1, "Reactor Trip Response"
- Team is emergency borating to offset the two stuck rods.

The NRC must be notified within:

- one hour because the plant exceeded a safety limit
- one hour because of the tampering with 21 MSIV causing a plant trip.
- four hour because of the unplanned trip of the unit.
- four hour because of emergency boration being required for shutdown margin

Proposed Answer: B

Explanation (Optional):

- A. Is incorrect because a safety limit was not violated.
- B. Is correct because the MSIV was tampered with.
- C. Is incorrect-it is a 1hr report to the state and a 72 hour report to the NRC
- D. Is incorrect because emergency boration is not a one-hour report.

Technical Reference(s): IP-SMM-LI-108 (Attach if not previously provided)

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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

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

Modified Bank # X INPO-21506(Note changes or attach parent)

New \_\_\_\_\_

Question History: Braidwood July 2002 NRC Exam

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

Comprehension or Analysis X

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

55.43 1,5

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier		1
	Group #		1
	K/A 00008 AA2.05	<b>Ability to determine and interpret the following as they apply to a vapor space accident: PORV isolation (block) valve switches and indications.</b>	
	Importance Rating		3.9

Proposed Question: 77

The plant is operating at 100% power when the following events occur.

- Both MBFPs trip and efforts to trip the reactor were unsuccessful.
- The PORVs opened on the ATWS event as expected.
- PCV455C failed to close.
- Tailpipe temperatures are stable.
- Pressurizer relief line high temperature annunciator is illuminated.

Based upon the conditions above, when should the operator initially attempt to close the PORV and block valve to isolate the leak path?

- Only when directed in E-0, Reactor Trip or Safety Injection.
- The first four steps of E-0, Reactor Trip or Safety Injection, are complete by taking prudent operator action.
- Only when directed in E-1, Loss of Reactor or Secondary Coolant.
- When the first two step of FR-S.1, Response to Nuclear Power generation ATWS, are complete by taking prudent operator action.



Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	_____	1
	Group #	_____	1
	K/A 000022 AA2.03	<b>Ability to determine and interpret the following as they apply to the Reactor Coolant Makeup Pump: failure of flow control valve or controller</b>	
	Importance Rating	_____	3.6

Proposed Question: 78

The plant is operating at 100% power with:

- Makeup control is in automatic
- VCT level is 21%
- BAST Concentration is 12%
- RCS Boron is 1100 ppm.
- Primary Makeup Controller is set for 90 gpm.
- Boric acid flow controller is set for 6.5 gpm
- Boric Acid flow deviation alarm occurs.
- VCT level low alarm is not alarming
- Valve demand indication for FCV-110A indicates closed.

Based upon the above indications, the operator should:

- A. Lower the primary makeup control setpoint to stop the dilution.
- B. Transfer FCV-110A to manual and lower the flow.
- C. Transfer FCV-110A to manual and raise the flow.
- D. Alternately borate and dilute to achieve the required boron concentration.

Proposed Answer: C

Explanation (Optional):

- A. Is incorrect. Not procedurally allowed
- B. Incorrect-must increase the flow.
- C. Is correct
- D. Is incorrect only allowed if required boric acid flow cannot be obtained.

Technical Reference(s): 2-ARP-FBF Window 3-2 (Attach if not previously provided)

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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

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

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

New X

Question History:

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

Comprehension or Analysis X

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

55.43 5,6

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	_____	1
	Group #	_____	1
	K/A 0-00054 G2.4.18	Knowledge of specific bases for EOPs.	
	Importance Rating	_____	3.6

Proposed Question: 79

Operators are attempting to restore water level in the steam generators in accordance with FR-H-1, "Response to Loss of Secondary Heat Sink" following a loss of all feedwater event.

The following conditions exist in FR-H.1:

- AFW flow has not yet been initiated.
- Bleed and Feed was initiated and only one PORV opened
- CETs are lowering.
- All SG wide range levels are 8%.
- Adverse conditions inside containment do not exist.

22 ABFP has just been restarted. Which ONE of the following statements describes the basis for maximum AFW flow rate the operators should establish, in accordance with Attachment 3 of FR-H.1, for feeding the SGs under these conditions?

- A. Feed one SG at maximum rate to restore narrow range level greater than 10% to establish a heat sink to protect the core.
- B. Feed all SGs at less than 100 gpm until level is narrow range level is greater than 10% to prevent a PTS challenge to the reactor vessel.
- C. Feed one SG at less than 100 gpm to raise Wide range level to greater than 14% and minimize stresses to the SG, then feed flow may be raised as desired.
- D. Feed all SGs at maximum rate until wide range level is greater than 14%, then check SGs intact, then feed at 100 gpm .to minimize stresses to the SG.

Proposed Answer: C

Explanation (Optional):

- A. Is incorrect. Only feed one SG at less than 100gpm.
- B. Is incorrect feed one SG less than 100gpm..
- C. Is correct.
- D. Is incorrect. Feed only one SG so if it fails it is limited to one failure-release path..

Technical Reference(s): FR-H.1, Attachment 3 (Attach if not previously provided)

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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

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

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

New X

Question History:

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

Comprehension or Analysis X

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

55.43 1,5

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier		1
	Group		1
	K/A 000057 AA2.19		The plant automatic actions that occur on a loss of vital instrument bus.
	Importance Rating		4.3

Proposed Question: 80

The following plant conditions exist on Unit 2:

- A reactor startup is in progress
- Source range channels N31 and N32 indicate 1E4 CPS
- Intermediate range channels N35 and N36 indicate 1 E-10 AMPS
- P-6 permissive has just come in
- Operators have just blocked the source range high flux trip

What actions are required if 21 Instrument Bus is lost?

- Verify reactor trip due to loss of N-35 and enter E-0, Reactor Trip or Safety Injection.
- Verify reactor trip due to a loss of N-36 and enter E-0, Reactor Trip or Safety Injection.
- Commence a reactor shutdown by inserting all control and shutdown banks in accordance with POP-3.1, Plant Shutdown Mode 1 to Mode 3.
- Continue plant operation at current power level until Instrument Bus 21 has been restore to service.

Proposed Answer: A

## Explanation (Optional):

- A. Is correct.
- B. Is incorrect-- you lose N35
- C. Is incorrect-unit will trip because of 1/2 coincidence of intermediate range trip.
- D. Is incorrect-the unit will trip.

Technical Reference(s): 2-AOP-IB-1 (Attach if not previously provided)

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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # X INPO-22935(Note changes or  
attach parent)  
New \_\_\_\_\_

Question History: Prairie Island August 2002 NRC Exam

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

10 CFR Part 55 Content: 55.41 \_\_\_\_\_  
55.43 5

Comments:

Examination Outline Cross-reference:	Level	RO	SRO X
	Tier #		1
	Group #		1
	K/A E05 EA2.1	Facility conditions and selection of appropriate procedures during abnormal and emergency operations.	
	Importance Rating		4.4

Proposed Question: 81

The following plant conditions exist:

- 22 ABFP is tagged out for maintenance.
- 22 SI pump is OOS for bearing replacement.
- Plant was operating at 100% power when both MBFPs tripped.
- 21 and 23 ABFP tripped on overcurrent when started.
- All SG narrow range levels are off scale low.
- CETs are at 593 F and slowly rising
- The PORVs are cycling.
- NC RVLIS is 98% and lowering slowly.

While attempting to establish a heat sink on the reactor, all SG levels decrease to less than 40% on the wide ranges. The team recognizes that bleed and feed is necessary.

The team manually safety injects and both 21 and 23 SI pumps trip on overcurrent. The team should:

- A. Continue on in FR-H.1 and depressurize the RCS using the PORVs to inject the accumulators.
- B. Continue efforts to start a SI pump and return to step 2 in FR-H.1 to establish feedwater to the SGs.
- C. Transition to FR-C.2 to establish core cooling by opening both PORVs to depressurize the primary to establish RHR flow.
- D. Transition to FR-C.2 to establish core cooling by opening one PORV and starting all available charging pumps at maximum speed

Proposed Answer: B

Explanation (Optional):

- A. Is incorrect. Efforts should not be made to depressurize using the PORV without injection flow will uncover the core.
- B. Is correct.
- C. Is incorrect. FR-C.2 transition criteria have not been met A higher order red path is in effect.
- D. Transition to FR-C.2 is not warranted. FR-C.1 would depressurize SGs to inject accumulators.

Technical Reference(s): FR-H.1 (Attach if not previously provided)

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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

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

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

New X

Question History:

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

Comprehension or Analysis X

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

55.43 5

Comments:

Examination Outline Cross-reference:	Level	RO	SRO X
	Tier #	_____	<u>1</u>
	Group #	_____	<u>2</u>

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #		1
	Group #		2
	K/A 00005 G.2.12	Ability to apply technical specifications for a system..	
	Importance Rating		4.0

Proposed Question: 82

Unit 2 is performing a load reduction.

- Plant is at 97% power.
- PICS indicates that QPTR is 1.04.
- Bank D demand position is 190 steps
- A Bank D rod is at 200 steps.

Based only upon QPTR restrictions, the team must reduce power within 2 hours to:

- A. 96%
- B. 94%
- C. 88%
- D. 80%

Proposed Answer: C

Explanation (Optional):

- A. Is incorrect-Based on reducing power 12% from 108% trip setpoint.
- B. Is incorrect. Based upon reducing power 3% for every percent above 1.02. (100-6=94%)
- C. Is correct. 100%-12%=88%
- D. Is incorrect only have to reduce power to 88%.

Technical Reference(s): QPTR Tech Spec (Attach if not previously provided)  
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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

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

Question History:

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

10 CFR Part 55 Content: 55.41 \_\_\_\_\_  
55.43 2

Comments:

Examination Outline Cross-reference:	Level	RO	SRO X
	Tier		1
	Group		2
	K/A 000032 G2.4.11	Knowledge of abnormal condition procedures.	
	Importance Rating		3.6

Proposed Question: 83

Given the following plant conditions:

- The Reactor is shutdown, reactor trip breakers are open
- RCS is borated to the hot shutdown, Xenon free boron concentration.
- RCS pressure is 2235 psig
- Source Range Channel N-31 is out of service for repairs
- Tavg is 542 degrees F
- Source range channel N-32 fails low

Which ONE of the following ACTIONS is required?

- A. Place the Alternate Safe Shutdown Source Range Monitor in service.
- B. Initiate a cooldown to cold shutdown conditions within one hour.
- C. Commence monitoring the Intermediate Range Channels to determine if shutdown margin is lost.
- D. Borate to the cold shutdown condition within one hour.

Proposed Answer: A

Explanation (Optional):

- A. Is correct per 2-AOP-NI-1
- B. Is incorrect. Would not cooldown without ASSS instrumentation in service to monitor the reactivity state of the core.

- C. Is incorrect. Power is well below the intermediate range..
- D. Is incorrect. Plant is already borated to the SDM required for the given plant temperature.

Technical Reference(s): \_\_\_\_\_ (Attach if not previously provided)  
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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

Question Source: Bank # X INPO-4088  
 Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
 New \_\_\_\_\_

Question History:

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

10 CFR Part 55 Content: 55.41 \_\_\_\_\_  
 55.43 2,5

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	_____	1
	Group #	_____	2
	K/A 000036 AA2.03	<b>Ability to determine and interpret the following as they apply to fuel handling accidents: magnitude of the potential radioactive release.</b>	
	Importance Rating	_____	4.2

Proposed Question: 84

In accordance with the Indian Point Unit 2 FSAR Accident Analysis, which of the following Fuel Handling Accident conditions result in a HIGHER thyroid dose received at the Exclusion Area Boundary (EAB) than assumed in the accident analysis?

- A. Decay time prior to fuel movement is 140 hours
- B. The fuel handling accident occurred in the reactor cavity versus the spent fuel pool.
- C. The total activity released from the fuel assembly took twice the time period than assumed in the analysis.
- D. The fuel handling accident occurred during a period with a low atmospheric dilution factor due to a temperature inversion.

Proposed Answer: D

Explanation (Optional):

- A. Is incorrect-. The analysis assumes a 100hr decay time
- B. Is incorrect..reactor cavity and spent fuel pool are assumed identical
- C. Is incorrect-.Total activity released is the same
- D. Is correct. Lower dispersion factor results in a higher dose than assumed.

Technical Reference(s): FSAR Ch 14

(Attach if not previously provided)

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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

Question Source: Bank # \_\_\_\_\_ INPO-24067  
Modified Bank # X \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Salem NRC Exam May 2003

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

10 CFR Part 55 Content: 55.41 \_\_\_\_\_  
55.43 4

Comments:

Examination Outline Cross-reference:	Level	RO	SRO X
	Tier #		1
	Group #		2
	K/A E09 EA2.2	Adherence to appropriate procedures and operations within the limitations of the facility license and amendments.	
	Importance Rating		3.8

Proposed Question: 85

The following plant conditions exist

- A natural circulation RCS cooldown is in progress
- RCS hot leg temperatures are at 540 F
- RCS pressure is at 1880 psig and Automatic SI has been blocked
- All CRDM fans are available
- The TSC wants to cooldown at maximum rate because of limited CST availability
- RVLIS is available

What limitations are placed on the RCS cooldown rate to limit reactor vessel upper head void formation?

- Cooldown Rate limited to 50°F/ hr using a stepwise cooldown and depressurization using ES-0.2, Natural Circulation Cooldown
- Cooldown rate limited to 50°F/hr during the simultaneous cooldown and depressurization. using ES-0.3. Natural Circulation Cooldown with Steam Void in Vessel (With RVLIS)
- Cooldown Rate limited to 100°F/hr using a simultaneous cooldown and depressurization in ES-0.2, Natural Circulation Cooldown.
- Cooldown rate limited to 100°F/hr during the simultaneous cooldown and depressurization. using ES-0.3. Natural Circulation Cooldown with Steam Void in Vessel (With RVLIS)



Examination Outline Cross-reference:	Level	RO	SRO
	Tier #		2
	Group #		1
	K/A 005 A2.02	Pressure Transient Protection during cold shutdown	
	Importance Rating		3.7

Proposed Question: 86

The following plant conditions exist:

- The unit is in Mode 5 with RCS temperature stable at 130 F.
- RHR pump #22 is in service.
- Temperatures in all SGs are 110F.
- Pressurizer Level is 75%

Which one of the following is **NOT** in the correct alignment to comply with the limiting condition of operation, Technical Specification 3.4.12, for the LTOP system such that a cold overpressure transient does not occur?

- A. All Accumulator Outlet isolation Valves are closed and de-energized.
- B. #23 High Head SI pump breaker is racked in and the pump is aligned for testing.
- C. #23 Charging pump breaker is racked in and aligned for start-up for seal injection to start a RCP.
- D. PZR PORV Isolation Valve MOV-535 is closed and de-energized.

Proposed Answer: D

Explanation (Optional):

Technical Reference(s): TS 3.4.12

(Attach if not previously  
provided)

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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

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

Question History:

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

10 CFR Part 55 Content: 55.41 \_\_\_\_\_  
55.43 2

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #		2
	Group #		1
	K/A 007 G2.1.25	Ability to obtain and interpret station reference materials such as graphs, nomographs, and tables with performance data.	
	Importance Rating		3.1

Proposed Question: 87

The following plant conditions exist:

- The plant is operating at 100% power
- Leakage exists past a pressurizer safety valve to the PRT.
- Safety Valve Tailpipe temperature is 210F
- The level in the PRT has trended up from 70% to 75% over the last hour.

Based upon the above conditions and using the supplied graphs, calculate and classify the leak rate to the PRT?

- 10-11 gpm and is classified as pressure boundary leakage.
- 10-11 gpm and is classified as identified leakage
- 1.0-1.1 gpm and is classified as identified leakage
- 1.0-1.1 gpm and is classified as pressure boundary leakage.

Proposed Answer: B

Explanation (Optional):

- Is incorrect-The leakage is not pressure boundary leakage.
- Is incorrect-Leak rate is off by factor of ten.
- Is correct
- Is incorrect-incorrect leakrate and incorrect leakage classification.

Technical Reference(s): \_\_\_\_\_ (Attach if not previously provided)  
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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

Question Source:	Bank #	_____	
	Modified Bank #	_____	(Note changes or attach parent)
	New	X	INPO-22985 tied to different K/A.

Question History:

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

10 CFR Part 55 Content:	55.41	_____
	55.43	2

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	_____	2
	Group #	_____	1
	K/A 059 G2.4.30	Knowledge of events related to system operations that should be reported to outside agencies.	
	Importance Rating	_____	3.6

Proposed Question: 88

The following plant conditions exists:

- The plant is operating at 100% power when the 21 Main Boiler Feed Pump Trips.
- The plant runs back to 70% power.
- Rods drive Delta I outside the target band but within the safe operating envelope..
- The team has commenced boration to restore Delta I.

The above transient or event is:

- A. A one-hour report must be made to the State due to power being reduced greater than 15%
- B. A one-hour report must be made to the NRC due to power being reduced greater than 15%
- C. A one-hour report must be made because the event is classified as an Alert due to a loss of feedwater event.
- D. A one-hour report must be made because of entry into Technical Specification Action statement on Delta I.

Proposed Answer: A

Explanation (Optional):

- A. . Is correct.

- B. Is incorrect. The NRC notification is required for ESF actuation which is an 8 hr report.
- C. Is incorrect-Not an Alert
- D. Is incorrect-Only reportable if TE action times are exceeded.

Technical Reference(s): IP-SMM-LI-108 (Attach if not previously provided)  
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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

Question Source: Bank # \_\_\_\_\_  
Modified Bank # \_\_\_\_\_ )  
New X

Question History:

Question Cognitive Level: Memory or Fundamental Knowledge X  
Comprehension or Analysis \_\_\_\_\_  
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10 CFR Part 55 Content: 55.41 \_\_\_\_\_  
55.43 10

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #		2
	Group #		1
	K/A 061 A2.08	Ability to (a) predict the impact of the following malfunctions or the operation on the AFW; and (b) based upon those predictions, use procedures to correct, controls, or mitigate the consequences of those malfunctions or operations: flow rates from various combinations of AFW pump discharge valves.	
	Importance Rating		2.9

Proposed Question: 89

The following plant conditions exist after a trip from full power due to a turbine trip in coincidence with a loss of off-site power.

- 23 EDG failed to start
- All rods inserted
- RCS Pressure drop to 2100 psig and is recovering
- 21 and 22 ABFPs are running
- Flows to 21 and 22 SGs are 200 gpm each.
- All NR levels are off-scale low.

The team is performing their immediate actions of E-0. What actions are required based upon plant conditions above?

- A. No additional action required in E-0 because adequate heat sink is being maintained.
- B. Must transition to FR-H.1 because adequate heat sink is not being maintained.
- C. Must manually open 405 C/D to feed 23 and 24 SGs at 200 gpm each after raising speed of 22 ABFP.
- D. Throttle 405A/B/C/D at 85 gpm each after raising speed of 22 ABFP

Proposed Answer: C

Explanation (Optional):

- A. Is incorrect. E-0 requires 760 gpm AFW flow be established prior to transition to ES-0.1.
- B. Is incorrect. 400gpm is available
- C. Is correct. Need to establish greater than 760 gpm total.
- D. Is incorrect. 85 gpm is EOP restriction for four faulted SGs.

Technical Reference(s): E-0 (Attach if not previously provided)

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SOP-21.3, AFW System  
Operation  
\_\_\_\_\_

Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

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

Question History:

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

10 CFR Part 55 Content: 55.41 \_\_\_\_\_  
55.43 5

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #		2
	Group #		1
	K/A 064 A2.04	Unloading prior to securing the EDG	
	Importance Rating		3.0

Proposed Question: 90

The 22EDG has been loaded to 1725KW and has been running for the last 60 minutes. The surveillance run is complete, how is the 22EDG shutdown in accordance with the procedure for NORMAL operation of 22 EDG?

- A. Reduce load to 95-105 KW
  - Adjust Auto Voltage Regulator to 45-55 KVAR
  - Open 22 EDG Output Breaker
  - Place Voltage Regulator Unit Parallel Switch to UNIT
  - Adjust voltage to 480v using Automatic Voltage Control rheostat
  - Place Engine Control switch in Off
- B. Reduce load to 95-105 KW
  - Press EMERGENCY STOP (push button)
  - Place the Voltage Regulator Unit Parallel Switch to UNIT
  - Place Engine control Switch in off
- C. Reduce load to 95-105KW
  - Adjust Auto Voltage Regulator to 45-55 KVAR
  - Open 22 EDG Output breaker
  - Place Voltage Regulator Unit Parallel Switch to PARALLEL
  - Adjust voltage to 480v using Automatic Voltage Control rheostat
  - Place Engine Control Switch to Off.
- D. Reduce load to 95-105 KW
  - Place the overspeed trip level to trip
  - Place Voltage Regulator Unit Parallel Switch to UNIT
  - Adjust voltage to 480v using Automatic Voltage Control rheostat
  - Place Engine Control switch to Off

Proposed Answer: A

B and D are used only if the EDG fails to shutdown properly. C doesn't ensure EDG will properly come up to desired speed and voltage .

Explanation (Optional):

A.

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

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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

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

Question History:

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

10 CFR Part 55 Content: 55.41 \_\_\_\_\_  
55.43 5

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier		2
	Group		2
	K/A 011 AA2.02		Ability to (a) predict the impact of the following malfunctions or operation on the PZR the PLCS and (b) based upon these predictions, use procedures to correct , control or mitigate the consequences of those malfunctions or operations: excessive charging
	Importance Rating		3.2

Proposed Question: 91

The following Unit 2 conditions exist:

- Reactor and turbine power are at 40%.
- Rod control is in manual
- All other systems are normally aligned in AUTOMATIC

If Loop 21 That RTD were to fail HIGH, causing indicated Tave to rise to 571 F, describe the effect on prssurizer level prior to any operator actions and state the required operator actions, if any, per the appropriate procedure to stabilize the plant

- Pressurizer level will maintain its present value because Tref did not change therefore NO operator actions are required.
- Pressurizer level will lower to 18% because of the Tave failure requiring placing charging pump control in MANUAL and restoring pressurizer level to program.
- Pressurizer level will maintain its present value because NIS power did not change therefore NO operator actions are required.
- Pressurizer level will raise to 52.3% because of the Tave failure requiring placing charging pump control in MANUAL and restoring pressurizer level to program.

Proposed Answer: D

Explanation (Optional):

- A. A is incorrect because Lref is not programmed with Tref
- B. Is incorrect Pressurizer level will increase to 52.3%
- C. Is incorrect Pressurizer level is not programmed with Avg Nuclear Power.
- D. Is correct Plant Tave increases Lref to maximum clipped value.

Technical Reference(s): IP2-SOD-007- \_\_\_\_\_ (Attach if not previously provided)  
\_\_\_\_\_  
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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

Question Source: Bank # X INPO-5330  
Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
New \_\_\_\_\_

Question History: Salem NRC Exam 1996

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

10 CFR Part 55 Content: 55.41 \_\_\_\_\_  
55.43 5

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier		2
	Group		2
	K/A 035 2.4.7	Knowledge of Event Based EOP Mitigation Strategies.	
	Importance Rating		3.8

Proposed Question: 92

The following Unit 2 conditions exist:

- A Steam Line Break occurred inside containment on 22 SG
- The team manually tripped the unit, Safety Injected, and entered E-0
- On the trip one of the tubes failed in 22 SG

In order to mitigate the above accident sequence, the control room team should transition in the EOP in the following manner:

- E-0⇒E-2⇒E-3⇒ES-3.1
- E-0⇒E-3⇒E-2⇒E-3⇒ECA-3.1
- E-0⇒E-2⇒E-3⇒ECA-3.1
- E-0⇒E-3⇒ECA-3.1⇒ECA-3.2

Proposed Answer: C

Explanation (Optional):

The first transition is to E-2 to isolate the faulted SG. E-2 will check to ensure the SG is not ruptured faulted. E-2 will transition you to E-3. E-3 will send you to ECA-3.1 because the SG will be depressurized to less than 440 psig.

Technical Reference(s): E-0, E-2, E-3 appropriate pages. (Attach if not previously provided)

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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

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

Question History:

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

10 CFR Part 55 Content: 55.41 \_\_\_\_\_  
55.43 5

Comments:

Examination Outline Cross-reference:	Level	RO	SRO X
	Tier #		2
	Group #		2
	K/A 045 A2.11	Control problems in the primary, i.e., axial flux imbalance: need to reduce load on the secondary.	
	Importance Rating		2.9

Proposed Question: 93

The plant was operating at 100% power when a trip of the Main Boiler Feed Pump caused a turbine runback. When the plant stabilizes Delta I is negative outside the target band. In order to restore Delta I to the target band the operators should:

- A. Withdraw control rods while raising turbine load.
- B. Borate while withdrawing rods to maintain temperature.
- C. Borate while withdrawing rods and increasing turbine load.
- D. Withdraw control rods while reducing turbine load.

Proposed Answer: B

Explanation (Optional):

- A. Is incorrect. If you withdraw control rods you will shift Delta I so that it is less negative, however raising turbine load to prevent the plant from heating up will cause a steam feed mismatch in the plant.
- B. Is correct. Borating will add negative reactivity and cause the plant to cooldown. Turbine load will be reduced to maintain temperature. Overall power will be reduced and Delta I will shift upward in the core due to delta T changes across the core.
- C. Is incorrect. Borating will cause Tave to decrease and increasing turbine load will cause it to decrease even farther.
- D. Is incorrect. Withdrawing control rods and reducing turbine load will cause the plant to



Examination Outline Cross-reference:	Level	RO	SRO X
	Tier #	_____	3
	Group #	_____	_____
	K/A G 2.1.33	Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications	
	Importance Rating	_____	4.0

Proposed Question: 94

Which of the following situations require immediate operator action to satisfy the completion time in accordance with Technical Specifications?

- A. RCS Pressure Drops below 2190 psig.
- B. Individual Rod Position indication is lost due to a loss of Bus 2A during a load reduction with rods in automatic.
- C. Delta I is outside the target band at 95% power.
- D. The operating charging pump trips.

Proposed Answer: B

Explanation (Optional):

- A. Is incorrect The Action statement is to restore pressure is 2 hours..
- B. Is correct. Must immediately place rods in manual.
- C. Is incorrect. Must restore delta I within 15 minutes.
- D. Is incorrect. Only need two charging pumps unless it Appendix R pump

Technical Reference(s): Tech Specs-3.1.7

(Attach if not previously provided)

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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

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

Question History:

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

10 CFR Part 55 Content: 55.41 \_\_\_\_\_  
55.43 2

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	_____	3
	Group #	_____	_____
	K/A: G 2.1.7	Ability to evaluate plant performance and make operational judgments based upon operating characteristics, reactor behavior, and instrumentation interpretation.	
	Importance Rating	_____	4.4

Proposed Question: 95

You are assuming the night shift on Unit 2. Rod control is in MANUAL due to a failed TAVE/TREF comparator. Shortly after assuming the watch, you observe the following abnormal plant indications:

- Reactor coolant system temperature has rapidly lowered approximately 2F.
- S/G level deviation annunciators are illuminated.
- Automatic charging pump speed is rising.
- Overpower Delta-T Channel Trip or Rod Stop annunciator has illuminated.

Which one of the following events is the most likely cause of these indications and what procedure should be entered?

- Dropped control rod and enter 2-AOP-ROD-1, Rod Control and Indication System Failure
- Loss of normal feedwater and enter 2-AOP-FW-1, Loss of Main Feedwater
- Excessive load rise and enter 2-AOP-LOAD-1, Excessive Load Increase or Decrease
- Loss of external electrical load and enter 2-AOP-138KV, Loss of Power to 6.9KV Bus5 and/or Bus6

Proposed Answer: C

Explanation (Optional):

- A. Is incorrect. Dropped rod would cause the cooldown but not the overpower condition.
- B. Is incorrect. Loss of feedwater would cause the plant to heat up Load would change as steam pressure increased.
- C. Is correct
- D. Is incorrect. Loss of load would cause a heatup..

Technical Reference(s): FSAR Chapter 14-Excessive load increase (Attach if not previously provided)

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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

Question Source: Bank # X INPO-20651  
 Modified Bank # \_\_\_\_\_ (Note changes or attach parent)  
 New \_\_\_\_\_

Question History: Point Beach NRC Exam May 2002

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

10 CFR Part 55 Content: 55.41 \_\_\_\_\_  
 55.43 5

Comments:

Examination Outline Cross-reference:	Level	RO	SRO X
	Tier #	_____	3
	Group #	_____	_____
	K/A G 2.2.17	Knowledge of the process for managing maintenance activities during power operations.	
	Importance Rating	_____	3.5

Proposed Question: 96

The 22 steam jet air ejector (SJAE) is experiencing backfiring, and must be swapped for troubleshooting and possible repair during plant operations. How is appropriate plant configuration control maintained?

- A. The Maintenance Work Package must include steps to realign valves to place 22 SJAE back into service after maintenance since there is no other means to control system status.
- B. The 22 SJAE is swapped to a standby SJAE utilizing a System Operating Procedure, and as such is controlled such that configuration control is maintained.
- C. The 22 SJAE must be swapped to the standby SJAE and the 22 SJAE must be tagged out for the purpose of configuration control.
- D. The 22 SJAE is swapped to a standby SJAE and configuration control is maintained with a “check off list” in accordance with OAP-19, “Component Verification and System Status Control”.

Proposed Answer: B

Explanation (Optional):

- A. Is incorrect. Not required if removed from service with an approved procedure.
- B. Is correct.
- C. Is incorrect. Controlled by use of approved procedure unless tags are needed for

personnel or safety issues.

D. Is incorrect. COLs are not used to track configuration control.

Technical Reference(s): OAP-19, Component Verification and System Status Control (Attach if not previously provided)

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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

Question Source: Bank # X Nov 2003 NRC Exam at IP3

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

New \_\_\_\_\_

Question History:

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

Comprehension or Analysis X

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

55.43 3

Comments:

Examination Outline Cross-reference:	Level	RO	SRO X
	Tier #	_____	3
	Group #	_____	_____
	K/A G 2.2.29	Knowledge of SRO fuel handling responsibilities.	
	Importance Rating	_____	3.8

Proposed Question: 97

You are the refueling SRO. Fuel movement is in progress. Approximately one third of the core has been off-loaded.

Which of the situations below is **NOT** within your roles and responsibilities in accordance with OAP-1, Conduct of Operations.

- A. Authority to bypass interlocks on the manipulator crane.
- B. Remaining cognizant of any procedure changes made by TPCs that affect ongoing refueling activities
- C. Perform 1/M Plots during fuel movements
- D. Ensuring applicable Refueling Operations Surveillance is satisfactorily completed prior to initiation of refueling activities

Proposed Answer: C

Explanation (Optional):

- A. Is incorrect. Refueling SRO has authority.
- B. Is incorrect. Refueling SRO has authority
- C. Is correct. Performed by Nuclear Engineer.
- D. Is incorrect. Refueling SRO has authority.

Technical Reference(s):

(Attach if not previously  
provided)

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Proposed References to be provided to applicants during examination: NONE

Learning Objective:

(As available)

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Question Source:

Bank #

IP2 Bank

Modified Bank #

X

(Note changes or attach parent)

New

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Question History:

Question Cognitive Level:

Memory or Fundamental  
Knowledge

X

Comprehension or Analysis

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10 CFR Part 55 Content:

55.41

55.43

13

Comments:

Examination Outline Cross-reference:	Level	RO	SRO
	Tier #	_____	3
	Group #	_____	_____
	K/A G2.3.6	Knowledge of the requirements for reviewing and approving release permits	
	Importance Rating	_____	3.1

Proposed Question: 98

Select the individual, which is the LOWEST level of authority, who may authorize an AIRBORNE RADIOACTIVE RELEASE PERMIT in excess of the Instantaneous Release Limit?

- A. Shift Manager
- B. Chemistry Supervisor
- C. Operations Manager
- D. General Manager Plant Operations

Proposed Answer: D

Explanation (Optional):

See SOP-5.2.4

Technical Reference(s): SOP-5.2.4 Section 2.4 (Attach if not previously provided)

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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

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

Question History:

Question Cognitive Level: Memory or Fundamental Knowledge X  
Comprehension or Analysis \_\_\_\_\_10 CFR Part 55 Content: 55.41 \_\_\_\_\_  
55.43 4

Comments:

Examination Outline Cross-reference:	Level	RO	SRO X
	Tier #	_____	3
	Group #	_____	_____
	K/A G 2.4.41	Knowledge of the emergency action level thresholds and classifications.	
	Importance Rating	_____	4.1

Proposed Question: 99

The following plant conditions exist:

- A reactor trip and safety injection occurred
- All ESF equipment operated properly
- RCS pressure is 1200 psig and stable
- All SG pressures are 1000 psig and stable
- Main Steam Line Rad Monitors are normal
- Blowdown and Air Ejector Exhaust are normal
- RCS subcooling is zero
- RCPs have been tripped
- Containment Pressure is 0.2 psig
- Containment temperature is 100F.
- Pressurizer Level is 0%
- Charging Pump Rad Monitor and Plant Vent monitors are increasing

Using the supplied EAL Table , you should classify this event as a(n):

- A. Unusual Event
- B. Alert
- C. Site Area Emergency
- D. General Emergency

Proposed Answer: C

Explanation (Optional):

The event is a SAE because symptoms exists for a LOCA Outside Containment .

Technical Reference(s): EAL Table (Attach if not previously provided)  
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\_\_\_\_\_  
\_\_\_\_\_

Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

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

Question History:

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

10 CFR Part 55 Content: 55.41 \_\_\_\_\_  
55.43 1,5

Comments:

Examination Outline Cross-reference:	Level	RO	SRO X
	Tier #	_____	3
	Group #	_____	_____
	K/A G 2.4.28	Knowledge of procedures relating to the emergency response to sabotage	
	Importance Rating	_____	3.3

Proposed Question: 100

Unit 2 is operating at 100% power. Security has just notified the Unit 2 control room that terrorists have just entered the protected area. In accordance with 0-AOP-SEC-1, Response to Security Compromise, you should:

- A. Start 22 ABFP  
Commence a Shutdown at 200Mwe/min  
Declare Code Orange  
Evacuate the Site
- B. Start all ABFPs  
Manually trip the reactor  
Declare Code Red  
Evacuate the Site
- C. Start all ABFPs  
Manually trip the reactor  
Declare Code Red  
Have all personnel conceal themselves
- D. Start 22 ABFP  
Commence a shutdown at 200Mwe/min  
Declare Code Orange  
Have all personnel conceal themselves.

Proposed Answer: C

Explanation (Optional):

Procedure requires you trip the reactor after starting the ABFPs. You must declare CODE Red, and direct personnel to conceal themselves if intruders are inside the protected area.

Technical Reference(s): 2-AOP-SEC-1, Response to Security Compromise (Attach if not previously provided)

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Proposed References to be provided to applicants during examination: NONE

Learning Objective: \_\_\_\_\_ (As available)

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

Question History:

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

10 CFR Part 55 Content: 55.41 \_\_\_\_\_  
55.43 1,5

Comments:

