Facility: Cooper Nuclear Station		Date of Exam: 12/15/00									Exam Level: RO		
Tier	Group	K/A Category Points											Point Total
		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G*	
1. Emergency & Abnormal Plant Evolutions	1	2	3	1				4	2			1	13
	2	2	7	2				5	2			1	19
	3	0	0	2				1	0			1	4
	Tier Totals	4	10	5				10	4			3	36
2. Plant Systems	1	4	3	2	4	1	1	4	2	3	3	1	28
	2	3	3	0	1	2	2	1	2	1	3	1	19
	3	0	1	0	1	0	1	0	1	0	0	0	4
	Tier Totals	7	7	2	6	3	4	5	5	4	6	2	51
3. Generic Knowledge and Abilities				Cat 1		Cat 2		Cat 3		Cat 4			13
				4		4		3		2			

Note:
1. Ensure that at least two topics from every K/A category are sampled within each tier (i.e., the "Tier Totals" in each K/A category shall not be less than two).
2. Actual point totals must match those specified in the table.
3. Select topics from many systems; avoid selecting more than two or three K/A topics from a given system unless they relate to plant-specific priorities.
4. Systems/evolutions within each group are identified on the associated outline.
5. The shaded areas are not applicable to the category/tier.

6.* The generic K/As in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system.

7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings for the RO license level, and the point totals for each system and category. K/As below 2.5 should be justified on the basis of plant-specific priorities. Enter the tier totals for each category in the table above.

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
295005 Main Turbine Generator Trip / 3	02						Core Limit Considerations	3.2	1
295005 Main Turbine Generator Trip / 3				04			Rx Manual Control/ Rod Control and Information System	2.7	1
295006 SCRAM / 1						2.1.2	Operator's Responsibilities During All Modes Of Plant Operations	3.0	1
295007 High Reactor Pressure / 3					02		Reactor Power	4.2	1
295009 Low Reactor Water Level / 2			01				Recirc Runback	3.2	1
295010 High Drywell Pressure / 5					04		Drywell Humidity	2.8	1
295014 Inadvertent Reactivity Addition / 1		05					Neutron monitoring System	4.0	1
295015 Incomplete SCRAM / 1		07					CRD Mechanism	3.3	1
295024 High Drywell Pressure / 5				21			Recirc System (LPCI Loop Select Logic)	3.4	1
295025 High Reactor Pressure / 3				03			Safety Relief Valves	4.4	1
295031 Reactor Low Water Level / 2	03						Water level Effects On Reactor Power	3.7	1
295037 SCRAM Condition Present and Power Above APRM Downscale or Unknown / 1				10			Alternate Boron Injection Methods	3.7	1
500000 High Containment Hydrogen Conc. / 5		06					Wetwell Spray System	3.0	1
K/A Category Totals:	2	3	1	4	2	1	Group Point Total:		13

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4		06					Reactor Power	3.8	1
295002 Loss of Main Condenser Vacuum / 3				01			Condensate System	2.6	1
295003 Partial or Complete Loss of AC Pwr / 6			05				Reactor Scram	3.7	1
295004 Partial or Complete Loss of DC Pwr / 6					03		Battery Voltage	2.8	1
295008 High Reactor Water Level / 2	02						Component Erosion/ Damage	2.8	1
295012 High Drywell Temperature / 5		01					Drywell Ventilation	3.4	1
295013 High Suppression Pool Temp. / 5		01					Suppression Pool Cooling	3.6	1
295016 Control Room Abandonment / 7				09			Isolation/ Emergency Condenser	4.0	1
295018 Partial or Complete Loss of CCW / 8		01					System Loads	3.3	1
295019 Part. or Comp. Loss of Inst. Air / 8						2.1.12	Apply T.S. For A System	2.9	1
295020 Inadvertent Cont. Isolation / 5 & 7				02			Drywell Ventilation/ Cooling System	3.2	1
295022 Loss of CRD Pumps / 1		04					Reactor Water Level	2.5	1
295026 High Suppression Pool Water Temp. / 5				02			Suppression Pool Spray	3.6	1
295028 High Drywell Temperature / 5					03		Torus/ Suppression Chamber Pressure	3.6	1
295029 High Suppression Pool Water Level / 5			03				Lowering Suppression Pool Level	3.6	1
295030 Low Suppression Pool Water Level / 5	01						Steam Condensation	3.8	1
295034 Sec. Cont. Ventilation High Rad. / 9		03					SBGT	4.3	1
295038 High Off-site Release Rate / 9				04			SPDS/ ERIS/ CRIDS/GDS	2.8	1
600000 Plant Fire On Site / 8		04					Breakers/ Relays/ And Disconnects	2.5	1
K/A Category Point Totals:	2	7	2	5	2	1	Group Point Total:		19

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
295021 Loss of Shutdown Cooling / 4									
295023 Refueling Accidents / 8			02				Interlocks Associated With Fuel Handling Equipment	3.4	1
295032 High Secondary Containment Area Temperature / 5			02				Reactor Scram	3.6	1
295035 Secondary Containment High Differential Pressure / 5						2.4.21	Knowledge of Parameters And Logic To Assess	3.7	1
295036 Secondary Containment High Sump/Area Water Level / 5				03			Radwaste	2.8	1
K/A Category Point Totals:	0	0	2	1	0	1	Group Point Total:		4

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
201001 CRD Hydraulic									05			Reactor Water Level	2.8	1
201002 RMCS							01					CRD Drive Water Flow	2.8	1
202002 Recirculation Flow Control				01								Scoop Tube Break	3.1	1
203000 RHR/LPCI: Injection Mode			01									Reactor Water Level	4.3	1
206000 HPCI								06				Inadequate System Flow	3.3	1
209001 LPCS											2.1.28	Purpose/ Function of Major Systems	3.2	1
211000 SLC	05											RWCU	3.7	1
211000 SLC							10					Lights And Alarms	3.7	1
212000 RPS	12											Reactor/ Turbine Pressure Containment Systems	3.4	1
215003 IRM		01										IRM Channels/Detectors	2.5	1
215003 IRM				01								Rod Withdrawal Blocks	3.7	1
215004 SRM					01							Detector Operation	2.6	1
215005 APRM / LPRM			04									Rod Control And Information	3.4	1
216000 Nuclear Boiler Instrumentation		01										Analog Trip System	2.8	1
217000 RCIC	07											Leak Detection	3.1	1
218000 ADS								03				Loss Of Air Supply To Valves	3.4	1
223001 Primary CTMT and Auxiliaries	04											Drywell Floor and Equipment Floor Drain	3.1	1
223001 Primary CTMT and Auxiliaries				03								Containment/Drywell Operation	3.7	1
223002 PCIS/Nuclear Steam Supply Shutoff							02					Valve Closures	3.7	1
239002 SRVs							06					Reactor Power	3.7	1
241000 Reactor/Turbine Pressure Regulator										08		Reactor Steam Flow	3.6	1
259001 Reactor Feedwater						03						AC Electrical Power	2.9	1
259001 Reactor Feedwater									10			Pump Trips	3.4	1
259002 Reactor Water Level Control					02							Electro/ Pneumatic Converter Operation	2.2*	1
259002 Reactor Water Level Control										01		All Individual Component Controllers in Auto Mode	3.8	1
261000 SGTS			05									Secondary Containment Radiation/ Contamination Levels	3.2	1

264000 EDGs									02			Minimum Time for Load P/U	3.1	1
264000 EDGs										01		Adjustment of Exciter Voltage	3.3	1
K/A Category Point Totals:												Group Point Total:		28

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Plant Systems - Tier 2/Group 2 | Form ES-401-2

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
201003 Control Rod and Drive Mechanism									01			Control Rod Position	3.7	1
201004 RSCS										01		System Bypass Switch	3.4	1
201006 RWM					05							Hi Power Setpoint	2.9	1
202001 Recirculation								24				Valve Operning	3.1	1
205000 Shutdown Cooling								09				Reactor Low Water Level	3.6	1
215002 RBM											2.1.27	Knowledge Of System Purpose/ Function	2.8	1
226001 RHR/LPCI: CTMT Spray Mode					02							Water Hammer	2.6	1
230000 RHR/LPCI: Torus/Pool Spray Mode						08						Nuclear Boiler Instrumentation	2.9	1
245000 Main Turbine Gen. and Auxiliaries	05											Extraction Steam System	2.7	1
256000 Reactor Condensate		01										System Pumps	2.7	1
262001 AC Electrical Distribution				03								Interlocks Between Auto Bus Trans. And Breakers	3.1	1
262002 UPS (AC/DC)						03						Static Inverter	2.7	1
263000 DC Electrical Distribution		01										Major DC Loads	3.1	1
271000 Offgas										01		Reset System Isolations	2.8	1
272000 Radiation Monitoring	19											Drywell	3.1	1
286000 Fire Protection	02											Isolation Condenser	3.8	1
290001 Secondary CTMT								05				High Area Temperature	3.1	1
300000 Instrument Air		02										Emergency Air Compressor	3.0	1
400000 Component Cooling Water				01								Auto Start Of The Standby Pump	3.4	1
K/A Category Point Totals:												Group Point Total:		19

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Plant Systems - Tier 2/Group 3

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
215001 Traversing In-core Probe														
233000 Fuel Pool Cooling and Cleanup		02										RHR Pumps	2.8	1
234000 Fuel Handling Equipment														
239003 MSIV Leakage Control								01				Inboard MSIV Valve Leakage	2.8	1
268000 Radwaste														
288000 Plant Ventilation				03								Auto Start/Stop Of Fans	2.8	1
290002 Reactor Vessel Internals						08						Nuclear Boiler Instrumentation	2.9	1
K/A Category Point Totals:												Group Point Total:		4

Plant-Specific Priorities

System / Topic	Recommended Replacement for...	Reason	Points
Plant-Specific Priority Total: (limit 10)			

Facility: Cooper Nuclear Station	Date of Exam: 12/15/00		Exam Level: RO	
Category	K/A #	Topic	Imp.	Points
Conduct of Operations	2.1.33	Recognize Entry Level Conditions for T.S.	3.4	1
	2.1.18	Make Accurate/ Clear Concise Logs, Records, and Reports	2.9	1
	2.1.23	Perform Specific System And Integrated Plant Procedures During Different Modes	3.9	1
	2.1.25	Ability To Interpret Station Reference Material	2.8	1
	2.1.			
	2.1.			
	Total			4
Equipment Control	2.2.13	Knowledge of Tagging and Clearance Procedures	2.6	1
	2.2.22	Knowledge of Limiting Conditions for Operation and Safety Limits	3.0	1
	2.2.26	Knowledge of Refueling Administrative Requirements	3.4	1
	2.2.27	Knowledge of Refueling Process	2.5	1
	2.2.			
	2.2.			
	Total			4
Radiation Control	2.3.1	Knowledge of 10CFR20 and Related Facility Radiation Controls	2.7	1
	2.3.4	Knowledge of Radiation Exposure Limits and Contamination Control	2.6	1
	2.3.11	Control Of Radiation Releases	2.5	1
	2.3.			
	2.3.			
	2.3.			
	Total			3
Emergency Procedures/ Plan	2.4.11	Knowledge of Abnormal Condition Procedures	3.4	1
	2.4.49	Ability to Perform w/o Reference to Procedures for Immediate Actions	4.0	1
	2.4.			
	2.4.			
	2.4.			
	2.4.			
	Total			2
Tier 3 Point Total RO				13

Facility:	Date of Exam:	Exam Level:											
Tier	Group	K/A Category Points											Point Total
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	
1. Emergency & Abnormal Plant Evolutions	1												26
	2												17
	Tier Totals												43
2. Plant Systems	1												23
	2												13
	3												4
	Tier Totals												40
3. Generic Knowledge and Abilities					Cat 1		Cat 2		Cat 3		Cat 4		17

Note:
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2. Actual point totals must match those specified in the table.
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4. Systems/evolutions within each group are identified on the associated outline.
5. The shaded areas are not applicable to the category/tier.

6.* The generic K/As in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system.

7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings for the SRO license level, and the point totals for each system and category. K/As below 2.5 should be justified on the basis of plant-specific priorities. Enter the tier totals for each category in the table above.

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
295003 Partial or Complete Loss of AC Pwr / 6 **#35**			05						1
295006 SCRAM / 1 **#76** **#1**		01				x	G2.1.2		2
295007 High Reactor Pressure / 3 **#27/#92**					02	x	G2.4.30		2
295009 Low Reactor Water Level / 2 **#2**			01						1
295010 High Drywell Pressure / 5									-
295013 High Suppression Pool Temp. / 5									-
295014 Inadvertent Reactivity Addition / 1 **#28**/**#81**		07			03				2
295015 Incomplete SCRAM / 1 **#29**		07							1
295016 Control Room Abandonment / 7 #38/ **#39**			02	01					2
295017 High Off-site Release Rate / 9									-
295023 Refueling Accidents Cooling Mode / 8 **#51**/**#78**			01	04					2
295024 High Drywell Pressure / 5 **#30**			01						1
295025 High Reactor Pressure / 3 **#83** **#79** **#3**	05/07			03					3
295026 Suppression Pool High Water Temp. / 5 **#45**				01					1
295027 High Containment Temperature / 5									-
295030 Low Suppression Pool Water Level / 5 **#48**/#77	03				01				2
295031 Reactor Low Water Level / 2 **#31**	01								1
295037 SCRAM Condition Present and Power Above APRM Downscale or Unknown / 1									-
295038 High Off-site Release Rate / 9 **#50**				06					1
500000 High Containment Hydrogen Conc. / 5 **#86**						x	G2.2.22		1
K/A Category Totals:							Group Point Total:		23

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4 **#33**/#80	05	01							2
295002 Loss of Main Condenser Vacuum / 3 **#34**				04					1
295004 Partial or Total Loss of DC Pwr / 6 **#36**					04				1
295005 Main Turbine Generator Trip / 3 **#32**				04					1
295008 High Reactor Water Level / 2 **#66**	02								1
295011 High Containment Temperature / 5									-
295012 High Drywell Temperature / 5 **#37**		02							1
295018 Partial or Total Loss of CCW / 8 **#41**/ **#43**		01/01							2
295019 Partial or Total Loss of Inst. Air / 8 **#40**						x	G2.1.12		1
295020 Inadvertent Cont. Isolation / 5 & 7									-
295021 Loss of Shutdown Cooling / 4									-
295022 Loss of CRD Pumps / 1 **#42**		07							1
295028 High Drywell Temperature / 5 **#44** / **#46**					03	x	G2.4.40		2
295029 High Suppression Pool Water Level / 5 **#47**			01						1
295032 High Secondary Containment Area **#52** Temperature / 5			02						1
295033 High Secondary Containment Area Radiation Levels / 9									-
295034 Secondary Containment Ventilation High Radiation / 9 #49				06					1
295035 Secondary Containment High Differential Pressure / 5									-
295036 Secondary Containment High Sump/Area Water Level / 5 **#54**				02					1
600000 Plant Fire On Site / 8									-
K/A Category Point Totals:	2	5	2	4	2	2	Group Point Total:		17

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System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
201005 RCIS														
202002 Recirculation Flow Control														
203000 RHR/LPCI: Injection Mode **#53**			01											1
206000 HPCI **#22**								06						1
207000 Isolation (Emergency) Condenser														-
209001 LPCS														-
209002 HPCI **#93**			04											1
211000 SLC														-
212000 RPS **#4**/**#68**	12		04											2
215004 Source Range Monitor **#5**					01									1
215005 APRM / LPRM														-
216000 Nuclear Boiler Instrumentation														-
217000 RCIC **#6**	07													1
218000 ADS **#7**								03						1
223001 Primary CTMT and Auxiliaries **#8**/ **#9**	04			03										2
223002 PCIS/Nuclear SteamSupplyShutoff#10							02							1
226001 RHR/LPCI: CTMT Spray Mode **#12**					02									1
239002 SRVs **#11**							06							1
241000 Reactor/Turbine Pressure Regulator**#95 #69**							14			08				2
259002 Reactor Water Level Control **#75/ #23**/#24					02					01/01				3
261000 SGTS #45 /**#25**/#88			01/01	01										3
262001 AC Electrical Distribution #13				03										1
264000 EDGs **#26**									05					1
290001 Secondary CTMT **#16**								05						1
K/A Category Point Totals:	3	-	5	3	3	-	3	3	1	3	-	Group Point Total:		24

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Plant Systems - Tier 2/Group 2

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
201001 CRD Hydraulic														
201002 RMCS **#21**							01							1
201004 RSCS **#55**									05					1
201006 RWM **#57**					01									1
202001 Recirculation **#58**								08						1
204000 RWCU														-
205000 Shutdown Cooling **#59**								09						1
214000 RPIS														-
215002 RBM														-
215003 IRM														-
219000 RHR/LPCI: Torus/Pool Cooling Mode**#82**				07										1
230000 RHR/LPCI: Torus/Pool Spray Mode**#85**								15						1
234000 Fuel Handling Equipment														-
239003 MSIV Leakage Control **#64**							01							1
245000 Main Turbine Gen. and Auxiliaries**#99**											x	G		1
259001 Reactor Feedwater **#24**/**#70**									04/10					2
262002 UPS (AC/DC) **#14**						03								1
263000 DC Electrical Distribution **#15**		01												1
271000 Offgas **#61**										08				1
12172000 Radiation Monitoring **#62**	03													1
286000 Fire Protection #63									01					1
290003 Control Room HVAC **#64**							01							1
300000 Instrument Air														
400000 Component Cooling Water **#17**				01										1
K/A Category Point Totals:	1	1	-	2	1	1	3	3	4	1	1	Group Point Total:		18

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
201003 Control Rod and Drive Mechanism **#56**									01					
215001 Traversing In-core Probe														
233000 Fuel Pool Cooling and Cleanup														
239001 Main and Reheat Steam														
256000 Reactor Condensate **#60**/**#67**/**#96**		01/01		03										
268000 Radwaste														
288000 Plant Ventilation **#18**				03										
290002 Reactor Vessel Internals **#65**			03											
K/A Category Point Totals:		2	1	2					1			Group Point Total:		6

Plant-Specific Priorities

System / Topic	Recommended Replacement for...	Reason	Points
Plant-Specific Priority Total (limit 10):			

Facility:	Date of Exam:		Exam Level:	
Category	K/A #	Topic	Imp.	Points
Conduct of Operations	2.1.12	#87		
	2.1.10	#94		
	2.1.33	#19		
	2.1.25	#73		
	2.1.27	#74		
	Total			5
Equipment Control	2.2.26	#20		
	2.2.22	#71		
	2.2.13	#72		
	Total			3
Radiation Control	2.3.10	#97		
	2.3.11	#84		
	2.3.11	#89		
	Total			3
Emergency Procedures/ Plan	2.4.11	#90		
	2.4.29	#100		
	2.4.40	#91		
	2.4.22	#98		
	Total			4
Tier 3 Point Total (RO/SRO)				15

Question 1

Given the following conditions:

Reactor has scrammed following a complete loss of circulating water
RCIC injecting at 400 gpm
HPCI and CRD are available
Reactor water level dropped to -150 inches but is currently +40 inches and rising
No indications of fuel failure
Torus water level +6 inches
Torus water temperature 112 degrees F and steady
Reactor pressure 990 psig and slowly rising

Which one of the following describes how reactor pressure should be stabilized below 1025 psig with these conditions?

A. Establish HPCI in the pressure control mode.

B. Re-open the MSIVs and use Bypass Valves to control pressure.

C. Emergency depressurize the RPV using SRVs.

D. Depressurize the RPV using EOP 3A.

*ANSWER D

Question Type: RO/SRO

KA # and KA Value: 295006G2.1.2 (3.0/4.0)

Reference: EOP 3A

Source: NRC Bank

Question 2

The reactor is operating at 70 percent power during a power ascension when one Feedwater pump trips. Prior to the pump trip:

The reactor was operating at the 100% load line.
Two Feedwater pumps were operating.

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

A. The Recirc pumps immediately runback to minimum speed to avoid power oscillations.

B. If RPV level lowers to 27.5 inches the Recirc pumps will runback to minimum speed to avoid power oscillations.

C. The Recirc pumps immediately runback to 45% to minimize the rate of level loss.

D. If RPV level lowers to 27.5 inches, the Recirc pumps will runback to 45% to minimize the rate of level loss.

Answer : D

Question Type:	RO/SRO	
KA # and KA Value:	295009.AK3.01;	3.2/3.3
Reference:	COR0022202001070E:	Predict the consequences a malfunction of the following would have on the Reactor Recirculation system or the Recirculation Flow Control system: Feedwater Flow/Feedwater Flow Inputs (including core inlet subcooling and recirc pump NPSH)
Source:	BANK	

Question 3

Which SRVs can be operated from outside the control room and from what location?

A. RV-71D and RV-71F; Auxilary Relay Room

B. RV-71D and RV-71F; Alternate Shutdown Room

C. RV-71E, RV-71F and RV-71G; Auxilary Relay Room

D. RV-71E, RV-71F and RV-71G; Alternate Shutdown Room

Answer : D.

Question Type: RO/SRO

KA # and KA Value: 295025.EA1.03

Reference:	COR0021602001030I	Describe the interrelationships between the Nuclear Pressure Relief system and the following: Remote shutdown system
	COR0021602001050G	Describe the Nuclear Pressure Relief system design features and/or interlocks that provide for the following: Allows SRV operation with the control room inaccessible

Source: BANK

Question 4

In regards to the Core Spray System, which of the following best describes the function or purpose of the minimum flow valve?

A. The valve is air operated, normally open and allows flow to the condensate storage tanks until it closes.

B. The valve is air operated, normally closed and allows flow to the torus when it opens.

C. The valve is motor operated, normally open and allows flow to the torus until it closes.

D. The valve is motor operated, normally closed and allows flow to the condensate storage tanks when it opens.

Answer : C

Question Type: RO

KA # and KA Value: 209001.G2.1.28; 3.2/3.3

Reference: COR0020602001010E: State the purpose of the following items related to the Core Spray system: Minimum Flow Bypass valve (MO-5A/B)

Source: BANK

Question 5

If operations performs the following actions, which one would result in an isolation of the RWCU system due to closure of a single isolation valve. Treat each action individually and assume all automatic actions occur at the Tech Spec setpoint.

A. Reactor level is dropped to +20 inches with a reactor water cleanup flow of 100% to radwaste.

B. Start of second RWCU pump with a momentary increase in RWCU flow to 150%.

C. Emergency shutdown from power due to ATWS conditions in which the operator initiates Division I SLC.

D. Isolation of the cooling water line to the inservice RWCU pump.

Answer : **C**

Question Type: RO

KA # and KA Value: 211000.K1.05; 3.4/3.6

Reference: COR0012002001040P Describe the interrelationship between the RWCU system and the following: SLC system

Source: BANK

Question 6

During an ATWS, you are given the order to inject SLC. What indication that the Squib Valves operated correctly do you have on Panel 9-5?

A. Photohelic milliamp meters read zero.

B. White indicating lights are off.

C. Valve indicating lights are red.

D. SQUIB VALVE OPEN annunciator alarms.

Answer : **B**

Question Type: RO

KA # and KA Value: 211000.A1.10; 3.7/3.7

Reference: COR0022902001080H: Given a SLC component manipulation, predict and explain the changes in the following: Lights and alarms

Source: BANK

Question 7

As a reactor operator you are inserting rods and lowering reactor recirculation flow in preparation for a shutdown. You are at 33% power when DEH TANK LOW LOW LEVEL annunciates. Which RPS signals would you expect to receive if DEH tank level continues to lower?

A. Reactor vessel low level and MSIV closure.

B. Rx high pressure and APRM high flux.

C. Reactor Vessel High Level and SDIV low level.

D. Turbine Control Valve fast closure and Turbine Stop Valve closure trip.

Answer : **D**

Question Type: RO/SRO

KA # and KA Value: 212000.K1.12; 3.4/3.6

Reference: COR0022102001080B: Given a specific RPS malfunction, determine the effect on any of the following: Reactor shutdown
COR0022102001100C: Describe the interrelationship between the RPS and the following: Main Steam

Source: Modified Bank

Question 8

A Reactor Startup is in progress with IRMs indicating 13 on Range 1 (Red Scale). When selecting the SRM detectors for withdrawal, the pushbuttons for **SRM** detector C and **IRM** detector A were depressed simultaneously causing both drives to be selected. The DRIVE OUT pushbutton is then depressed. What effect (if any) will this have on the IRMs?

IRM detector "A" will withdraw:

A. until IRM "A" is selected to Range 2.

B. and IRM "A" will generate an INOP scram signal.

C. and IRM "A" will generate a rod block immediately.

D. and IRM "A" will generate a rod block when indication lowers to "2".

Answer : C

Question Type: RO

KA # and KA Value: 215003.K2.01; 2.5

Reference: Procedure 2.3.2.27, Panel 9-5 - Annunciator 9-5-1
COR0021202001050A: Describe the IRM system design features and/or interlocks that provide the following: Rod withdrawal blocks

Source: Bank

Question 9

From the statements below, select the one that correctly describes how the source range monitor detects neutrons.

A. A neutron enters the detector and causes a fission in the U235 enriched coating and the fission fragments ionize the argon fill gas which results in the output current pulse.

B. A neutron enters the detector and interacts with the Boron 10 and produces an alpha particle and a lithium ion which ionizes the argon fill gas which results in the output current pulse.

C. A neutron enters the detector and directly ionizes the argon fill gas which results in the output current pulse.

D. A neutron enters the detector and fissions the Thorium coating and the fission fragments ionize the Xenon fill gas to produce the output current pulse.

Answer : **A**

Question Type: RO/SRO

KA # and KA Value: 215004.K5.01; 2.6/2.6

Reference: COR0011002001040A Contrast detector response to interactions with neutrons and gammas for: Ion chamber

Source: BANK

Question 10

RCIC area temperatures just actuated the high area temperature alarm on panel 9-3. Which of the following correctly described the system response regarding the number of divisions required to actuate and the action beyond the area temperature light on the Rochester Panel?

	# DIV required to actuate	Actions beyond area temperature light on Rochester Panel
A.	Division I	Closes the inboard steam isolation valve (MO-15)
B.	Division I	Closes the outboard steam isolation valve (MO-16)
C.	Division I & II	Full group isolation signal
D.	Division I & II	No group isolation signal

Answer : **D**

Question Type: RO/SRO

KA # and KA Value: 217000.K1.07; 3.1/3.2

Reference: COR0021802001050G: Describe the interrelationship between RCIC system and the following: Leak Detection

Source: Bank

Question 11

Given the following conditions:

The reactor scrammed due to low RPV water level.
Conditions continued to deteriorate.
ADS has actuated.
The amber BLOWDOWN VALVE AIR ACCUMULATOR PRESS light illuminates for Relief Valves MS-RV-71A **AND** MS-RV-71B

Which of the below is the required subsequent operator action for these conditions per procedure 2.4.2.3.2, Relief Valve Inoperable?

A. Check the nitrogen pressure to valve accumulators.

B. Open valve IA-SOV-SPV21, Drywell IA Supply Vlv.

C. Place the control switches for the affected valves to OPEN.

D. Place the control switches for the un-affected valves to OPEN.

Answer : A

MATERIAL REQUIRED FOR EXAMINATION: AP 2.4.2.3.2
REFERENCES: PR 2.4.2.3.2, page 1, section 4.4, rev. 14.

Question Type: RO/SRO

KA # and KA Value: 218000A2.03 (3.4/3.6)

Reference: Procedure 2.4.2.3.2, Relief Valve Inoperable
INT0320125B0B0200: Given plant conditions and AP 2.4.2.3.2, "Relief Valve Inoperable," determine required Subsequent Operator Action(s).

Source: Bank

Question 12

What is the safety design bases of the nuclear system leakage rate limits associated with the Leak Detection System?

Leakage rate limits are set so corrective action can be taken before . . .

A. compromising Secondary Containment.

B. the leakage rate exceeds the capacity of Standby Gas Treatment.

C. drywell total leakage rate exceeds the capability for leakage removal from the Drywell.

D. the leakage rate exceeds the coolant makeup capability using condensate and feedwater systems.

Answer : **C**

Question Type: RO/SRO

KA # and KA Value: 223001.K1.04; 3.1/3.2

Reference: COR00111020010400 State the design bases for the Leak Detection System as described in the student text.

Source: Bank

Question 13

Given the following conditions, which of the below actions will occur? Assume that all trips and actuations occur at Tech Spec setpoints.

Reactor Water Level: +15"
RWCU area temperature: 205° F
RWCU System Flow: Normal

A. Group 3 isolation occurs.

B. Group 2 and 6 isolations occur.

C. Group 4 and 6 isolations occur.

D. Group 4 isolation occurs.

Answer : A

Question Type: RO/SRO

KA # and KA Value: 223001.K4.03; 3.7/3.8

Reference: COR0020302001120C Describe the Containment design features and/or interlocks that provide for the following: Containment/drywell isolation

Source: Bank

Question 14

Taking the reactor mode switch to RUN prior to reaching >825 psig during startup will ______ the PCIS logic relays and cause the________ to close.

A. energize, RHR sample valves

B. deenergize, MSIVs

C. energize, MSL drain valves

D. deenergize, RWCU valves

Answer : **B**

Question Type: RO/SRO

KA # and KA Value: 223002.A1.02; 3.7/3.7

Reference: COR0020302001160H Given a Containment/PCIS component manipulation, predict and explain the changes in the following: Valve closures

Source: Bank

Question 15

Which of the following would be correct for an inadvertent sustained opening of an SRV during power operation?

A. Reactor power drop, indicated steam flow drop, generator load rise.

B. Generator load drop, Indicated steam flow drop,, suppression pool water level rise.

C. Reactor power rise, indicated steam flow rise, suppression pool water level rise.

D. Generator load drop, indicated steam flow drop, suppression pool water level drop.

Answer : **B**

Question Type: RO/SRO

KA # and KA Value: 239002.A1.06 (3.7/3.8)

Reference: COR0021602001040G Given a Nuclear Pressure Relief system component manipulation, predict and explain the changes in the following parameters: Turbine load

Source: Bank

Question 16

The RHR system is being placed in the Shutdown Cooling mode. Prior to starting the RHR pump the system is vented. What is the reason for venting?

A. This will prevent air intrusion into the reactor and a subsequent inadvertent criticality.

B. To prevent activation of noncondensibles for ALARA purposes.

C. This will prevent cold water from damaging welds in the piping.

D. To prevent damage to the RHR piping when the pump is started.

Answer : D

REFERENCES: RHR Text

Question Type: RO/SRO

KA # and KA Value: 226001.K5.02; 2.6/2.7

Reference: COR0022302001050C Briefly describe the following concepts as they apply to the RHR system: System venting

Source: Bank

Question 17

Which of the following malfunctions in the Nuclear Boiler Instrumentation System would input a start signal into the RHR initiation logic?

A. A level indicating switch equalizing valve leak.

B. A level indicating switch's reference leg isolation valve packing leak.

C. A pressure indicating switch equalizing valve leak.

D. A level indicating switch's variable leg isolation valve packing failure.

Answer : D

REFERENCES: Residual heat Removal System Text

Question Type: RO

KA # and KA Value: 230000.K6.08; 2.9/3.1

Reference: COR0022302001080H Predict the consequences a malfunction of the following will have on the RHR system: NBI

Source: Bank

Question 18

Select the statement below which best describes the relationship between the main turbine and the Extraction Steam and Heater Drains system.

A. In the event of a turbine trip, the non-return valves and dump valves are actuated on a loss of turbine control oil pressure.

B. The turbine efficiency will decrease with the loss of a heater drain pump, but not with a loss of extraction steam.

C. In the event of a turbine trip, the turbine oil operated pilot valve will reposition to pressurize the NRV supply air header.

D. In the event of a turbine trip, the heater trip solenoid valve will deenergize causing the NRVs to reposition.

Answer : A

REFERENCE: Extraction Steam and heater Drains Text

Question Type:	RO
KA # and KA Value:	245000.K1.05; 2.7/2.7
Reference:	COR0010402001040A Describe the interrelationships between the extraction steam and heater drains system and the following: Main Turbine
Source:	Bank

Question 19

The following conditions exist:

4160V bus 1A is energized from the Startup Station Service Transformer
Normal Station Service and Emergency Station Service Transformers are energized
Appropriate synchroscope switch is in the 1AN position.

What actions would occur when the control switch for breaker 1AN is placed in the CLOSE position?

A. Breaker 1AN will not CLOSE as Bus 1A is already energized.

B. Breaker 1AN will CLOSE and Bus 1A will be energized from both the Normal and Startup Transformers.

C. Breaker 1AN will CLOSE and breaker 1AS will trip OPEN immediately.

D. Breaker 1AN will CLOSE and breaker 1AS will trip OPEN after a 5 second time delay.

Answer : **C**

REFERENCE: AC Dist. Text IV.B.1

Question Type: RO/SRO

KA # and KA Value: 262001.K4.03 3.1/3.4

Reference: COR0010102001090B Describe the AC Electrical Distribution System design feature(s) and/or interlock(s) that provide for the following: Circuit breaker automatic trips
COR0010102001100B Briefly describe the following concepts as they apply to AC Electrical Distribution System: Breaker control

Source: Bank

Question 20

A NO BREAK SYSTEM INVERTER 1A VOLTAGE FAILURE alarm has been received on the No Break Power Panel (NBPP) Inverter.

What is the source of power to the NBPP for these conditions and why?
Power to the No Break Power Panel will come from . . .

A. AC power due to static switch operation.

B. 250 VDC because it is the backup when the static inverter fails.

C. 125 VDC because it is the backup when the static inverter fails.

D. AC power because the static inverter section is **ONLY** a backup to the AC source.

Answer : A

EXPLANATION OF ANSWER: The inverter failure alarm indicates that the power into or out of the inverter is failed causing the NBPP to transfer to MCC-R. b. 250 VDC is the normal power supply to NBPP. c. 125 VDC is not used by the NBPP d. the static inverter is the normal source of power to NBPP

Question Type: RO/SRO

KA # and KA Value: 262002.K6.03; 2.7/2.9

Reference: Procedure 2.2.22, Vital Instrument Power System, Procedure 2.3.2.11, Panel C - Annunciator C-4

Source: Bank

Question 21

Which one of the following responses correctly describes the effect of a loss of 250 VDC Switchgear 1B on the High Pressure Coolant Injection System (HPCI) and why?

A. HPCI will not be affected by the failure because it has no components that are powered from **any** 250 VDC power supply.

B. HPCI will not be affected by the failure because its 250 VDC powered components are all supplied from 250 VDC Switchgear 1A.

C. HPCI's 250 VDC powered components will remain de-energized until power is restored to 250 VDC Switchgear 1B.

D. HPCI's 250 VDC powered components will remain de-energized until power is restored from 250 VDC Switchgear 1A through manual operation of a bus transfer device.

Answer : **C**

Question Type: RO/SRO

KA # and KA Value: 263000.K2.01; 3.1/3.4

Reference: COR0020702001080H Given a specific DC Electrical Distribution system malfunction, determine the effect on any of the following: HPCI

Source: Bank

Question 22

While operating a 100% power, a leak occurs at the inlet to the "A" Reactor Water Cleanup (RWCU) Pump **AND** gets progressively worse.

What will be the expected plant response to this condition?

A. The "A" RWCU Pump will trip on low flow.

B. The RWCU Demins will isolate on high temperature.

C. Annunciator 9-3-1/E-10, AREA HIGH TEMP will alarm.

D. Annunciator 9-4-2/A-5, RWCU HI SPACE TEMP will alarm**.**

Answer : C

REFERENCE: Leak Detection Systems, STCOR001-11-02, Page 7, Section II.C, Rev. 9
Alarm Procedure-Panel 9-3-1, PR 2.3.2.21, Page 61, Section E-10, Rev. 28
Alarm Procedure-Panel 9-4-2, PR 2.3.2.25, Page 6, Section A-5, Rev 34 C2

Question Type: RO/SRO

KA # and KA Value: 290001A2.05 (3.1/3.3)

Reference: Procedure 2.3.2.21, Panel 9-3 - Annunciator 9-3-1
Procedure 2.3.2.25, Panel 9-4 - Annunciator 9-4-2
SKL012411100A030E Given plant conditions, predict changes in the following Leak Detection system components/parameters: Leak Outside Primary Containment -Secondary Containment Area High Temperature
COR0011102001020C Briefly describe Leak Detection System operation under the following conditions: High Energy Line Break inside Secondary Containment

Source: Bank

Question 23

The following conditions exist:

The plant is shutdown because both diesels are inoperable.
REC pumps 'A' and 'D' are running with their Mode Switches in STANDBY.
REC pumps 'B' and 'C' are off with their Mode Switches in NORMAL.
All off-site power is lost.
A few minutes later, the Startup Transformer is restored and the vital busses are re-energized.

What is the expected status of the REC pumps **one (1) minute** after power is restored?

A. None are running.

B. All are running.

C. 'A' and 'D' are running.

D. 'B' and 'C' are running.

Answer :
a. None are running.

REFERENCE: Reactor Equipment Cooling

Question Type: RO/SRO

KA # and KA Value: 40000.K4.01; 3.4/3.9

Reference: COR0021902001070D Predict the consequences a malfunction of the following would have on the REC system: Loss of Normal AC power

Source: Bank

Question 24

With the Drywell Fan Coil Unit control switches on Panel "H" in **RU**N, the **LOWEST** reactor water level that will allow sustained operation of the Drywell Fan Coil Units is . . .

A. 0" (wide range)

B. -40" (wide range)

C. -90" (wide range)

D. TAF

Answer : **C**

REFERENCE: STCOR001-08-01, page 67, section IV.B.2, rev. 08.

Question Type: RO/SRO

KA # and KA Value: 288000.K4.03; 2.8/2.9

Reference: COR0010802001220D Given plant conditions, determine if the following should occur: Drywell Fan Coil Units trip

Source: Bank

Question 25

Technical Specifications allow continued power operation for up to 14 days with one Automatic Depressurization System (ADS) valve inoperable. SELECT the response that explains the basis for this action.

A. Safety analysis takes credit for only four (4) ADS valves.

B. HPCI is available to provide adequate core cooling on a small break LOCA.

C. Safety analysis assumes with HPCI unavailable, operation of only Five ADS valves will provide the required depressurization.

D. Single failure criteria assumes that the safety and relief functions of the valve would still be operable.

Answer : **C**

Question Type: RO/SRO

KA # and KA Value: G2.1.33; 3.4/4.0

Reference: 3.5.1 ECCS Operating
COR00216020011000 State the design bases for the NPR System as described in the associated Student Text

Source: Bank

Question 26

When the reactor is critical, which of the below describes what is required to be recorded in the Control Room Operators Log?
Time, Control rod number and…

A. position, sequence and reactor power level.

B. position, moderator temperature, sequence and period.

C. position, moderator temperature, reactor power level and period.

D. moderator temperature, sequence, reactor power level and period.

Answer : B

REFERENCE: PR 2.1.1 Page 16, Section 8, Rev. 83

Question Type: RO

KA # and KA Value: G2.1.18; 2.9/3.0

Reference: Procedure 2.1.1, Startup Procedure
INT032010400A0800 Describe the required actions to be completed upon achieving criticality as described in Procedure 2.1.1, Startup Procedure

Source: Bank

Question 27

Which **ONE** of the following will **PROHIBIT** calculation of a valid CTP (by heat balance)?

A. Turbine bypass valve(s) open.

B. Active feedwater loop discharge valve closed.

C. Any Main Steam Isolation Valve not full open.

D. Reactor Water Cleanup blowdown flow in progress.

Answer : **B**

REFERENCE: CNS NPP 10.1, page 2, section 2.5, rev. 31 C1.

Question Type:	RO
KA # and KA Value:	G2.1.23; 3.9/4.0
Reference:	Procedure 10.1, APRM Calibration INT0320117A0A0600 Given plant conditions and procedure 10.1, determine if the plant configuration will support an acceptable core thermal heat balance evaluation.
Source:	Bank

Question 28

A Reactor startup and heatup is in progress with the following conditions:

Bypass valves are in AUTO at 18% open.
Reactor pressure is 730 psig.

What is the MINIMUM Reactor Vessel metal temperature as indicted on NBI-TR-89, that must be maintained to be in compliance with Vessel Pressure/Temperature Limits?

A. 245 degrees

B. 250 degrees

C. 255 degrees

D. 260 degrees

Answer : **C**

Question Type: RO/SRO

KA # and KA Value: G2.1.25; 2.8/3.1

Reference: 3.4.9 RCS Pressure and Temperature (P/T) Limits
Procedure 2.1.1, Startup Procedure
COR00115020010800 Given conditions and/or parameters associated with the Nuclear Boiler System, determine if related Technical Specification and Technical Requirements Manual Limiting Conditions for Operation are met.
COR0011502001050A Given plant operating status, predict and explain the changes in the following parameters associated with the following: RPV Metal Temperatures

Following a LOCA, the RHR System is:

A. manually secured once drywell pressure drops below 7 psia.

Question 29

B. manually initiated to reduce hydrogen concentration below 4% in the drywell.

C. manually initiated to reduce primary containment pressure.

D. manually initiated to reduce primary containment water levels.

Answer : C

REFERENCE: RHR Text

Question Type: RO/SRO

KA # and KA Value: G2.1.27; 2.8/2.9

Reference: COR0022302001010D State the purpose of the RHR system modes listed below: Containment Cooling

Source: Bank

Question 30

Normal refuel activities are in progress when a component failure renders Secondary Containment inoperable.

How will this failure affect any activities in progress?

A. No physical limitation is imposed on refuel activities.

B. All refuel platform motion toward the core is inhibited.

C. A rod block is initiated to prevent all control rod withdrawal.

D. The overhead crane is placed in the RESTRICTED mode of operation.

Answer : A

REFERENCE: STCOR001-21-01, page 38, section V.H, rev. 12.

Question Type: RO/SRO

KA # and KA Value: G2.2.26; 2.5/3.7

Reference: COR0012102001060H Predict the consequences a malfunction of the following would have on the Reactor Refueling and Servicing Equipment system: Containment integrity

Source: Bank

Question 31

What is the maximum exposure a tour group member can receive, **WITHOUT** having to contact Radiological Protection **AND** having a CNS-RP-10, Exposure History Worksheet completed, prior to departing?

A. 10 mrem.

B. 20 mrem.

C. 30 mrem.

D. 40 mrem.

Answer : C

REFERENCES: PR 1.15, page 2, section Att.3, rev. 19.

Question Type:	RO
KA # and KA Value:	G2.3.1; 2.6/3.0
Reference:	INT0320102C0C030B Discuss the requirement associated with the following items: Tour Group access and departure
Source:	Bank

Question 32

Who has final approval for a Planned Special Exposure (PSE) in accordance with 0.ALARA.7 (Planned Special Exposure)?

A. ALARA Supervisor.

B. ALARA committee.

C. Radiological Manager.

D. Vice President - Nuclear.

Answer : **D**

REFERENCES: 0.ALARA.7, page 4, section 6, rev. 2.

Question Type: RO

KA # and KA Value: G2.3.4; (2.5/3.1)

Reference: 0.ALARA.7 Planned Special Exposure
INT0320115C0C010C Discuss the following as described in Administrative Procedure 0.ALARA.7, Planned Special Exposure: Post Planned Special Exposure (PSE) Evaluation

Source: Bank

Question 33

Given the following conditions:

The Plant is operating at 100% power.
A Station Operator reports a large leak in the vicinity if the TEC Heat Exchangers.
Annunciator S-1/D-3, TURBINE BLDG M SUMP HI-HI LEVEL.
SW Subsystem 'A' header pressure indicates 31 psig.
SW Subsystem 'B' header pressure indicates 18 psig.

Which statement below describes the expected plant response for the conditions stated above?

A. SW pumps in STBY start on low pressure.

B. SW pumps in AUTO start on low pressure.

C. SW-MO-37, LOOP CROSSTIE VLV, closes.

D. SW-MO-36, LOOP CROSSTIE VLV, opens.

Answer : C

REFERENCE: PR 2.4.8.7

Question Type: RO

KA # and KA Value: G2.4.11; 3.4/3.6

Reference: 2.4.8.7 Turbine Building Basement Flooding
INT0320136F0F0200 Given plant conditions, determine the Automatic Action(s) that should occur per AP 2.4.8.7, "Turbine Building Basement Flooding."

Source: Bank

Question 34

Given the following conditions:

The Plant is operating at 100% power
Two (2) people in the Control Room are overcome by fumes of unknown origin
The Shift Supervisor orders the Control Room abandoned

Which statement below describes the Immediate Operator Actions required for these conditions?

A. Ensure the Reactor Mode switch is in REFUEL.

B. Ensure **BOTH** RFPT Turning Gear Switches are in AUTO.

C. Direct **ALL** personnel to remain clear of the Control Room.

D. Trip **ALL** Condensate, Condensate Booster **AND** Reactor Feed Pumps.

Answer : **B**

REFERENCE: 5.2.1 Shutdown from Outside the Control Room, page 1, section 3, rev. 26.

Question Type: RO

KA # and KA Value: G2.4.49; 4.0/4.0

Reference: Procedure 5.2.1, Shutdown From Outside The Control Room
INT0320136G0G020B Per EP 5.2.1, "Shutdown From Outside the Control Room:" Given plant conditions determine required Immediate Operator Action(s).

Source: Bank

Question 35

A Reactor power change from 25% to 50% was completed 4 hours ago and an analysis of Reactor water chemistry has just been completed.

Which set of chemistry results would satisfy Technical Specifications/Technical Requirements Manual LCOs?

	Conductivity (μ mho/cm)	Chlorides (ppm)	pH	Dose Equivalent I-131 (μ Ci/gm)
A.	0.8	0.22	7.0	2.3
B.	2.5	0.15	5.5	1.5
C.	0.9	0.17	8.4	0.15
D.	1.2	0.12	6.1	0.12

Answer : **C**

Question Type: **RO/SRO**

KA # and KA Value: G2.2.22; 3.4/4.1

Reference: T3.4.1 RCS Chemistry Requirements
COR00202020 page 61, section Table 1, rev. 10.

Source: Bank

Question 36

Given the following condition:

Preparations for a reactor startup are in progress.
A Danger Tag is discovered hanging on a Stator Water Cooling Pump Breaker.
The work package for this job is signed off as completed.
The electrician assigned the Tagging Order is **NOT** on site **AND CAN NOT** be contacted.

Per the Tagging Orders procedure, 0.9, how can this Danger Tag be removed?

A. The tag **CAN NOT** be removed until the electrician returns to the site.

B. The electrcian's supervisor may authorize the tag removed, after ensuring it is safe to lift the tag.

C. The Shift Supervisor may authorize the tag removed, after verifying **ALL** steps have been signed off in the work package.

D. The WCC Supervisor may authorize the tag removed, after verifying **ALL** steps have been signed off in the work package.

Answer : **B**

EXPLANATION OF ANSWER: b. Correct a. Can be removed by the person's supervisor. c. and d. The individuals supervisor is required to ensure conditions are safe to remove the tags.

REFERENCES: PR 0.9, page 10, section 6.5, rev. 22C3. SKL008-03-02, rev. 2.

Question Type: **RO/SRO**

KA # and KA Value: G2.2.13; 3.6/3.8

Reference: 0.9 Procedure 0.9, TAGOUT
SKL00803020010300 Given a Tagging Order situation, identify any precautions and limitations associated with it.

Source: Bank

Question 37

The reactor is operating at 50% power. The CRD flow control station is in automatic. The operator takes the Drive Water Pressure Control Throttle Valve (MO-20) switch to open for two seconds.

WHICH ONE (1) of the following describes how the parameters will react during the transient

A. Drive water pressure will increase.
Cooling water flow will remain the same.

B. Drive water pressure will increase.
Cooling water flow will increase

C. Drive water pressure will decrease.
Cooling water flow will remain the same.

D. Drive water pressure will decrease.
Cooling water flow will increase.

*ANSWER D

Question Type: RO/SRO

KA # and KA Value: 201002A101 [2.8/2.8]

Reference: COR002-04-02

Source: NRC Bank

Question 38

HPCI receives a start signal on a valid initiation signal. One minute after HPCI reaches rated speed and flow, the flow signal input to the controller fails high.

How will the failed flow signal effect the HPCI system? (Assume no operator action)

A. The HPCI turbine will trip on Reactor Vessel High Level.

B. The turbine will go to a maximum speed and trip on overspeed.

C. The controller will shift to the ramp generator and speed will rise slightly.

D. The turbine will go to idle speed and the Minimum Flow Valve (MO-25) will open.

Answer: D

Question Type: RO/SRO

KA # and KA Value: 206000.A2.06 [3.3/3.5]

Reference: Cooper Bank; Objectives: COR0021102001080N, COR0021102001090C, COR0021102001100M

Source: Bank

Question 39

The following Turbine/Generator conditions exist:

Turbine is latched.
One generator output breaker is closed.
Bypass valves are partially closed.

What is the OPERATING MODE of the Digital Electro-Hydraulic (DEH) Control System?

A. Turbine Start.

B. Turbine Load Control.

C. Turbine Follow Reactor Manual.

D. Reactor Start.

*ANSWER B

Question Type: **RO/SRO**

KA # and KA Value: 241000A408 3.5/3.4

Reference: COOPER: COR002-09, Pp. 31, 32

Source: NRC Bank

Question 40

The plant is operating at 100% power. Condensate Pump A has tripped on over-current. The pressure at the suction of the Reactor Feed Pumps has dropped to 200 psig for 18 seconds.

WHICH ONE (1) of the following would be the response of the Reactor Feed Water System?

A. The Feed Reg Valves will throttle back to increase suction pressure resulting in a low Reactor Water Level.

B. The "A" Reactor Feed Pump will trip and cause a rise in Reactor Feed Pump suction pressure.

C. The "A" and "B" Reactor Feed Pumps will trip and cause a Reactor scram on low Reactor Water Level.

D. All three Condensate Booster Pumps will trip causing Reactor Water Level to lower and result in a Reactor scram.

*ANSWER C

Question Type: **RO/SRO**

KA # and KA Value: 259001A3.10 [3.4/3.4]

Reference: River Bend AOP 2.4.9.4.2
COR002-02-02 Obj # 2.b, 2.i, 6.g, 11.a

Source: NRC Bank

SELECT the FINAL plant conditions after the loss of the "A" Reactor Feed Pump from 100% power. Assume no operator action and all systems work as designed.

	Reactor Power	Reactor Water Level	Recirculation Pump Speed	"B" Reactor Feed Pump Speed
A.	60-65%	Normal	45%	higher than before the trip of "A"
B.	60-65%	Normal	22%	same as before the trip of "A"
C.	55-60%	below normal	22%	lower than before the trip of "A"
D.	55-60%	Normal	45%	higher than before the trip of "A"

*ANSWER D

Question Type: RO

KA # and KA Value: 259001A310 [3.4/3.4]

Reference: HATCH

Source: NRC Bank

The plant is operating at approximately 80% power when the 'A' Narrow Range reactor water level instrument (which was selected for control) fails downscale. Other reactor water level instruments indicate as follows:

'B' Narrow Range	+ 22 inches
'C' Narrow Range	+ 24 inches
'A' Wide Range	+ 15 inches
'B' Wide Range	+ 16 inches

WHICH ONE (1) of the following describes how the Feedwater Control System will control reactor water level under these conditions?

The Feedwater Control System will ...

A. use a default value of + 23 inches to control reactor water level.

B. track and hold activates "FW hold" and a lockout of the feed pump turbines occurs.

C. the flow limit LED on the affected RFPT startup station illuminates in a solid state.

D. use the average of the wide range instrument to control reactor water level.

*ANSWER B

Question Type: **RO/SRO**

KA # and KA Value: 259002K502 [3.1/3.1]

Reference: COR002-32-02
AOP 2.4.5.1

Source: Modified (Peach Bottom)

WHICH ONE of the following statements describes the response of the Motor Gear Unit (MGU) to a loss of signal from the flow controller?

A. Will fail high and run the RFPT to about 5500 rpm.

B. Will fail low and run the RFPT to about 2000 rpm.

C. Will fail high and run the RFPT speed to the setting of the Motor Speed Changer (MSC)

D. Will fail "as is" and run the RFPT at its present RPM.

*ANSWER D

Question Type: RO/SRO

KA # and KA Value: 259002A401 [3.8/3.6]

Reference: Browns Ferry

Source: NRC Bank

WHICH ONE (1) of the following statements describes the response of the RFPT to a loss of signal from the flow controller, with the reactor at 100% power?

A. RFPT speed to about 5800 rpm, eventually causing a reactor trip on High Level.

B. RFPT speed to about 3200 rpm, eventually causing a reactor trip on Low Level.

C. RFPT speed to 45%, eventually causing a reactor trip on Low Level.

D. RFPT speed will be locked at its present RPM, with little or no change in RPV water level.

*ANSWER D

Question Type:	RO/SRO
KA # and KA Value:	259002A401 [3.8/3.6]
Reference:	Vessel Level Control, COR002-32-02 Condensate and Feed, COR002-02-02
Source:	NRC Bank

During fuel handling, a spent fuel bundle is dropped in the spent fuel pool. The exhaust plenum radiation levels reaches 49 mrem/hr and a Group 6 isolation occurs. The Air Dampers AD-R-1A and AD-R-1B are aligned to ventilate the primary containment through the reactor building ventilation system.

WHICH ONE (1) of the following describes how SBGT system operation will be affected?

A. AD-R-1A remains closed; AD-R-1B remains open; and, SBGT automatically initiates and filters the reactor building air.

B. AD-R-1A remains open; AD-R-1B remains closed; and, SBGT automatically initiates and filters the reactor building air.

C. AD-R-1A automatically closes; AD-R-1B automatically opens; and, SBGT sutomatically initiates and filters the primary contaiment air.

D. AD-R-1A automatically opens; AD-R-1B automatically closes; and, SBGT automatically initiates and filters the primary containment air.

ANSWER: C

Question Type: RO/SRO

KA # and KA Value: 261000K301 [3.6/3.3]

Reference: COR002-28-02
SOP 2.2.7.3

Source: Modified NRC Bank (Peach Bottom)

WHICH ONE (1) of the following describes the emergency bus load sequence following a low voltage condition concurrent with high drywell pressure?

A. Core spray pump, first RHR pump, second RHR pump and SGT

B. Core spray pump, first RHR pump and SGT, second RHR pump

C. First RHR pump, core spray pump, second RHR pump and SGT

D. First RHR pump and SGT, second RHR pump, core spray pump

*ANSWER D

*REFERENCE
CNS LP COR002-08, TABLE 4

Question Type: RO/SRO

KA # and KA Value: 264000A305

Reference: CNS LP COR002-08, TABLE 4

Source: NRC Bank

Diesel Generator 1 is tied to the 4160 Vac "A" bus for testing and is running in PARALLEL with offsite power. The following parameters are observed by the operator:

D/G Voltage:	4.20 KV
D/G Frequency:	60 Hz
D/G Load:	3800 KW
D/G KVAR:	800 KVAR

WHICH ONE (1) of the following statements describes the proper operator action?

A. Reduce D/G voltage to 4.16 KV

B. Reduce D/G KW using the D/G GOVERNOR control switch to achieve 500 KVAR

C. Reduce D/G KVAR using the D/G AUTO VOLT REG control switch to achieve 500 KVAR.

D. Maintain current stable D/G operation since all parameters are within normal operating bands.

*ANSWER C

Question Type:	RO
KA # and KA Value:	264000A401
Reference:	Cooper COR002-08-02, pg. 43 and Procedure 2.2.20, pg. 16
Source:	NRC Bank

The plant has been operating for several days at high power. A severe storm is causing disturbances on the electrical distribution system and a partial generator load loss has occurred. The following conditions are noted:

Reactor vessel level is +30 inches and decreasing slowly
Reactor vessel pressure 1062 psig and increasing
Drywell pressure 0.3 psig and stable
Suppression pool temp = 80°F

Your immediate actions are to:

A. Commence an orderly shutdown per Procedure 2.1.4 (Shutdown).

B. Manually scram the reactor per Procedure 2.1.5 (Reactor Scram).

C. Open turbine bypass valves to maintain reactor pressure below 1050 psig.

D. Manually operate the SRVs to maintain reactor pressure below 1050 psig.

*ANSWER B

Question Type: **RO/SRO**

KA # and KA Value: 295007A2.02 4.2/4.2

Reference: Duane Arnold

Source: NRC Bank - modified

Source: NRC Bank

During operation at 100% power a gross failure of both seals on recirculation pump "B" occurs.

WHICH ONE (1) of the following is the approximate amount and type of RCS leakage?

A. A maximum of 60 gpm of Unidentified leakage

B. A maximum of 120 gpm of Unidentified leakage

C. A maximum of 60 gpm of Identified leakage

D. A maximum of 120 gpm of Identified leakage

*ANSWER C

Question Type: **RO**

KA # and KA Value: 295010A2.01 3.4/3.8

Reference: Cooper TS definitions and COR002-22-02, pg. 59

Source: NRC Bank

During reactor operation at 100% power, feedwater heater A-1 and A-2 are lost due to a feedwater heater tube rupture. WHICH ONE (1) of the following statements is correct in accordance with AP 2.4.9.4.7, Loss of feedwater heating?

A. Immediately scram the reactor if reactor power is above 102%

B. If rod line >80%, run recirculation flow back to 45%

C. If normal feedwater temperature can NOT be restored within in 2 hours, reduce reactor power to <25% RTP.

D. For each feedwater heater lost, reduce main turbine load by 5% from maximum power.

*ANSWER C

Question Type:	**RO/SRO**
KA # and KA Value:	295014K2.07 3.9/3.9
Reference:	Cooper AOP 2.4.9.4.7
Source:	NRC Bank - modified

An automatic reactor scram has occurred. All control rods were full out prior to the scram. The plant conditions are as follows:

All scram valves opened
17 rod NOT fully inserted
Reactor power = 12%
Scram pilot valve air header pressure = 0 psig
SDV is full

WHICH ONE (1) of the following alternate control rod insertion methods is most preferred?

A. Use the individual scram test switches.

B. De-energize the scram solenoids

C. Manually drain the SDV and manually scram the reactor.

D. Initiate the ARI System.

*ANSWER C

Question Type:	RO/SRO
KA # and KA Value:	295015K2.07 3.3/3.4
Reference:	Copper Procedure 5.8.3, pg. 1; AOP 2.4.1.1.1
Source:	NRC Bank - modified

WHICH ONE (1) of the following is the basis for securing torus sprays and drywell sprays before pressure has decreased to 0 psig?

A. Continuing sprays below this pressure will adversely affect the net positive suction head of the pumps.

B. This pressure ensures that downcomer/ring header joint stresses do not reach the point of complete failure.

C. Maintaining a positive pressure ensures air will not be drawn into, and thus, de-inerting the primary containment.

D. Securing sprays at this point allows redirecting the Residual Heat Removal pumps to assure adequate core cooling.

*ANSWER C

Question Type: **RO/SRO**

KA # and KA Value: 295024K3.01 3.6/4.0

Reference: Brunswick/Hatch

Source: NRC Bank

The following conditions exist

The reactor scrammed from 100% power due to low level
[loss of all reactor feed pumps].

All control rods are fully inserted.
RCIC and HPCI failed to operate and will not start.
Reactor water level is -150 inches.
No injection system or alternate injection is available.

WHICH ONE (1) of the following describes the operator actions required?

A. Enter 2A,Emergency Rx Depressurization, and attempt to restore a low pressure injection system to operation in accordance with 1A, Alternate Level Control.

B. Enter 2A, Steam Cooling and attempt to restore an injection system to operation in accordance with 1A, Alternate Level Control.

C. Enter 2B, RPV Flooding, and when pressure is below the Minimum Alternate Flooding Pressure, return to RC/L Level Control.

D. No action is required until reactor water level reaches the top of the active fuel. Then execute Core Cooling Without Level Restoration.

*ANSWER B

Question Type: **RO/SRO**

KA # and KA Value: 295031K1.01 4.6/4.7

Reference: Cooper EOPs
Source: NRC Bank

With the following conditions:

Main turbine speed below 600 rpm
Bearing oil pressure to turning gear is GE 4.5 psig
Pump control switch(es) in auto

WHICH ONE (1) of the following oil pump(s) will automatically start?

A. Turning gear oil pump

B. High pressure seal oil backup pump

C. Emergency bearing oil pump

D. Bearing lift pumps

*ANSWER D

Question Type: RO/SRO

KA # and KA Value: 245005A1.04 (2.7/2.8)

Reference: COR001-14-01

Source: NEW

Trip of a single reactor recirculation pump occurs at 70% power with no reactor scram. The procedure requires that the discharge valve for the tripped pump be closed for 5 minutes, then reopened for 6 seconds to:

A. prevent hydraulic lock on the RR pump discharge valve.

B. prevent overpressurization of the RR pump seal assembly.

C. minimize valve stem wear.

D. minimize RR loop to reactor vessel differential temperature.

*ANSWER D

Question Type: RO/SRO

KA # and KA Value: 295001AK2.01 (3.6/3.7)

Reference: Cooper 1991 Exam

Source: NRC Bank

While operating at 96% power backwash sequence is initiated on the "1A1"condenser. As the backwash sequence starts the following annunciators are received:

A-4/E-1, Condenser A/B backwash trouble
B-1/B-3, TG low vacuum pre-trip

Main condenser vacuum is slowly degrading. WHICH ONE (1) of the following is the cause of degrading main condenser vacuum?

A. the "A1" condenser water box INLET valve did NOT close.

B. the "A2" condenser water box INLET valve did NOT open.

C. the "A1" condenser water box OUTLET valve did NOT close.

D. the "A2" condenser water box OUTLET valve did NOT open.

ANSWER: C

Question Type: **RO/SRO**

KA # and KA Value: 295002K2.08 (3.1/3.2)

Reference: Student Lesson Plan COR001-02-01: Circulating Water

Source: Modified

An electrical malfunction has resulted in the loss of both 1A and 1B 4160 V busses. WHICH ONE (1) of the following describes the actions which should be taken in accordance with Emergency Procedure 5.2.5, Loss of Normal AC Power?

A. Manually scram the reactor and maintain condenser vacuum above 5.0 inches of Hg abs.

B. Verify reactor scram and control reactor pressure with RCIC, HPCI, and/or the Safety Relief valves.

C. Verify reactor power reduces to less than 30% and maintain main condenser pressure above 5.0 inches of Hg abs.

D. Trip the main turbine and maintain reactor pressure using the bypass valves.

*ANSWER B

Question Type: RO/SRO

KA # and KA Value: 295003K3.05 (3.7/3.7)

Reference: Duane Arnold/Peach Bottom
CNS EP 5.2.5

Source: NRC Bank

WHICH ONE (1) of the following loads should be transferred to 250 VDC Bus 1A if Bus 1B is out of service and the fault will not be transferred with the load?

A. RCIC starter rack

B. Turbine building starter rack

C. HPCI starter rack

D. Static Inverter 1A

*ANSWER B

Question Type: RO/SRO

KA # and KA Value: 295004A2.04 (3.2/3.3)

Reference: Cooper CNS AOP 2.4.6.9, "250 VDC SYSTEM FAILURE", REV 7, 4.7

Source: NRC Bank

WHICH ONE (1) of the following is the reason for entering EOP 1A at Step RC-1 if drywell temperature cannot be maintained below 200 deg. F per EOP 3A DW/T Step 4 and Step 5? (Assume reactor initially operating at 100% power.)

A. To prevent exceeding the design temperature of the drywell structure

B. To prevent exceeding the maximum normal operating temperature of the drywell with the reactor at power

C. To ensure drywell temperature remains below the design temperature of the environmentally qualified drywell components

D. To ensure the reactor is shutdown by control rod insertion should emergency depressurization be required

*ANSWER D

Question Type: RO/SRO

KA # and KA Value: 295012K2.02 (3.6/3.7)

Reference: Browns Ferry

Source: NRC Bank

Emergency Procedure 5.4.3.2, "Post-Fire Shutdown to Mode 4 Outside the Control Room," requires the ASD panel isolation switches be placed in the ISOLATE position.

WHICH ONE (1) of the following describes the reason for this action?

A. to disconnect control room control circuits

B. ti ensure automatic operation of ECCS remains available

C. to isolate wire runs to meet divisional physical separation criteria

D. to prevent overloading the associated DG during a design basis LOCA

*ANSWER A

Question Type: RO/SRO

KA # and KA Value: 295016K3.02 (3.6/3.8)

Reference: Browns Ferry
COR002-34-02, 4.b

Source: NEW

A control room evacuation was required without time to scram the reactor. In accordance with Emergency Procedure 5.2.1, "Shutdown From Outside the Control Room," the Shift Supervisor orders the reactor scrammed and the scram verified by the operators ...

A. deenergizing both APRM logics and verifying that the scram discharge volume drain valves closed and HCU scram valves opened.

B. deenergizing ARI logic and verifying a -80 second reactor period.

C. tripping both RPS Motor Generator Sets and verifying that the scram discharge volume is full.

D. scramming each control rod at the individual HCU and verifying that the CRD flow control valve is closed.

*ANSWER A

*REFERENCE
EP 5.2.1

Question Type: RO/SRO

KA # and KA Value: 295016A1.01 (3.8/3.9)

Reference: Cooper

Source: NRC Bank

WHICH ONE (1) of the following requires a manual scram during a "Loss of Instrument Air"?

A. The Scram Valve Pilot air low pressure alarm is received.

B. Service air pressure has reached 65 psig with all compressors operating.

C. The "Rod Drift" annunciator is in, control rod 40-17 has scrammed no other rods appear to have moved.

D. Control rod 10-23 has moved from position 48 to position 42, control rod 44-11 is moving in slowly.

*ANSWER D

*REFERENCE
EP 5.2.8. Loss of instrument air, sect 3.2

Question Type: **RO/SRO**

KA # and KA Value: 295019G2.1.12 2.9/3.4

Reference: Cooper

Source: NRC Bank

A small leak has been detected in one of the TEC heat exchangers and has not been located. Reactor power is at 100%. WHICH ONE (1) of the following actions is required by procedure?

A. Decrease reactor power to 50% until leak is detected and repaired.

B. Decrease reactor power as necessary to maintain TEC heat exchanger outlet temperature below 95°F until the leak is located and repaired.

C. Commence a normal reactor shutdown until the leak can be located and repaired.

D. Maintain reactor power at 100% and attempt to locate and repair the leak.

ANSWER D

Question Type: **RO/SRO**

KA # and KA Value: 295018K2.01 3.3/3.4

Reference: Copper Procedure 2.4.8.1.2 and COR001-24-01

Source: New

Reactor power is 100% when a complete loss of the CRD system occurs. The operator has been unable to restore charging water pressure.

WHICH ONE (1) of the following describes the conditions and actions which should be taken in accordance with TS 3.1, Reactivity Control Systems, If RPV pressure is less than 900 psig and

A. two control rod scram accumulators are inoperable, commence a reactor shutdown.

B. two control rod scram accumulators are inoperable, immediately scram the reactor.

C. two scram accumulator trouble lights are on, declare the associated control rods inoperable.

D. two scram accumulator trouble lights are on, declare the associated control rod scram times “slow”.

*ANSWER B

Question Type: **RO/SRO**

KA # and KA Value: 295022K2.07 3.4/3.6

Reference: Cooper TS 3.1.5

Source: NRC Bank- modified

WHICH ONE (1) of the following is the reason that Turbine Generator load is reduced upon loss of the Turbine Building ventilation equipment?

A. The TEC can then handle any transfered loads.

B. To reduce the heat load to the Turbine Building.

C. To protect any Condensate Pump bearing from over heating.

D. The heat generated by the phase bus bars can then be absorbed by the environment.

*ANSWER D

Question Type: **RO/SRO**

KA # and KA Value: 295018K2.01

Reference: 2.4.8.4.3

Source: NRC Bank

While performing EOP-7A, "RPV Level/Failure to Scram," with power below 3%, WHICH ONE (1) of the following CAUTIONS applies as reactor water level is controlled?

A. - 42 inches will result in an ADS initiation if ADS is NOT inhibited.

B. - 113 inches will result in low pressure ECCS injection unless it is stopped and prevented.

C. - 113 inches will result in an MSIV isolation and loss of the main condenser as a heat sink.

D. - 42 inches will result in injection from low pressure ECCS systems NOT required for RPV level control.

*ANSWER C

Question Type: **RO/SRO**

KA # and KA Value: 295028G2.4.20 (3.3/4.0)

Reference: EOP-7A

Source: NEW

With reactor water level at -29 inches (Fuel Zone indicated), WHICH ONE (1) of the following listed interlocks must be overridden in order to establish torus cooling?

A. Keylock switch for containment cooling 2/3 core valve control permissive and containment cooling valve control permissive.

B. Containment spray valve reset pushbutton depressed and released.

C. Only the containment cooling valve control permissive.

D. Containment spray valve reset pushbutton depressed and the keylock switch for containment cooling 2/3 core valve control permissive.

*ANSWER A

Question Type: **RO/SRO**

KA # and KA Value: 295026A1.01 4.1/4.1

Reference: EOP 3A

Source: New

WHICH ONE (1) of the following effects may be seen on panel 9-5 level instruments due to a small leak in the drywell (not from an instrument line) that does not result in reactor depressurization?

A. Indicated level may read lower than actual level.

B. Actual level may decrease to below the lower instrument tap with indicated level still on scale.

C. Reference leg flashing may occur causing erratic level indication.

D. Indicated level will be correct unless drywell temperature approaches 280 deg F.

*ANSWER B

*REFERENCE
Facility exam bank, INT032-01-07, ques 013, LO #3&5
COR002-15, pg 32, sect 11.
LO #7d

Question Type: RO/SRO

KA # and KA Value: 295028A2.03 (3.7/3.9)

Reference: Cooper

Source: NRC Bank

What is the purpose of the SRV Tail Pipe Level Limit?

A. It ensures the prevention of equipment failure due to unstable steam condensation during an ADS blowdown.

B. It ensures that actuation of ADS will not result in damage to the pool or any submerged structure within the suppression pool.

C. It ensures that any steam released in the drywell will be directed under water in the suppression pool.

D. It ensures that the drywell will not collapse or otherwise fail due to negative pressure.

*ANSWER B

Question Type: RO/SRO

KA # and KA Value: 295029K3.01 (3.5/3.9)

Reference: Browns Ferry

Source: NRC Bank

Prior to opening the 6 SRVs during an Emergency RPV Depressurization, Step FS/P-15 of EOP-6A, "Emergency RPV Depressurization", asks if suppression pool water level is above 6 feet and directs an alternate means of depressurization if the answer is "no".

Select the REASON for taking this alternate path if suppression pool level is low.

A. At 6 feet, water level is below the Torus temperature detectors resulting in inaccurate temperature indications.

B. With water levels below 6 feet, the limits of the RHR Vortex Limit curve are being exceeded.

C. The bottoms of the Drywell to Torus downcomers are at 6 feet.

D. The SRV discharge line T-quenchers are located at 6 feet.

*ANSWER D

*REFERENCE

INT008-06-08, "Flowchart 6B - Emergency Depressurization (Failure-to-Scram)", Page 5 of 8, Lesson Objective #6

[3.8/4.1]

Question Type: RO/SRO

KA # and KA Value: 295030K1.03 (3.8/4.1)

Reference: Cooper EOP 6B INT008-06-08

Source: NRC Bank

A pipe break in the Reactor Building resulted in NE quadrant temperatures greater than Max Normal operating temperatures, and an automatic shutdown of the Reactor Building HVAC system has occurred. The leak has now been isolated.

WHICH ONE (1) of the following is a condition that has to be met prior to restarting the HVAC system?

A. Drywell pressure must be below 1.85 psig.

B. The reactor building exhaust plenum radiation level must be below 10 mr/hr.

C. RPV water level must be greater than 0 inches.

D. Not more than one area above the Maximum Normal Operating temperature.

*ANSWER B

Question Type: RO/SRO

KA # and KA Value: 295034A1.06 (3.5/3.6)

Reference: (Hatch) Cooper EOP 5A

Source: NRC Bank

COOPER NUCLEAR STATION WRITTEN EXAMINATION

QUESTION # 72 DECEMBER 01, 2000

Which system is designed to deliver water to the top of the fuel assemblies to cool the core and limit fuel clad temperature?

A. HPCI

B. RCIC

C. CS

D. LPCI mode of RHR

Question Type: RO/SRO

KA # and KA Value: 209001.K1.14 (3.7/3,8)

Reference: Student Lesson Plan COR001019: Core Spray System

Source: Cooper Bank

During refueling preparations, tools used to remove vessel internals are being removed from the pool for decontamination. The refueling floor Continuous Air Monitor (CAM) has just alarmed and indicates at the alarm setpoint. Upon hearing the alarm, the team lowers the tool that has just been withdrawn back into the pool. Which of the following describes the Immediate Operator Actions that are required by EP 5.3.5, Refueling Floor High Radiation?

A. Entry into EOP-3A, Secondary Containment Control, is required.

B. Verify secondary containment radiation levels are less than 10 mR/hour.

C. Actions should be taken to verify that contamination levels have returned to normal.

D. The Refueling Floor is evacuated immediately upon hearing

*ANSWER

Question Type: RO/SRO

KA # and KA Value: 295023K3.01 (3.6/4.3)

Reference: Cooper EP 5.3.5

Source: NRC Bank

While a primary system is discharging into the reactor building, "Secondary Containment Control" directs the operator to manually scram the plant before the temperature in the secondary containment reaches an action level.

WHICH ONE (1) of the following is the basis for the manual scram?

A. Limits radiation release from secondary containment.

B. Reduces the driving force of the leak.

C. Allows personnel access to the reactor building before the temperature becomes too high.

D. Avoids the need for an emergency blowdown.

*ANSWER B

Question Type: RO/SRO

KA # and KA Value: 295032K3.02 (3.6/3.8)

Reference: (Peach Bottom) EOP basis

Source: NRC Bank

ECCS actuation on low-low-low reactor water level has resulted in reactor level recovering to a normal band. RHR pump B is the only pump operating in the LPCI mode and maintaining reactor level. A spurious Group 2 isolation is subsequently received. Choose the correct response below.

E. RHR pump B trips.

F. RHR inboard injection valve (MO-25) closes.

G. RHR outboard injection valve (MO-27) closes.

H. RHR injection valves are not affected.

Answer: D

Question Type: RO/SRO

KA # and KA Value: 203000.K3.01[4.3/4.4]

Reference: Cooper: RHR System; Objective COR0022302001070

Source: Bank

While at 100% power, the RHR SWBP "A" area had a FP system actuation by a fire which continues to burn. Fire hoses have been routed as necessary. Water level in the RHR SWBP area is over 8 inches deep and is continuing to rise.

WHICH ONE (1) of the following immediate operator actions is required per EOP 5.3.10?

A. Ensure SW-MO-36 and SW-MO-37 are closed.

B. Manually scram the reactor and cooldown at normal rates.

C. De-energize RHR SWBP "A"

D. Continue operation until the RHR SWBP area water level is 12".

*ANSWER D

Question Type: RO/SRO

KA # and KA Value: 295036A1.02 (3.5/3.6)

Reference: (Brunswick) EOP 5.3.10

Source: NRC BAnk

COOPER NUCLEAR STATION WRITTEN EXAMINATION

QUESTION # 77 DECEMBER 01, 2000

Following a loss of coolant accident (LOCA), the conditions exist:

- Both CS pumps are injecting into the RPV with suction form the torus
- RHR Loop A is injecting into the RPV; both pumps have suction of the torus
- RHR Loop B is not available
- CRD is maximized
- PRV water level is +10" (FZ) and steady
- Drywell pressure is 22 psig
- PC water level is 16.2 feet
- PC H2 concentration is less than 1%

What action are required?

A. Spray the Drywell

B. Stop injection into the RPV with CRD

C. Emergency vent the primary containment

D. Continue the injection into the RPV with all available systems

Answer: B

Question Type: RO/SRO

KA # and KA Value: G 2.4.9 (3.3/3.9)

Reference: EOP Flow chart 3A, Primary Containment Control

Source: Cooper Bank

Plant conditions are as follows:

A reactor startup is in progress
RWM is bypassed
The Rod Select Switch (RSS) is in B34
All B12 rods are fully withdrawn
All B3 rods are fully withdrawn
All B4 rods are fully inserted
All A12 and A34 rods are fully inserted

WHICH ONE (1) of the following describes the status of the rod control system if one rod in B1 drifts fully into the core? (Assume the cause of the rod drift has been corrected.)

A. The operator may withdraw rod group B4 and then select B12 with the RSS and withdraw the rod that drifted in.

B. The operator may insert group B3 rods and then select B12 with the RSS and withdraw the rod that drifted in.

C. The operator will be unable to select rods for movement and must initiate a scram in order to insert rods.

D. The operator will be unable to drive rods using the normal rod movement switch and must insert group B3 rods using emergency in.

*ANSWER C

Question Type: RO/SRO

KA # and KA Value: 201004A3.05 (3.5/3.7)

Reference: Browns Ferry

Source: NRC Bank

Select the REASON why reactor operator control of the control rod withdrawal sequence is considered to be adequate protection while increasing power above 20%.

A. The requirement to have each control rod manipulation second checked by another person ensures the correct sequence is maintained.

B. At this power level, the worst possible single rod withdrawal error the operator can make will result in a fuel enthalpy less than the 425 cal/gram limit.

C. Above this power level, the increased core average void fraction (CAVF) causes a decrease in control rod worth, reducing the reactivity added during a rod drop accident.

D. At this power level, the Rod Sequence Control System (RSCS) continues to provide some control rod withdrawal limitations once the Rod Worth Minimizer is bypassed.

*ANSWER C

*REFERENCE
COR002-26, RWM, Pages 6 and 7
LO #3

[3.3/3.7]

Question Type: RO/SRO

KA # and KA Value: 201006K501(3.3/3.7)

Reference: Cooper

Source: NRC Bank

The reactor is at 85 % power. You have been directed to do "Daily Jet Pump Flow Unit Operability Test (6.1RR303)." At the control board panel you read the following:

A MG SET PERCENT SPEED 62%
B MG SET PERCENT SPEED 78%

Based on these readings you should:

A. reduce B MG SET PERCENT SPEED to 62%, then notify CRS.

B. reduce B MG SET PERCENT SPEED until power is below 80%, then notify CRS.

C. continue with the surveillance; recirc flows are acceptable.

D. notify the CRS that the recirc flow is outside of its limits; await further direction.

*ANSWER D

*REFERENCE

Question Type: **RO/SRO**

KA # and KA Value: 202001A208 (3.1/3.4)

Reference: Procedure 6.1RR.303

Source: NRC Modified

RHR Pump 1A is operating in the Shutdown Cooling Mode. Reactor water level begins decreasing and reaches 125 inches.

SELECT the RHR System response.

A. RHR 66 (Discharge to Radwaste Valve) and RHR 15A (Pump Suction from Recirc Loop A Valve) close.

B. RHR 15A (Pump Suction from Recirc Loop A Valve) and RHR 18 (Suction from Recirc Loop A Valve) close.

C. RHR 15A (Pump Suction from Recirc Loop A Valve) and RHR 17 (Suction from Recirc Loop A Valve) close.

D. RHR 17 (Suction from Recirc Loop A Valve) and RHR 18 (Suction from Recirc Loop A Valve) close.

*ANSWER
D

Question Type: **RO/SRO**

KA # and KA Value: 205000A209 3.6/3.8

Reference: AOP

Source: NRC Bank

The plant is at 100% power. Condensate pumps 2B and 2C are in operation with pump 2A in standby, selected to AUTO. A loss of 4KV bus 2C occurs. How will the Condensate System respond?

A. Condensate pump 2B trips. Condensate pump 2A auto starts when booster pump suction header pressure drops to 20 psig.

B. Condensate pump 2B trips. Condensate pump 2A auto starts when condensate discharge header pressure drops to 145 psig.

C. Condensate pump 2C trips. Condensate pump 2A auto starts when booster pump suction header pressure drops to 20 psig.

D. Condensate pump 2C trips. Condensate pump 2A auto starts when condensate discharge header pressure drops to 145 psig.

*ANSWER A

Question Type: RO/SRO

KA # and KA Value: 256000K201 (2.7/2.8)

Reference: (Brunswick) Condensate System Procedure

Source: NRC Bank

Following a downscale signal from______1__________Offgas radiation monitor(s), the system will isolate in _____2_______minutes unless the problem is corrected

EDDDDDDDIT.

	1	2	3
A.	Both	fifteen	control room
B.	Both	fifteen	local
C.	One	five	local
D.	One	five	control room

Answer: A

Question Type: **RO/SRO**

KA # and KA Value: 271000A408 3.2/3.6

Reference:COR001-16

The primary function of the Elevated Release Point [ERP] radiation monitoring system is to monitor and measure:

A. stack activity and initiate off gas system isolation if high radiation is detected.

B. the stack discharge and alarm to notify plant personnel if high radiation is detected.

C. stack activity and initiate addition of dilution air when high radiation is detected.

D. the stack discharge and isolate the reactor building ventilation system if high radiation is detected.

*ANSWER B

Question Type: **RO/SRO**

KA # and KA Value: 272000K1.03 (3.3/3.6)

Reference: COR001-18 [CNS Q bank]

Source: NRC Bank

A fire has been reported in the 2B RHRSW Booster Pump Motor.

WHICH ONE (1) of the following is required concerning the Reactor Building Standpipe Deluge valves?

A. No action is required, the valves automatically open.

B. An (AO) must be sent to manually open the valves.

C. The valves must be opened at the Fire Protection Panel in the main control room.

D. No action is required, the valves are normally open.

*ANSWER C

Question Type: **RO/SRO**

KA # and KA Value: 286000A301 (3.4/3.4)

Reference: Brunswick

Source: NRC Bank

The OUTBOARD Main Steam Isolation Valve Leakage Control System (MSIV-LCS) MAY be manually initiated when WHICH ONE (1) of the following SPECIFIC sets of plant conditions exist:

A. Reactor pressure is less than 35 psig, all of the MSIVs are closed and Main Steam Line pressure between the Outboard MSIVs and the Main Turbine Stop Valves is less than 35 psig.

B. Reactor pressure has been less than 35 psig for a minimum of 10 minutes, all of the MSIVs are closed and Main Steam Line pressure between the Inboard MSIVs and the Outboard MSIVs is less than 35 psig.

C. At least 10 minutes have elapsed since the Loss of Coolant Accident (LOCA), the Outboard MSIVs are closed and pressure between the Outboard MSIVs and the Main Turbine Stop Valves and Bypass Valves is less than 35 psig.

D. At least 10 minutes have elapsed since the Loss of Coolant Accident (LOCA), all of the MSIVs are closed and pressure between the Inboard MSIVs and Outboard MSIVs has bled down to 0 psig.

*ANSWER C

Question Type: **RO/SRO**

KA # and KA Value: 239003A101 (3.1/3.1)

Reference: Hatch

Source: NRC Bank

The plant is operating at 100% rated power when a plant transient occurs. Plant conditions are as follows:

APRMs decrease by 8%
Reactor total steam flow decreases by 1 EE6 lbm/hr
Main Generator output decreases by 70 MW
Core pressure drop decreases by 4 psid
Reactor recirculation loop flow A increases by 2,000 gpm

WHICH ONE (1) of the following is the cause of this transient?

A. SRV lifts and sticks partially open

B. Reactor recirculation pump B shaft shear

C. Reactor recirculation A flow instrumentation failure

D. Jet pump failure in reactor recirculation loop A

*ANSWER D

*REFERENCE
2-AOI-68-2, JET PUMP FAILURE, pg 1

Question Type: **RO/SRO**

KA # and KA Value: 290002K303 (3.3/3.4)

Reference: Browns Ferry

Source: NRC Bank

Following an automatic initiation of the RCIC system, reactor vessel water level rises to +60" (narrow range). How does the RCIC system respond to this condition? (Assume RPV water level does not change)

A. The steam line isolation valves (MO-15 and MO-16) close, and the turbine trip throttle valves trips closed on low oil pressure. The trip reset valve (MO-14) then resets the trip throttle valve.

B. The turbine trip solenoid is energized and the trip throttle valve closes. The trip reset valve (MO-14) then resets the trip throttle valve.

C. The steam supply block valve (MO-131) closes and the turbine trip solenoid is energized. The trip reset valve (MO-14) then resets the trip throttle valve.

D. The steam supply block valve (MO-131) closes and the turbine trip throttle valve trips on low oil pressure. The trip reset valve (MO-14) then resets the trip throttle valve.

ANSWER: C

Question Type: RO/SRO

KA # and KA Value: 295008.AK1.02 [2.8/2.8]

Reference: Student Lesson Plan COR0021802 : Reactor Cor Isolation Cooling

Source: Cooper Bank

The plant is operating at 100 percent power. Condensate pumps 2B and 2C are in operation with pump 2A in standby, selected to AUTO. A loss of 4160Vac bus 1C occurs. How will the Condensate System respond?

A. Condensate pump 2B trips. Condensate pump 2A auto starts when booster pump suction header pressure drops to 20 psig.

B. Condensate pump 2B trips. Condensate pump 2A auto starts when condensate discharge header pressure drops to 145 psig.

C. Condensate pump 2C trips. Condensate upmp 2A auto starts when booster pump suction header pressure drops to 20 psig.

D. Condensate pump 2C trips. Condensate pump 2A auto starts when condensate discharge header pressure drops to 145 psig.

ANSWER: A

Question Type: **RO/SRO**

KA # and KA Value: 256000K201 2.7/2.8

Reference: CNS Cond. Sys. Proc.

Source: Bank

The reactor is operating at 95% power, when the reactor power increases to 102%. It is discovered that Reactor Recirculation Pump A flow increased. WHICH ONE (1) of the following describes your immediate actions?

A. Scram the reactor, trip the “A” reactor recirculation pump, and follow the actions outlined in procedure 2.4.2.2.1, “Trip of Reactor Recirculation Pumps.”

B. Press the “Scoop Tube Lockout” button, call work control center to investigate the “A” reactor recirculation pump.

C. Attempt to stabilize power by taking manual control on reactor recirculation pump “A” individual flow controller, press “Scoop Tube Lockout” pushbutton if flow is still not stabilized.

D. Attempt to stabilize power by taking manual control on reactor recirculation pump “A” individual flow controller. If unable to stabilize flow trip reactor recirculation pump “A”, and follow actions outlined in procedure 2.4.2.2.1 “Trip of Reactor Recirculation Pumps.”

Answer: C

Question Type: RO

KA # and KA Value: 202002K4.01 (3.1)

Reference: Proc. 2.4..2.2.2

Source: New

WHICH ONE (1) of the following statements properly describes the CRDH system with reactor power @ 1percent and normal operating pressure and temperature (545°F/ 1050 psig)?

A. Drive water pressure at 250 psig above reactor pressure, "Foxboro" Manual-Auto Switch in Auto, flow controller set at 50 gpm.

B. Drive water pressure at 275 psig above reactor pressure, "Foxoboro" Manual-Auto switch in Manual, flow controller set at 60 gpm.

C. Drive water pressure at 265 psig above reactor pressure, "Foxboro" Manual-Auto switch in Auto, flow controller set at 50 gpm.

D. Drive water pressure at 255 psig above reactor pressure, "Foxboro" Manual-Auto switch in manual, flow controller set at 60 gpm.

ANSWER: C

Question Type: RO

KA # and KA Value: 201001 A3.08 3.0/2.9

Reference: Stud. Lsn C0R002-04-02 (CRDHS)

Source: New

COOPER NUCLEAR STATION WRITTEN EXAMINATION

QUESTION # 92 DECEMBER 01, 2000

Given the following reactor conditions:

Reactor power	5%
Reactor Level	at -10 inches and lowering fast
Suppression pool temperature	90°F
DW pressure	1.87 psig
Reactor pressure	225 psig

WHICH ONE (1) of the following describes the expected emergency operating procedure actions?

A. Drywell sprays due to DW pressure, initiate suppression pool cooling, Auto interlock closure of reactor recirculation pump suction valves MO-43.

B. Auto initiation of LPCI due to DW pressure, Auto interlock closure of reactor recirculation pump discharge valves (MO-53s), Outboard LPCI injection valves (MO-27) interlock open for 5 minutes.

C. Auto initiation of LPCI due to reactor level, Auto interlock closure of reactor recirculation pump valves MO-43s, Outboard LPCI injection valve MO-27 interlock open for 5 minutes.

D. Manual intiation of DW sprays due to DW pressure, initiate suppression pool cooling, auto interlock closure of reactor recirculation discharge valves MO-53s.

ANSWER: B

Question Type: RO

KA # and KA Value: 295010G2.4.2 (3.9/4.0)

Reference: Proc. 2.2.69.1
Lsns C0R002-23-02; C0R002-22-02

Source: New

Concerning the HPCI system, WHICH ONE (1) of the following accurately describes the response of the system to a flow signal malfunction?

A. If the flow controller receives a maximum flow signal, this will result in a minimum output signal to the speed controller, which causes the HPCI turbine speed to decrease to idle speed.

B. Loss of HPCI flow signal results in a minimum speed controller output signal, which causes the turbine speed to decrease to idle speed.

C. If the flow controller receives a maximum flow signal, this will result in a maximum output signal to the speed controller, which will cause the turbine speed to increase and trip at 125 percent speed.

D. If the flow controller fails low, the HPCI turbine speed will decrease to idle speed and can be adjusted in the manual mode of the flow controller.

ANSWER: C

Question Type: RO

KA # and KA Value: 206000A2.14 (3.3/3.4)

Reference: HPCI Lsn Pln C0R002-11-20

Source: New

Upon the loss of the 120Vac CCP1A, WHICH ONE (1) of the following describes the resulting system response?

A. The Tendamatic Sequence Controller automaticall initiates the standby air compressor and maintains air pressure between 95 and 110 psig; SA-PCV-609 Service Air isolation will close.

B. Air pressure will be regulated between 85 and 95 psig by regulators on the air compressors and SA-PCV-609 will isolate closed.

C. Air pressure will be regulated between 85 and 95 psig by regulators on the air compressors, and air compressors “A” & “B” align to the reactor equipment cooling system while air compressor “C” will align to the turbine equipment cooling system.

D. The Tendamatic sequence controller will automatically initiate the backup air compressor and and maintain pressure between 95 and 110 psig; non-critical instrument air isolation valve SA-80-MV will close and dryer bypass valve SA-81-MV will open.

ANSWER: B

Question Type: RO

KA # and KA Value: 300000K2.02 (3.0/3.0)

Reference: Proc. 2.2.59 Att 1
Lsn C0R001-17-01

Source: New

With the reactor at 100 percent power, the “Diesel Generator started Automatically, No Protection DG1" alarm is received. WHICH ONE (1) of the following describes the cause of this alarm?

A. Suppression pool temperature GE 100°F and DW temperature at 145°F.

B. Failed low indication on the Fuel Zone Level instrument that supplies inputs to the DG autostart logic.

C. Failed low indication on the Wide Range level instrument that inputs into the DG Autostart logic.

D. A voltage of 4180Vac on the 1F 4160Vac bus.

ANSWER: C

Question Type: RO

KA # and KA Value: 216000K3.17 (3.5/3.7)

Reference: Student Lesson Plan COR002-08-02

Source: New

Given the following plant conditions:

Rector power	11 percent
Drywell pressure	1.82 psig
Reactor pressure	1040 psig
APRMs Bypassed	E, F

WHICH ONE (1) of the following describes the plant response based upon the above conditions?

A. APRM Hi-Hi Scram signal is received based upon flow biasing.

B. The RPS Scram signal for high reactor pressure is received because the Mode switch is not in the RUN position.

C. An APRM INOP condition due to a blown circuit board on Channel "C" will cause a half-scram.

D. RPS trip signal will be received due to a high DW pressure.

ANSWER: C

Question Type: **RO/SRO**

KA # and KA Value: 212000 K3.04 (3.5/3.6)

Reference: Lsn C0R002-21-02

Source: New

Question Type: RO/SRO

KA # and KA Value:

Reference:

Source:

Question Type: RO/SRO

KA # and KA Value:

Reference:

Source:

Question Type: RO/SRO

KA # and KA Value:

Reference:

Source:

Question Type: RO/SRO

KA # and KA Value:

Reference:

Source:

*QUESTION 101

Outline #: 76

		RO	SRO
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	__1__
	Group#	____	__1__
	K/A #	295006K201	
	Imp. Rating	4.3	4.4

Proposed Question:

Given the following conditions:

- The reactor was manually scrammed
- The operator is resetting the scram and all scram signals are currently clear per SOP 2.1.5.

What would be the expected result of resetting Group 1 & 4 BEFORE resetting Group 2 & 3.

A. A hydraulic lock would prevent the control rods from settling back to position "00".

B. The Scram Discharge Volume vent and drain valves would not reopen but RPS would reset.

C. The Alternate Rod Insertion portion of the system would not automatically reset.

D. A direct discharge path would exist from the reactor to the secondary containment.

Proposed Answer: ___b___
Technical Reference(s):
SOP 2.1.5
Proposed References provided to applicants during examination: _____na_______

Question Source: **Bank** _____
Modified Bank _____
New __x___

Question History: **Previous NRC Exam** _____
Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis ___x_
10 CFR Part 55 Content: **55.43(b)** _____
Comments: ____

*QUESTION 102

Outline #: 77

		RO	SRO
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	__1__
	Group#	____	__1__
	K/A #	_	295030A201
	Imp. Rating	_____	_3.9___

Proposed Question:

Which of the following is the danger of Emergency Depressurization with SRVs when the Torus level is below 6 Feet?

A. The Primary Containment will be pressurized.

B. The Torus will have insufficient heat capacity for depressurization.

C. The possibility of discharge pipe damage during depressurization increases.

D. There will be insufficient net positive suction head for low pressure injection systems.

Proposed Answer: ____a__

Technical Reference(s):
PC EOP/SAG Component Elevations

Proposed References provided to applicants during examination: ____________

Learning Objective: ______

Question Source: **Bank** _____
Modified Bank _____
New __x___

Question History: **Previous NRC Exam** _____

Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis _x___

10 CFR Part 55 Content: **55.43(b)** _____

Comments: ____

*QUESTION 103

Outline #: 78

		RO	SRO
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	__1__
	Group#	____	__1__
	K/A #	__295023A104	____
	Imp. Rating	_____	_4.6___

Proposed Question:

The plant is shutdown with refueling operations in progress.
Annunciator 9-3-1/A-10, REFUEL AREA HIGH RAD
alarms. The RO should first:

A. announce the event over the Gaitronics to ensure timely evacuation.

B. contact the supervisor on the refuel floor directing fuel movement and have him stop all fuel movement.

C. Initiate a Group VI isolation.

D. contact the refuel bridge operators on the telephone bridge (771) and have them immediately evacuate all personnel from the refuel floor.

Proposed Answer: ___a___

Technical Reference(s):
ARP 2.3.2.21 and EP 5.3.5
Proposed References provided to applicants during examination: ______na______

Learning Objective: ______

Question Source: **Bank** _____
Modified Bank _____
New _____
Question History: **Previous NRC Exam** _____

Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis ____

10 CFR Part 55 Content: **55.43(b)** _____
Comments: ____

*QUESTION 104

Outline #: 79

		RO	SRO
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	__1__
	Group#	____	__1__
	K/A #	295025A107 __	
	Imp. Rating	_____	__4.6__

Proposed Question:

During a spurious MSIV Isolation at power the following conditions were noted:

- Reactor pressure PEAKED at 1075 psig.
- Reactor water level DIPPED to -20 inches WR.
- Drywell pressure PEAKED at 1.65 psig.

What caused both Recirc MG Set Field Breakers to open SIMULTANEOUSLY?

A. Loss of Recirc Pump Motor Generator Set ventilation.

B. Closure of Recirc. Pump Discharge valves.

C. Reactor Pressure transient value.

D. Reactor water level transient value.

Proposed Answer: __c___

Technical Reference(s):
ARP2.3.2.28

Proposed References provided to applicants during examination: ____________
Learning Objective: ______
Question Source: **Bank** _____
Modified Bank _____
New __x___
Question History: **Previous NRC Exam** _____
Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis __x__
10 CFR Part 55 Content: **55.43(b)** _____
Comments: ____

*QUESTION 105

Outline #: 80

		RO	SRO
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	__1__

Group#	**____**	**__1__**
K/A #	295009AK105	
Imp. Rating	_____	3.4

Proposed Question:

A Reactor shutdown has just been completed, and preparations are being made to put "B" loop of RHR in Shutdown Cooling. "A" Reactor Recirculation pump is running on the Startup, and "B: Reactor Recirculation pump is secured. The following annunciators come in: RRMG A Field Gnd and RRMG A Bkr 1CS Trip. Which one of the following actions would help minimize Reactor Vessel Bottom Head Temperature Gradients.

a. Reduce CRD cooling flow and raise Vessel Level to 48 inches

b. Raise Vessel Level to 48 inches and raise the Speed of A Reactor Recirc. Pump.

c. Raise the Speed of A Reactor Recirc. Pump and minimize RWCU blowdown.

d. Reduce CRD cooling flow and minimize RWCU blowdown.

Proposed Answer: ___a___

Technical Reference(s):
Bannk

Proposed References provided to applicants during examination: ___na_____

Learning Objective: ______

Question Source: **Bank __x___**
Modified Bank _____
New _____

Question History: **Previous NRC Exam _____**

Question Cognitive Level: **Memory or Fundamental ____**
Comprehension or Analysis __x__
10 CFR Part 55 Content: **55.43(b) _____**
Comments: ____

*QUESTION 106

Outline #: 81

Examination Outline Cross-Reference:

	RO	**SRO**
Level	____	_x___
Tier#	**____**	**__1__**
Group#	**____**	**__1__**

K/A #	295014A203 ___
Imp. Rating	_____ 4.3

Proposed Question:

WHICH ONE (1) of the following describe the symptoms of a loss of feedwater heating?

a. Generator MWe output increasing
Feed Pump suction temperature decreasing

b. Generator MWe output decreasing
Feed Pump suction temperature decreasing

c. Generator MWe output increasing
Feed Pump suction temperature increasing

d. Generator MWe output decreasing
Feed Pump suction temperature increasing

Proposed Answer: __a____

Technical Reference(s):

1. ARP 2.3.2.2
2.AOP 2.4.9.4.7

Proposed References provided to applicants during examination: ___na_________
Learning Objective: ______
Question Source: **Bank** _____
Modified Bank _____
New ___x__
Question History: **Previous NRC Exam** _____
Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis __x__
10 CFR Part 55 Content: **55.43(b)** _____
Comments: ____

*Question 107

Outline #: 82

Examination Outline Cross-Reference:

	RO	SRO
Level	____	__x__
Tier#	____	__2__
Group#	____	__2__
K/A #	219000.K4.07____	
Imp. Rating	_____ 3.7_	

Proposed Question:

6.HPCI is in progress during normal power operation withTorus Cooling maximized.
At this point, a degraded voltage condition occurs. The non-essential buses transfer to the Startup Transformer when the turbine trips. RPV level can be maintained in the green band with Feedwater. The 6.HPCI is suspended.

-No EOP entry conditions exist.
-Torus temperature has stabilized at 93°F
-A & B RHR Loop pressures indicate 25 psig
The CRS directs that Torus Cooling be re-established.

Which of the following describes the CORRECT actions for restarting RHR pumps in this situation?

A. Pressurize and refill RHR loops with condensate service water and re-vent both loops IAW the RHR operating instruction, then restart RHR pumps.

B. Close the associated HX INLET,valve, RHR-MO-12A/B, and HEAT EXCH BY-PASS valve, RHR-MO-66A/B, then restart RHR pumps.

C. Close the associated HX INLET valve, RHR-MO-12A/B, HEAT EXCH BY-PASS valve, RHR-MO-66A/B, and RHR CROSSTIE valve, then restart RHR pumps.

D. Close the OUTBD TORUS CLG/SPRAY valves, and the TORUS COOLING/TEST valves, then restart RHR pumps.

Proposed Answer: ___c___
Technical Reference(s):
RHR System Lsn Text COR002-23-02
Question Source: **Bank** _____
Modified Bank _____
New __x___
Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis __x__
10 CFR Part 55 Content: **55.43(b)** _____
*Question 108

Outline #: 83

		RO	SRO
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	__1__
	Group#	____	__1__
	K/A #	295025.EK1.05___	
	Imp. Rating	_____	__4.6__

Proposed Question:

A miscommunication in plant operation results in a significant reactor pressure increase. Pressure as read on the Narrow range pressure recorder is pegged upscale.

The Post Accident Pressure Recorders (NBI-PR-2A and 2B) indicate that pressure reached 1380 psig.

Which one of the following is a correct statement with regard to the Safety Limit for Reactor Pressure?

A. Reactor Pressure was outside the Safety Limit of 1337 psig because the Post Accident indication comes from the Water Level instrument reference legs.

B. Reactor Pressure was outside the Safety Limit of 1190 psig because this is referenced on the P680 Wide Range Instrument for Tech Specs.

C. Reactor Pressure was within the Safety Limit of 1375 psig because the Post Accident indication comes from the Bottom Head.

D. Reactor Pressure was within the Safety Limit of 1380 psig because the Post Accident indication comes from the Top Head.

Proposed Answer: ___a___

Technical Reference(s):
TS Safety Limits
Question Source: **Bank** _____
Modified Bank _____
New __x__

Question History: **Previous NRC Exam** _____
Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis __x__
10 CFR Part 55 Content: **55.43(b)** _____
Comments: ____

*QUESTION 109

Outline #: 84

Examination Outline Cross-Reference:

	RO	SRO
Level	____	_x___
Tier#	____	_1___
Group#	____	_1___
K/A #	2.3.11	
Imp. Rating	_____	[3.2]

Proposed Question:

WHICH ONE (1) of the following is the reason that the preferred Emergency Primary Containment Vent path is through the torus?

a. Through SGT to cool the vented gases.

b. Through 1" Dia. DW line to reduce the hydrogen released.

c. Throught the torus to minimize release of Nitrogen.

d. Through the torus to reduce the radiation released.

Proposed Answer: ___d___

Technical Reference(s):

Proposed References provided to applicants during examination: ____________

Learning Objective: ______

Question Source: **Bank** _____
Modified Bank _____
New ___x__

Question History: **Previous NRC Exam** _____

Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis __x__

10 CFR Part 55 Content: **55.43(b)** _____
Comments: ____

*Question 110

Outline #: 85

Examination Outline Cross-Reference:

	RO	SRO
Level	____	__x__
Tier#	____	_1__
Group#	____	_1__
K/A #	230000A215	____
Imp. Rating	_____	_4.1_

Proposed Question:

A plant emergency condition exists. Drywell pressure is 2.5 psig. Which of the following sets of conditions will allow initiation of the Drywell and Torus Sprays?

a. - Reactor Level: LESS THAN 0" WR
DW Pressure 5.2 psig
Torus pressure 11 psig

b. - Reactor Level: > LEVEL 1
DW Pressure 1.89 psig
Torus Pressure 11 psig

c. - Reactor Level: > LEVEL 1
DW pressure 1.22 psig
Torus pressure 8 psig

d. - Reactor Level: LESS THAN -43" WR
DW pressure 1.69 psig
Torus Water Level 4 Ft.

Proposed Answer: __a____

Technical Reference(s):
EOPs 3A PC Control

Question Source: **Bank** _____
Modified Bank _____
New __x___

Question History: **Previous NRC Exam** _____

Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis __x__

10 CFR Part 55 Content: **55.43(b)** _____

Comments: ____

*Question 111

Outline #: 86

Examination Outline Cross-Reference:

	RO	SRO
Level	____	__x__
Tier#	____	_ 1___
Group#	____	__1__
K/A #	500000G2.2.22_____	
Imp. Rating	_____	_4.1_

Proposed Question:

The plant is shutdown at 150°F and 0 psig. The Reactor is assembled with RPV head tensioned and RCS filled following a Refueling Outage. The Fuel Handling Crew is shuffling spent fuel bundles in the Spent Fuel Pool. Startup is expected to occur in 3 days.

Which one of the following best describes the Primary and Secondary Containment requirements for plant conditions?

a. Primary Containment is NOT required, and Secondary Containment is required.

b. Primary Containment is required, and Secondary Containment is NOT required.

c. Primary Containment is required, and Secondary Containment is required.

d. Primary Containment is NOT required, and Secondary Containment is NOT required.

Proposed Answer: ___a___

Technical Reference(s):
ITS

Question Source: **Bank** _____
Modified Bank _____
New __x___

Question History: **Previous NRC Exam** _____

Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis __x__

10 CFR Part 55 Content: **55.43(b)** _____
Comments: ____

*Question 112

Outline #: 87

		RO	SRO
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	_3___
	Group#	____	____
	K/A #	G2.1.12____________	
	Imp. Rating	_____	4.0_

Proposed Question:

The plant is operating at 100% power. An electrician reports that the specific gravity of one of the battery cells for 125Vdc 'A' Battery is 1.189 and pilot cell specific gravity is 1.188 (corrected for electrolyte temperature and level).

Select the response below which describes the required actions. (Tech Specs are attached.)

a. Verify pilot cells electrolyte level and float voltage is within the table category C limits within 1 hour and verify battery cell parameters meet the table category C limits within 24 hours and once per 7 days thereafter, and restore battery cell parameters to category A and B limits of the table within 31 days.

b. Verify pilot cell's electrolyte level and float voltage and battery cell parameters meet the table category C limits within 24 hours and once per 7 days thereafter, and restore battery cell parameters to category A and B limits ofthe table within 31 days.

c. Verify battery cell parameters are within the table category C limits within 1 hour and once per 8 hours thereafter, and restore battery cell parameters to category A and B limits of the table within 31 days.

d. Declare associated battery inoperable immediately and be in Mode 3 in 12 hours and Mode 4 within 36 hours.

Proposed Answer: ___a__

Technical Reference(s):

Supply Tech Spec 3.8.6/ 3.8.4

Proposed References provided to applicants during examination: **TS 3.8.6/3.8.4_______**

Question Source: **Bank** _____
Modified Bank _____
New __x___

Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis __x__

10 CFR Part 55 Content: **55.43(b)** _____

Comments: ____

*Question 113

Outline #: 88

		RO	SRO
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	_2___
	Group#	____	__1__
	K/A #	**_261000K4.01_____**	
	Imp. Rating	_____	3.8_

Proposed Question

Standby Gas Treatment (SGT) initiated due to a technician error while calibrating the high drywell pressure instrumentation. To reset SGT, the operator must:

a. Depress both PCIS Group 6 DIV 1 and DIV 2 ISOLATION reset pushbuttons on VBD K.

b. Turn Group ISOL RESET Channel A and Channel B switches to the RESET position on Panel 9-5.

c. Turn Group ISOL RESET Channel A and Channel B switches to the right RESET position and release to NOR, then depress both PCIS Group 6 DIV 1 and DIV 2 ISOLATION reset pushbuttons on VBD K.

d. Depress both PCIS Group 6 DIV 1 and DIV 2 ISOLATION reset pushbuttons on VBD K, then turn Group ISOL RESET Channel A and Channel B switches to the RESET position on Panel 9-5.

Answer: c

Reference 2.1.22

Source: Bank

*Question 114

Outline #: 89

		RO	SRO
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	**__3__**
	Group#	____	____
	K/A #	G2.3.11________________	
	Imp. Rating	_____	_3.2__

Proposed Question:

Which one of the conditions listed below requires entry into EOP 5A Secondary Containment and Radioactive Release Control?

A. Fuel pool area radiation monitor reading 5 E+5mR/hr

B. RHR Pump Room (Northwest) reading 75 mR/hr.

C. Reactor Building Ventilation Exhaust Monitor reading 9.2mr/hr.

D. Reactor Building differential pressure GE 0 inches water.

Proposed Answer: ___D___

Technical Reference(s): EOP 5A

Learning Objective: ______

Question Source: **Bank** _____
Modified Bank _____
New ___x__

Question History: **Previous NRC Exam** _____

Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis __x__

10 CFR Part 55 Content: **55.43(b)** _____
Comments: ____

*Question 115

Outline #: 90

		RO	**SRO**
Examination Outline Cross-Reference:	**Level**	____	____
	Tier#	____	_3__
	Group#	____	____
	K/A #	G2.4.11_________	
	Imp. Rating	_____ 3.8	

Proposed Question:

The plant is operating at 30 % power when chemistry reported to the control room the following results.

Reactor pH	7.8
Feedwater conductivity	0.7 umho/cm,
Reactor water conductivity	1.1 umho/cm
Feedwater chlorides	6 ppb
Reactor water chlorides	15 ppb
Reactor water sulfites	33 ppb
Condensate Pump discharge	0.03 umho/cm.

Which of the following best describes the required actions for these plant conditions?

a. If chemistry remains at these levels for 24 hours, begin a normal plant shutdown and proceed to cold shutdown as rapidly as operating conditions permit.

b. Restore to within limits within a maximum of 48 hours.

c. Restore to within limits within a maximum of 72 hours.

d. Immediately begin plant shutdown and scram the reactor when SOP 2.1.4.1 permits and continue cooldown to Cold Shutdown.

Proposed Answer: ___c___

Technical Reference(s):
TRM 3.4.1 and Table 3.4.1-1
Proposed References provided to applicants during examination: **TRM 3.4.1 & Tbl 3.4.1-1**
Question Source: **Bank** _____
Modified Bank _____
New ___x__
Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis _x___

10 CFR Part 55 Content: **55.43(b)** _____
*Question 116

Outline #: 91

		RO	SRO
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	__3__
	Group#	____	____
	K/A #	G2.4.42__________	
	Imp. Rating	_____	3.7____

Proposed Question:

A Site Area Emergency has been declared and the full CNS Emergency Response Organization has been activated. All emergency response positions are manned and emergency facilities are activated.

Which one of the following duties of the Emergency Director is now transferred?

A. Authorizing administration of Potassium Iodine tablets.

B. Issuing offsite Protective Action Recommendations.

C. Authorizing exposure in excess of 10 CFR 20 limits.

D. Ordering evacuation of radiologically hazardous plant areas.

Proposed Answer: ___B__

Technical Reference(s): EPIP 5.7.10

Question Source: **Bank** __x___
Modified Bank _____
New ____

Question History: **Previous NRC Exam** _____

Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis __c__

10 CFR Part 55 Content: **55.43(b) __6___**
Comments: ____

*Question 117

Outline #: 92

		RO	**SRO**
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	__3__
	Group#	____	____
	K/A #	295007G2.4.30____________	
	Imp. Rating	_____	3.6_

Proposed Question:

Which of the following conditions require the Shift Communicator to notify the NRC via the Emergency Notification System with 1 hour?

a. RCIC initiation due to a failed logic circuit.

b. Reactor pressure reaching 1135 psig with two SRVs failing to open.

c. A tornado watch has been issued for Nemaha County, NE.

d. RHR injection line crack found during refueling outage inspection.

Proposed Answer: ___b___

Technical Reference(s): EPIP 5.8

Question Source: **Bank** __x___
Modified Bank _____
New _____

Question History: **Previous NRC Exam** _____

Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis _x___

10 CFR Part 55 Content: **55.43(b) ___5__**
Comments: ____

*Question 118

Outline #: 93

		RO	SRO
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	__2__
	Group#	____	__1__
	K/A #	209002.K3.041_____	
	Imp. Rating	_____	3.9_

Proposed Question:

The plant is conducting a reactor startup (Mode 2) when due to an error by a technician HPCI initiated. The HPCI injection valve has been overridden closed.

Operators and technicians are unable to reset the initiation trip units for HPCI.

RPV water level is currently reading 36 inches on the Narrow Range indication.

The following indications were the highest values recorded for RPV level:

-Narrow Range 55 inches
-Wide Range 48 inches

Which one of the following is correct concerning the operation of the HPCI injection valve (MO-19)?

A. The valve can only be opened using the valve hand switch in the OPEN position on P601.

B. The valve can only be opened if the HPCI High Reactor Water Level signal is manually reset and the valve handswitch is taken to the OPEN position.

C. The valve will automatically open if the HPCI Manual Initiation Pushbutton on P601 is depressed.

D. The valve will automatically open if RPV water level drops to Level 2 ( ) as indicated on wide range level indication.

Proposed Answer: __A____
Technical Reference(s):
AOP 2.4.4.1
Question Source: **Bank** __x___
Modified Bank _____
Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis __x__
10 CFR Part 55 Content: **55.43(b) __6___**
Comments: ____

*Question 119

Outline #: 94

		RO	SRO
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	__2__
	Group#	____	__1__
	K/A #	211000.G2.1.10____	
	Imp. Rating	_____	3.9_

Proposed Question:

During a plant startup at 5% reactor power, the on-shift Chemistry Technician reports the following results with regards to the Standby Liquid Control Storage Tank NET TANK VOLUME - 4475 gallons % WEIGHT SOLUTION CONCENTRATION - 13%

What ACTIONS are you required to take with regards to the SLC System?

a. Restore at least one subsystem to OPERABLE status within 8 hours or be in at least MODE 3 within the next 12 hours.

b. No action is required; the SLC system is OPERABLE.

c. Restore the SLC System to OPERABLE status within 7 days.

d. Have the plant shutdown to at least MODE 3 within the next 12 hours.

Proposed Answer: ___b___

Technical Reference(s):
TS 3.1.7, Fig. 3.1.7-1

Proposed References provided to applicants during examination: __TS 3.1.7; Fig 3.1.7-1__________

Question Source: **Bank** __x___
Modified Bank _____
New _____
Question History: **Previous NRC Exam** _____

Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis __x__

10 CFR Part 55 Content: **55.43(b) ___4__**
Comments: ____

*Question 120

Outline #: 95

		RO	**SRO**
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	__2__
	Group#	____	__1__
	K/A #	241000.A1.14_________	
	Imp. Rating	_____	3.4_

Proposed Question:

Plant conditions are as follows:

MODE: Mode 1
Rx power: 40 %
T-G Load: 520 MWE
Load Demand 510 MWE
Bypass position: 0%

All other parameters are per plant design.

The Operator-at-the Controls continues withdrawing control rods to increase power. The other Control Room Operators are busy with surveillances and starting up BOP systems.
Power is increased 15 % by control rod movements and Load Demand on the Main Turbine has NOT been adjusted.

Which one of the following best describes the response of the Turbine Control System?

a. The Reactor Pressure will increase corresponding to the power increase to the point at which pressure overcomes the biasing, at this time the Bypass Valves will open to maintain Rx pressure.

b. The Turbine Control Valves will remain open at present positions and Reactor Pressure will increase to the point that the Low-Low Set SRVs open. Bypass Control Valves will remain closed due to the biasing of the control circuitry.

c. The Turbine Control Valves will open as power increases to control Reactor Pressure, increasing generator output. The Bypass Valves will remain closed.

d. The Reactor Pressure will increase corresponding to the 15% increase, and the Turbine Control Valves will remain at their limited load value, Bypass Valves will remain closed.

Proposed Answer: ___a__

Technical Reference(s):

Proposed References provided to applicants during examination: ____________

Learning Objective: ______

Question Source: **Bank** _____
Modified Bank _____
New __x___

Question History: **Previous NRC Exam** _____

Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis __x__

10 CFR Part 55 Content: **55.43(b)** _____
Comments: ____

Question 121

Outline #: 96

		RO	SRO
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	__1__
	Group#	____	__1__
	K/A #	256000K4.03__	
	Imp. Rating	_____	3.1__

Proposed Question:

The plant is operating at 100 percent rated power. HPCI is being run from CST to CST for quarterly surveillance testing.

A technician in the field inadvertently isolates instrument air to the instrument rack which provides instrument air to the following valves:

-CM-LCV-2C (Hotwell Level Makeup Valve)
-CM-LCV-2B (Hotwell Surge Makeup Valve)
-CM-LCV-2D (Hotwell dump valve)

Assuming NO operator action, which one of the following correctly describes the system and plant response to this action?

A. CM-LCV-2B and -2C fail closed, CM-2D fails open. Hotwell will fall causing the HPCI suction to swap to the Torus on low Hotwell level and the Condensate pumps to eventually trip due to loss of suction.

B. CM-LCV-2B and -2D fail closed, -2C fails open. CST level will fall causing the HCI suction to swap to the Torus on low CST level. Main Condenser vacuum will fall due to rising level in the Hotwell.

C. CM-LCV-2C, -2B, and -2D fail open. CST level will rise causing the HPCI suction to swap to the Torus on high CST level.

D. CM-LCV-2C, -2B, and -2D fail open. CST level will remain constant and HPCI will remain in operation CST to CST.

Proposed Answer: ___B_

Technical Reference(s):SOP 2.2.6

Question Source: **Bank** _____
Modified Bank _____
New __x___

Question History: **Previous NRC Exam** _____

Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis __x__

10 CFR Part 55 Content: **55.43(b) __2___**
Comments: ____

*Question 122

Outline #: 97

		RO	SRO
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	__3__
	Group#	____	____
	K/A #	G2.3.10________	
	Imp. Rating	_____	_3.3___

Proposed Question:

A leak has developed on RWCU. Attempts to close RWCU-MO-15 and RWCU-M)-18 have failed. A maintenance team is being formed to manually close RWCU-MO-18. It is expected that each member of the maintenance team will be in a radiation field of 100Rem/hr.

As the Site Emergency Director, what are the requirements for tracking the special exposures?

a. When rescue team volunteers may exceed authorized dosage of 5 Rem.

b. Special exposures cannot exceed 2 times annual limits.

c. The exposures are lifetime cummulative and cannot be GE 4 times annual limits.

d. Must be tracked separately and may not exceed 5 times annual limits in their lifetime.

Proposed Answer: __d____

Technical Reference(s):
EPIP 5.8

Question Source: **Bank** _____
Modified Bank _____
New __x___

Question History: **Previous NRC Exam** _____

Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis __x__

10 CFR Part 55 Content: **55.43(b) __4___**
Comments: ____

*Question 123

Outline #: 98

		RO	SRO
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	__2__
	Group#	____	__1__
	K/A #	218000G2.4.22___	
	Imp. Rating	_____	4.0__

Proposed Question:

A reactor scram has occurred due to a main turbine trip. The LLS valves are cycling to maintain reactor pressure. Which one of the following statements describes the EOP actions that should be taken for this condition and the basis for those actions?

a. Open ADS valves manually to reduce pressure to 900 psig and minimize dynamic stresses on the tailpipes.

b. Open ADS valves to reduce pressure to 900 psig and minimize heat load on the condenser.

c. No action is necessary, the relief valves are left in automatic to allow time for the bypass valves to take control of pressure.

d. The NSO should operate Relief valves manually only if needed to prevent safety valve actuation, to minimize heat input to the containment.

Proposed Answer: __a____

Technical Reference(s): EOP 1A 3A

Question Source: **Bank** _____
Modified Bank _____
New ___x__

Question History: **Previous NRC Exam** _____

Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis _x___

10 CFR Part 55 Content: **55.43(b) _5____**
Comments: ____

*Question 124

Outline #: 99

		RO	SRO
Examination Outline Cross-Reference:	**Level**	____	__x__
	Tier#	____	__2__
	Group#	____	__2__
	K/A #	245000K1.01 _____	
	Imp. Rating	_____	3.3____

Proposed Question:

When the Main Generator is off-line, what conditions must be met to allow closure of a generator output breaker (PCB-3310 or PCB-3312) from the control room?

A. Disconnect 3311-L closed and Switchyard local breaker Control Switch for PCB 3310 or 3312 placed to LOCAL.

B. Disconnect 3311-L closed and the PCB 3310 and 3312 Close permissive Override switch must be placed in the ON position. (Brass handled pistol-grip keylock switch on Bd C).

C. No generator output voltage and Switchyard local breaker Control Switch for PCB 3310 or 3312 placed to LOCAL.

D. No generator output voltage and the PCB 3310 and 3312 Close permissive Override switch must be placed in the ON position. (Brass handled pistol-grip keylock switch on Bd C).

Proposed Answer: ___d___

Technical Reference(s):
Mn Gen & Aux. Text COR001-13-01

Learning Objective: ______
Question Source: **Bank** ___x__
Modified Bank _____
New _____

Question History: **Previous NRC Exam** _____

Question Cognitive Level: **Memory or Fundamental** ____
Comprehension or Analysis __x__

10 CFR Part 55 Content: **55.43(b) __2___**
Comments: ____

*Question 125

Outline #: 100

		RO	**SRO**
Examination Outline Cross-Reference:	**Level**	____	__x_
	Tier#	____	__3_
	Group#	____	____
	K/A #	G2.4.29________	
	Imp. Rating	_____	4.0__

Proposed Question:

A major plant accident has occurred with a major radioactive release is in progress. The Emergency Director has declared a General Emergency and wants to evacuate to the two-mile radius. Who makes the final decision to evacuate the general public?

a. The NRC.

b. State and Local Authorities.

c. NPPD corporate headquarters.

d. Federal Emergency Management Agency (FEMA)

Proposed Answer: __b___

Technical Reference(s):
"Protective Action Recommendations";EPIP 5.8

Proposed References provided to applicants during examination: ____________

Learning Objective: ______

Question Source: **Bank** _____
Modified Bank _____
New __x__

Question History: **Previous NRC Exam** _____

Question Cognitive Level: **Memory or Fundamental** __x_
Comprehension or Analysis ____

10 CFR Part 55 Content: **55.43(b) __5__**
Comments: ____