

Facility:		Oyster Creek ILT 09-1 NRC Exam Outline						Date of Exam:		May 17, 2010								
Tier	Group	RO K/A Category Points											SRO-Only Points					
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	Total	A2	G*	Total		
1. Emergency & Plant Evolutions	1	3	4	3				3	3			4	20	3	4	7		
	2	1	1	1				1	1			2	7	1	2	3		
	Tier Totals	4	5	4				4	4			6	27	4	6	10		
2. Plant Systems	1	2	3	2	3	2	3	2	3	2	3	2	26	2	3	5		
	2	1	1	1	1	1	1	1	2	1	1	1	12	0	2	3		
	Tier Totals	3	4	3	4	3	4	3	4	3	4	3	38	4	4	8		
3. Generic Knowledge & Abilities Categories					1	2	3	4					10	1	2	3	4	7
					2	2	3	3						1	2	2	2	
Note:	<p>1. Ensure that at least two topics from every applicable K/A category are sampled within each tier of the RO and SRO-only outlines (i.e., except for one category in Tier 3 of the SRO-only outline, the "Tier Totals" in each K/A category shall not be less than two).</p> <p>2. The point total for each group and tier in the proposed outline must match that specified in the table. The final point total for each group and tier may deviate by ±1 from that specified in the table based on NRC revisions. The final RO exam must total 75 points and the SRO-only exam must total 25 points.</p> <p>3. Systems/evolutions within each group are identified on the associated outline; systems or evolutions that do not apply at the facility should be deleted and justified; operationally important, site-specific systems that are not included on the outline should be added. Refer to section D.1.b of ES-401, for guidance regarding elimination of inappropriate K/A statements.</p> <p>4. Select topics from as many systems and evolutions as possible; sample every system or evolution in the group before selecting a second topic for any system or evolution.</p> <p>5. Absent a plant specific priority, only those KAs having an importance rating (IR) of 2.5 or higher shall be selected. Use the RO and SRO ratings for the RO and SRO-only portions, respectively.</p> <p>6. Select SRO topics for Tiers 1 and 2 from the shaded systems and K/A categories.</p> <p>7.* The generic (G) 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. Refer to Section D.1.b of ES-401 for the applicable K/A's</p> <p>8. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings (IR) for the applicable license level, and the point totals (#) for each system and category. Enter the group and tier totals for each category in the table above. If fuel handling equipment is sampled in other than Category A2 or G* on the SRO-only exam, enter it on the left side of Column A2 for Tier 2, Group 2 (Note #1 does not apply). Use duplicate pages for RO and SRO-only exams.</p> <p>9. For Tier 3, select topics from Section 2 of the K/A Catalog, and enter the K/A numbers, descriptions, IRs, and point totals (#) on Form ES-401-3. Limit SRO selections to K/As that are linked to 10CFR55.43</p>																	

ILT 09-1 NRC Exam Outline  
Written Examination Outline  
Emergency and Abnormal Plant Evolutions – Tier 1 Group 1

EAPE # / Name Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Q#
295028 High Drywell Temperature / 5					X		EA2.02 - Ability to determine and/or interpret the following as they apply to HIGH DRYWELL TEMPERATURE : Reactor pressure	3.9	1
295019 Partial or Total Loss of Inst. Air / 8					X		AA2.01 - Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF INSTRUMENT AIR : Instrument air system pressure	3.6	2
295018 Partial or Total Loss of CCW / 8					X		AA2.03 - Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF COMPONENT COOLING WATER : Cause for partial or complete loss	3.5	3
295006 SCRAM / 1						X	2.4.18 - Emergency Procedures / Plan: Knowledge of the specific bases for EOPs.	4.0	4
295038 High Offsite Release Rate						X	2.4.11 - Emergency Procedures / Plan: Knowledge of abnormal condition procedures.	4.2	5
295037 SCRAM Conditions Present and Reactor Power Above APRM Downscale or Unknown / 1						X	2.4.20 - Emergency Procedures / Plan: Knowledge of operational implications of EOP warnings, cautions, and notes.	4.3	6
700000 Generator Voltage and Electric Grid Disturbances						X	2.2.40 - Equipment Control: Ability to apply technical specifications for a system.	4.7	7
295025 High Reactor Pressure / 3	X						EK1.05 - Knowledge of the operational implications of the following concepts as they apply to HIGH REACTOR PRESSURE : Exceeding safety limits	4.4	39
600000 Plant Fire On-site / 8	X						AK1.02 - Knowledge of the operation applications of the following concepts as they apply to Plant Fire On Site: Fire Fighting	2.9	40
295004 Partial or Total Loss of DC Pwr / 6	X						AK1.05 - Knowledge of the operational implications of the following concepts as they apply to PARTIAL OR COMPLETE LOSS OF D.C. POWER : Loss of breaker protection	3.3	41
295030 Low Suppression Pool Water Level / 5		X					EK2.07 - Knowledge of the interrelations between LOW SUPPRESSION POOL WATER LEVEL and the following: Downcomer/ horizontal vent submergence	3.5	42
295018 Partial or Total Loss of CCW / 8		X					AK2.01 - Knowledge of the interrelations between PARTIAL OR COMPLETE LOSS OF COMPONENT COOLING WATER and the following: System loads	3.3	43
295021 Loss of Shutdown Cooling / 4		X					AK2.03 - Knowledge of the interrelations between LOSS OF SHUTDOWN COOLING and the following: RHR/shutdown cooling	3.6	44
295031 Reactor Low Water Level / 2			X				EK3.04 - Knowledge of the reasons for the following responses as they apply to REACTOR LOW WATER LEVEL : Steam cooling	4.0	45
295037 SCRAM Conditions Present and Reactor Power Above APRM Downscale or Unknown / 1			X				EK3.01 - Knowledge of the reasons for the following responses as they apply to SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN : Recirculation pump trip/runback: Plant-Specific	4.1	46



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EAPE # / Name Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Q#
295023 Refueling Acc Cooling Mode / 8			X				AK3.02 - Knowledge of the reasons for the following responses as they apply to REFUELING ACCIDENTS : Interlocks associated with fuel handling equipment	3.4	47
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4				X			AA1.01 - Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF FORCED CORE FLOW CIRCULATION : Recirculation System	3.5	48
295038 High Off-site Release Rate / 9				X			EA1.01 - Ability to operate and/or monitor the following as they apply to HIGH OFF-SITE RELEASE RATE: Stack-gas monitoring	3.9	49
295016 Control Room Abandonment / 7				X			AA1.04 - Ability to operate and/or monitor the following as they apply to CONTROL ROOM ABANDONMENT : A.C. electrical distribution	3.1	50
295019 Partial or Total Loss of Inst. Air / 8					X		AA2.01 - Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF INSTRUMENT AIR : Instrument air system pressure	3.5	51
295006 SCRAM / 1					X		AA2.03 - Ability to determine and/or interpret the following as they apply to SCRAM : Reactor water level	4.0	52
295003 Partial or Complete Loss of AC / 6					X		AA2.04 - Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF A.C. POWER : System lineups	3.5	53
295026 Suppression Pool High Water Temp. / 5						X	2.4.47 - Emergency Procedures / Plan: Ability to diagnose and recognize trends in an accurate and timely manner utilizing the appropriate control room reference material.	4.2	54
295005 Main Turbine Generator Trip / 3						X	2.2.42 - Equipment Control: Ability to recognize system parameters that are entry-level conditions for Technical Specifications.	3.9	55
295024 High Drywell Pressure / 5						X	2.2.37 - Ability to determine operability and/or availability of safety related equipment.	3.6	56
700000 Generator Voltage and Electric Grid Disturbances						X	2.4.4 - Emergency Procedures / Plan: Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.	4.5	57
295028 High Drywell Temperature / 5		X					EK2.02 - Knowledge of the interrelations between HIGH DRYWELL TEMPERATURE and the following: Components internal to the drywell	3.2	58
K/A Category Totals:	3	4	3	3	3/3	4/4	Group Point Total:	20/7	

ILT 09-1 NRC Exam Outline  
Written Examination Outline  
Emergency and Abnormal Plant Evolutions – Tier 1 Group 2

EAPE # / Name Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Q#
295009 Low Reactor Water Level / 2					X		AA2.02 - Ability to determine and/or interpret the following as they apply to LOW REACTOR WATER LEVEL : Steam flow/feed flow mismatch	3.7	8
295008 High Reactor Water Level / 2						X	2.1.20 - Conduct of Operations: Ability to interpret and execute procedure steps.	4.6	9
295013 High Suppression Pool Temperature / 5						X	2.1.23 - Conduct of Operations: Ability to perform specific system and integrated plant procedures during all modes of plant operation.	4.4	10
295017 High Off-site Release Rate / 9	X						AK1.03 - Knowledge of the operational implications of the following concepts as they apply to HIGH OFF-SITE RELEASE RATE : Protection of the general public	3.8	59
295035 Secondary Containment High Differential Pressure / 5		X					EK2.01 - Knowledge of the interrelations between SECONDARY CONTAINMENT HIGH DIFFERENTIAL PRESSURE and the following: Secondary containment ventilation	3.6	60
295033 High Secondary Containment Area Radiation Levels / 9			X				EK3.01 - Knowledge of the reasons for the following responses as they apply to HIGH SECONDARY CONTAINMENT AREA RADIATION LEVELS : Emergency depressurization	3.3	61
295034 Secondary Containment Ventilation High Radiation / 9				X			EA1.04 - Ability to operate and/or monitor the following as they apply to SECONDARY CONTAINMENT VENTILATION HIGH RADIATION : SBTG/FRVS: Plant-Specific	4.1	62
295002 Loss of Main Condenser Vac / 3					X		AA2.02 - Ability to determine and/or interpret the following as they apply to LOSS OF MAIN CONDENSER VACUUM : Reactor power: Plant-Specific	3.2	63
295007 High Reactor Pressure / 3						X	2.1.7 - Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.	4.4	64
295022 Loss of CRD Pumps / 1						X	2.2.2 - Ability to manipulate the console controls as required to operate the facility between shutdown and designated power levels.	4.6	65
K/A Category Totals:	1	1	1	1	1/1	2/2	Group Point Total:	7/3	

ILT 09-1 NRC Exam Outline  
 Written Examination Outline  
 Plant Systems – Tier 2 Group 1

System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	Imp	Q#
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261000 SGTS								X				A2.07 - Ability to (a) predict the impacts of the following on the STANDBY GAS TREATMENT SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: A.C. electrical failure	2.8	11
215004 Source Range Monitor								X				A2.01 - Ability to (a) predict the impacts of the following on the SOURCE RANGE MONITOR (SRM) SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Power supply degraded	2.9	12
211000 SLC										X		2.4.4 - Emergency Procedures / Plan: Ability to recognize abnormal indications for system operating parameters that are entry-level conditions for emergency and abnormal operating procedures.	4.7	13
263000 DC Electrical Distribution										X		2.1.30 - Conduct of Operations: Ability to locate and operate components, including local controls.	4.0	14
400000 Component Cooling Water										X		2.4.16 - Knowledge of EOP implementation hierarchy and coordination with other support procedures or guidelines such as, operating procedures, abnormal operating procedures, and severe accident management guidelines.	4.4	15
212000 RPS	X											K1.01 - Knowledge of the physical connections and/or cause- effect relationships between REACTOR PROTECTION SYSTEM and the following: Nuclear instrumentation	3.7	1
223002 PCIS/Nuclear Steam Supply Shutoff	X											K1.02 - Knowledge of the physical connections and/or cause- effect relationships between PRIMARY CONTAINMENT ISOLATION SYSTEM/NUCLEAR STEAM SUPPLY SHUT-OFF and the Reactor water cleanup	3.3	2
262001 AC Electrical Distribution		X										K2.01 - Knowledge of electrical power supplies to the following: Off-site sources of power	3.3	3
263000 DC Electrical Distribution		X										K2.01 - Knowledge of electrical power supplies to the following: Major D.C. loads	3.1	4

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 Written Examination Outline  
 Plant Systems – Tier 2 Group 1

System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	Imp	Q#
215005 APRM / LPRM			X									3.0	5
259002 Reactor Water Level Control			X									2.7	6
239002 SRVs				X								3.6	7
400000 Component Cooling Water				X								3.4	8
205000 Shutdown Cooling					X							2.8	9
264000 EDGs					X							3.4	10
261000 SGTS						X						2.9	11
262002 UPS (AC/DC)						X						2.7	12
209001 LPCS							X					3.0	13

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 Written Examination Outline  
 Plant Systems – Tier 2 Group 1

System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A2	A 3	A 4	G	Imp	Q#	
218000 ADS							X					A1.01 - Ability to predict and/or monitor changes in parameters associated with operating the AUTOMATIC DEPRESSURIZATION SYSTEM controls including: ADS valve tail pipe temperatures	3.4	14
215003 IRM								X				A2.04 - Ability to (a) predict the impacts of the following on the INTERMEDIATE RANGE MONITOR (IRM) SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Up scale or down scale trips	3.7	15
300000 Instrument Air								X				A3.02 - Ability to monitor automatic operations of the INSTRUMENT AIR SYSTEM including: Air temperature	2.9	16
207000 Isolation (Emergency) Condenser									X			A3.03 - Ability to monitor automatic operations of the ISOLATION (EMERGENCY) CONDENSER including: Reactor water level: BWR-2,3	3.5	17
211000 SLC									X			A2.02 - Ability to (a) predict the impacts of the following on the STANDBY LIQUID CONTROL SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Failure of explosive valve to fire	3.6	18
215004 Source Range Monitor										X		A4.06 - Ability to manually operate and/or monitor in the control room: Alarms and lights	3.2	19
259002 Reactor Water Level Control										X		A4.03 - Ability to manually operate and/or monitor in the control room: All individual component controllers when transferring from manual to automatic modes	3.8	20
215005 APRM / LPRM											X	2.4.6 - Emergency Procedures / Plan: Knowledge of EOP mitigation strategies.	3.7	21
264000 EDGs											X	2.4.3 - Emergency Procedures / Plan: Ability to identify post-accident instrumentation.	3.7	22
215004 Source Range Monitor		X										K2.01 - Knowledge of electrical power supplies to the following: SRM channels/detectors	2.6	23



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 Written Examination Outline  
 Plant Systems – Tier 2 Group 1

System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A2	A 3	A 4	G	Imp	Q#			
239002 SRVs							X							K6.01 - Knowledge of the effect that a loss or malfunction of the following will have on the RELIEF/SAFETY VALVES : Nuclear boiler instrument system (pressure indication)	3.2	24
212000 RPS											X			A4.17 - Ability to manually operate and/or monitor in the control room: Perform alternate reactivity/ shutdown operations	4.1	25
300000 Instrument Air				X										K4.01 - Knowledge of (INSTRUMENT AIR SYSTEM) design feature(s) and or interlocks which provide for the following: Manual/automatic transfers of control	2.8	26
K/A Category Totals:	2	3	2	3	2	3	2	2/2	2	3	2/3	Group Point Total:		26/5		



ILT 09-1 NRC Exam Outline  
 Written Examination Outline  
 Plant Systems – Tier 2 Group 2

System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A2	A 3	A 4	G	Imp.	Q #	
272000 Radiation Monitoring								X					3.1	16
215001 Traversing In-core Probe											X		4.7	17
259001 Reactor Feedwater								X					2.6	18
241000 Reactor/Turbine Pressure Regulator	X												2.8	27
226001 RHR/LPCI: CTMT Spray Mode		X											2.9	28
201003 Control Rod and Drive Mechanism			X										3.2	29
201002 RMCS				X									3.5	30
223001 Primary CTMT and Aux.					X								3.1	31
201006 RWM						X							2.8	32
233000 Fuel Pool Cooling/Cleanup							X						2.6	33

ILT 09-1 NRC Exam Outline  
 Written Examination Outline  
 Plant Systems – Tier 2 Group 2

System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A2	A 3	A 4	G	Imp.	Q #
215001 Traversing In-core Probe								X				3.4	34
204000 RWCU									X			2.8	35
201001 CRD Hydraulic										X		3.1	36
259001 Reactor Feedwater											X	4.2	37
290002 Reactor Vessel Internals								X				3.6	38
K/A Category Totals:	1	1	1	1	1	1	1	2/2	1	1	1/1	Group Point Total: 12/3	

Facility:		Oyster Creek ILT 09-1 NRC Exam Outline		Date:		May 17, 2010	
Category	K/A #	Topic	RO		SRO-Only		
			IR	Q#	IR	Q#	
1. Conduct of Operations	2.1.23	Ability to perform specific system and integrated plant procedures during all modes of plant operation.			4.4	19	
	2.1.18	Ability to make accurate, clear and concise logs, records, status boards, and reports.	3.6	66			
	2.1.38	Knowledge of the station's requirements for verbal communications when implementing procedures.	3.7	67			
	Subtotal			2	1		
2. Equipment Control	2.2.17	Knowledge of the process for managing maintenance activities during power operations, such as risk assessments, work prioritization, coordination with the transmission system operator.			3.8	20	
	2.2.36	Ability to analyze the effect of maintenance activities, such as degraded power sources, on the status of limiting conditions for operations.			4.2	24	
	2.2.36	Ability to analyze the effect of maintenance activities, such as degraded power sources, on the status of limiting conditions for operations.	3.1	68			
	2.2.14	Knowledge of the process for controlling equipment configuration or status.	3.9	69			
	Subtotal			2	2		
3. Radiation Control	2.3.4	Knowledge of radiation exposure limits under normal or emergency conditions.			3.7	21	
	2.3.15	Knowledge of radiation monitoring systems, such as fixed radiation monitors and alarms, portable survey instruments, personnel monitoring equipment, etc.			3.1	23	
	2.3.14	Knowledge of radiation or containment hazards that may arise during normal, abnormal, or emergency conditions or activities.	3.4	70			



	2.3.5	Ability to use radiation monitoring systems, such as fixed radiation monitors and alarms, portable survey instruments, personnel monitoring equipment, etc.	2.9	71		
	2.3.11	Ability to control radiation releases.	3.8	74		
	Subtotal			3		2
4. Emergency Procedures / Plan	2.4.50	Ability to verify system alarm setpoints and operate controls identified in the alarm response manual.			4.0	22
	2.4.40	Knowledge of SRO responsibilities in emergency plan implementation.			4.5	25
	2.4.25	Knowledge of fire protection procedures.	3.3	72		
	2.4.46	Ability to verify that the alarms are consistent with the plant conditions.	4.2	73		
	2.4.2	Knowledge of system set points, interlocks and automatic actions associated with EOP entry conditions.	4.5	75		
	Subtotal			3		2
Tier 3 Point Total				10		7



Tier / Group	Randomly Selected K/A	Reason for Rejection
RO 2/1	215005 K3.08	215005 K3.01 was very close in content to another KA in the outline (212000 K1.01: Relation between APRMs and RPS) and has been replaced. KA 215005 K3.08 (3.0/3.4) was randomly selected as a replacement.
RO 2/1	262002 K6.01	262002 K6.03 UPS at Oyster Creek (Vital AC) does not utilize static inverters. KA 262002 K6.01 (2.7/2.9) was randomly selected as a replacement.
RO 2/1	300000 A3.02	300000 K2.01 This KA is on the candidates' audit examination. KA 300000 A3.02 (2.9/2.7) was randomly selected as a replacement.
RO 2/1	211000 A2.02	211000 A3.01 This KA is related to the automatic operation of the SLC System. The SLC System at Oyster Creek has no automatic operation. 211000 A2.02 (3.6/3.9) was randomly selected as a replacement.
RO 2/2	223001 K5.01	223001 K5.10 An operationally relevant question could not be developed. KA 223001 K5.01 (3.1/3.3) was randomly selected as a replacement.
RO 2/2	201006 K6.01	201006 K6.04 The RWM does not lose functionality upon the loss of the Process Computer. KA 201006 K6.01 (2.8/3.2) was randomly selected as a replacement.
RO 2/2	204000 A3.05	204000 A3.02 There is no automatic response of the RWCU System related to reactor water quality. KA 204000 A3.05 (2.8/2.8) was randomly selected as a replacement.
RO 2/2	259001 2.4.34	271000 2.4.34 An operationally relevant question could not be developed. KA 259001 G2.4.34 (4.2/4.1) was randomly selected as a replacement.
RO 2/2	290002 A2.05	290002 A2.03 An operationally relevant question could not be developed. KA 290002 A2.05 (3.7/4.2) was randomly selected as a replacement.
RO 1/1	600000 AK1.02	600000 AK1.01 An operationally relevant question could not be developed. KA 600000 AK1.02 (2.9/3.1) was randomly selected as a replacement.
RO 1/1	295021 AK2.03	295021 AK2.06 An operationally relevant question could not be developed. KA 295021 AK2.03 (3.6/3.6) was randomly selected as a replacement.
RO 1/1	295001 AA1.01	295001 AA1.03 This KA is very close to question on the candidates' audit exam. 295001 AA1.01 (3.5/3.6) was randomly selected as a replacement.

RO 1/1	295038 EA1.07	295038 EA1.05 The PASS System is neither monitored nor operated by Licensed Operators. KA 295038 EA1.01 (3.9/4.2) was randomly selected as a replacement.
RO 1/1	295005 G2.2.37	295005 G2.2.4 This KA applies to a dual-unit facility. Oyster Creek is a single-unit facility. KA 259005 G2.2.37 (3.6/4.6) was randomly selected as a replacement.
RO 1/2	295007 G2.1.7	295007 G2.1.27 An operationally relevant question could not be developed. KA 295007 G2.1.7 (4.4/4.7) was randomly selected as a replacement.
RO 1/2	295022 G2.2.2	295022 G2.2.25 There is no safety limit associated with loss of CRD Pumps and LCO bases for loss of CRD Pumps is not appropriate at the RO level. KA 295022 G2.2.2 (4.6/4.1) was randomly selected as a replacement.
RO 3	G2.2.36	G2.2.39 This KA is not appropriate at the RO level. KA G2.2.36 (3.1/4.2) was randomly selected as a replacement.
RO 3	G2.2.14	G2.2.17 An operationally relevant question could not be developed. G2.2.14 (3.9/4.3) was randomly selected as a replacement.
RO 3	G2.4.2	G2.4.22 An operationally relevant question could not be developed. G2.4.2 (4.5/4.6) was randomly selected as a replacement.
SRO 1/1	295038 G2.4.11	295030 G2.4.11 Oyster Creek has no abnormal condition procedure (ABN) related to low Suppression Pool water level. KA 295038 G2.4.11 (4.0/4.2) was randomly selected as a replacement.
SRO 2/1	211000 G2.4.4	223002 G2.4.34 An operationally relevant question could not be developed. KA 211000 G2.4.4 (4.5/4.7) was randomly selected as a replacement.
SRO 2/1	263000 G2.1.30	300000 G2.1.30 An operationally relevant question could not be developed. KA 213000 G2.1.30 (4.4/4.0) was randomly selected as a replacement.
SRO 2/1	400000 G2.4.16	400000 G2.4.3 An operationally relevant question could not be developed. KA 400000 G2.4.16 (3.5/4.4) was randomly selected as a replacement.
SRO 2/2	259001 A2.08	239001 A2.06 An operationally relevant question could not be developed. KA 259001 A2.08 (2.5/2.6) was randomly selected as a replacement.
SRO 3	G2.2.36	G2.2.39 An operationally relevant question could not be developed. KA G2.2.36 (3.1/4.2) was randomly selected as a replacement.
SRO 3	G2.4.40	G2.4.27 An operationally relevant question could not be developed. KA G2.4.40 (2.7/4.5) was randomly

		selected as a replacement.
RO 1/2	295017 AK1.02	295017 AK1.03 An operationally relevant question could not be developed. KA 295017 AK1.02 (3.8/4.3) was randomly selected as a replacement.

Facility: <u>Oyster Creek</u>		Date of Examination: <u>May 17, 2010</u>
Examination Level: RO <input type="checkbox"/> SRO <input checked="" type="checkbox"/>		Operating Test Number: <u>OC 2010</u>
Administrative Topic (See Note)	Type Code*	Describe activity to be performed
Conduct of Operations	N,R	Coordinate Personnel Activities Outside the Control Room; G2.1.8 (4.1)
Conduct of Operations	M, R	Apply Work Hour Rules; G2.1.5 (3.9)
Equipment Control	N, R	Review Completed Surveillance Test 619.3.016, High Drywell Pressure Scram Test And Calibration; G2.2.12 (4.1)
Radiation Control	N, R	Determine Recommendation for KI Issuance for Off-site Emergency Workers And On-site Personnel During An Emergency; G2.3.14 (3.8)
Emergency Procedures/Plan	M, R	Classify An Emergency And Initiate A State/Local Notification Form and PAR Notification Form; G2.4.40 (4.5)
<p><b>NOTE:</b> All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.</p>		
<p>* Type Codes &amp; Criteria:</p> <ul style="list-style-type: none"> <li>(C)ontrol room, (S)imulator, or Class(R)oom</li> <li>(D)irect from bank (<math>\leq 3</math> for ROs; <math>\leq 4</math> for SROs &amp; RO retakes)</li> <li>(N)ew or (M)odified from bank (<math>\geq 1</math>)</li> <li>(P)revious 2 exams (<math>\leq 1</math>; randomly selected)</li> </ul>		



Facility: <u>Oyster Creek</u>		Date of Examination: <u>May 17, 2010</u>
Examination Level: RO <input checked="" type="checkbox"/> SRO <input type="checkbox"/>		Operating Test Number: <u>OC 2010</u>
Administrative Topic (See Note)	Type Code*	Describe activity to be performed
Conduct of Operations	N, R	Determine Thermal Limit Restrictions with the EPR Out of Service IAW 202.1; G2.1.7 (4.4) [RO Admin JPM1]
Conduct of Operations	D, S	Perform Week 4 of 680.4.007, Safety Related Equipment Verification; G2.1.29 (4.1) [RO Admin JPM2]
Equipment Control	D, R, P	Perform Manual Core Heat Balance Calculation IAW 1001.6; G2.2.12 (3.7) [RO Admin JPM3]
Radiation Control		
Emergency Procedures/Plan	M, S	Perform Actions of Shift Communicator During an Emergency; G2.4.39 (3.9) [RO Admin JPM4]
NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when 5 are required.		
* Type Codes & Criteria:		
(C)ontrol room, (S)imulator, or Class(R)oom		
(D)irect from bank ( $\leq 3$ for ROs; $\leq 4$ for SROs & RO retakes)		
(N)ew or (M)odified from bank ( $\geq 1$ )		
(P)revious 2 exams ( $\leq 1$ ; randomly selected)		

Facility: <u>Oyster Creek</u>		Date of Examination: <u>May 17, 2010</u>	
Exam Level: RO <input type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input checked="" type="checkbox"/>		Operating Test Number: <u>OC 2010</u>	
Control Room Systems <sup>@</sup> (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)			
System / JPM Title	Type Code*	Safety Function	
a.			
b.			
c.			
d. Shutdown Core Spray with Actuating Signals Present (Alternate Path); 209001 A4.01 (3.8/3.6) [Sim4]	D, A, EN	4	
e. Purge the Primary Containment (Alternate Path); 223001 A4.07 (4.2/4.1) [Sim5]	N, A	5	
f. De-energize 1A1 Transformer by Cross-tying USS 1A1 to USS 1B1; 262001 A1.05 (3.2/3.5) [Sim6]	N, L	6	
g.			
h.			
In-Plant Systems <sup>@</sup> (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)			
i. Vent the Control Rod Drive Over Piston Volume; 201003 A2.01 (3.4/3.6) [Plant1]	D, R, E	1	
j. Inject the CST via Core Spray; 209001 A1.08 (3.3/3.2) [Plant2]	D, R, E	2	
k.			
<p><sup>@</sup> All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.</p>			
* Type Codes	Criteria for RO / SRO-I / SRO-U		
(A)lternate path	4-6 / 4-6 / 2-3		
(C)ontrol room			
(D)irect from bank	≤ 9 / ≤ 8 / ≤ 4		
(E)mergency or abnormal in-plant	≥ 1 / ≥ 1 / ≥ 1		
(EN)gineered safety feature	- / - / ≥ 1 (control room system		
(L)ow-Power / Shutdown	≥ 1 / ≥ 1 / ≥ 1		
(N)ew or (M)odified from bank including 1(A)	≥ 2 / ≥ 2 / ≥ 1		
(P)revious 2 exams	≤ 3 / ≤ 3 / ≤ 2 (randomly selected)		
(R)CA	≥ 1 / ≥ 1 / ≥ 1		
(S)imulator			

Facility: <u>Oyster Creek</u>		Date of Examination: <u>May 17, 2010</u>
Exam Level: RO <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>		Operating Test Number: <u>OC 2010</u>
Control Room Systems <sup>@</sup> (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)		
System / JPM Title	Type Code*	Safety Function
a. Perform Recirculation Pumps Trip Circuitry Test, 603.4.001 w/ Multiple Recirculation Pump Trips (Alternate Path); 202001 A2.04 (3.7/3.8) [Sim JPM1]	P, D, A	1
b. Shutdown Second RWCU Pump; 204000 A4.01 (3.1/3.0) [Sim JPM2]	D	2
c. Transfer to the MPR and Raise RPV Pressure; 241000 A4.01 (3.8/3.8) [Sim JPM3]	M	3
d. Shutdown Core Spray with Actuating Signals Present (Alternate Path); 209001 A4.01 (3.8/3.6) [Sim JPM4]	D, A, EN	4
e. Purge the Primary Containment (Alternate Path); 223001 A4.07 (4.2/4.1) [Sim JPM5]	N, A	5
f. De-energize 1A1 Transformer by Cross-tying USS 1A1 to USS 1B1; 262001 A1.05 (3.2/3.5) [Sim JPM6]	N, L	6
g. Delete a Substitute Control Rod Position in the RWM and Initiate the Power Ops Mode; 201006 A4.02 (2.9/2.9) [Sim JPM7]	M	7
h. Restart RB Ventilation System with Fan Failure (Alternate Path); 288000 A4.01 (3.1/2.9) [Sim JPM8]	N, A	9
In-Plant Systems <sup>@</sup> (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. Vent the Control Rod Drive Over Piston Volume; 201003 A2.01 (3.4/3.6) [Plant JPM1]	D, R, E	1
j. Inject the CST via Core Spray; 209001 A1.08 (3.3/3.2) [Plant JPM2]	D, R, E	2
k. Swap Static Chargers from C1 to C2; 263000 K1.02 (3.2/3.3) [Plant JPM3]	D, R	6
<p><sup>@</sup> All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.</p>		
* Type Codes	Criteria for RO / SRO-I / SRO-U	

(A)lternate path	4-6 / 4-6 / 2-3
(C)ontrol room	
(D)irect from bank	$\leq 9 / \leq 8 / \leq 4$
(E)mergency or abnormal in-plant	$\geq 1 / \geq 1 / \geq 1$
(EN)gineered safety feature	- / - / $\geq 1$ (control room system)
(L)ow-Power / Shutdown	$\geq 1 / \geq 1 / \geq 1$
(N)ew or (M)odified from bank including 1(A)	$\geq 2 / \geq 2 / \geq 1$
(P)revious 2 exams	$\leq 3 / \leq 3 / \leq 2$ (randomly selected)
(R)CA	$\geq 1 / \geq 1 / \geq 1$
(S)imulator	



Facility: <u>Oyster Creek</u>		Date of Examination: <u>May 17, 2010</u>	
Exam Level: RO <input type="checkbox"/> SRO-I <input checked="" type="checkbox"/> SRO-U <input type="checkbox"/>		Operating Test Number: <u>OC 2010</u>	
Control Room Systems <sup>@</sup> (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)			
System / JPM Title	Type Code*	Safety Function	
a. Perform Recirculation Pumps Trip Circuitry Test, 603.4.001 w/ Multiple Recirculation Pump Trips (Alternate Path); 202001 A2.04 (3.7/3.8) [Sim1]	P, D, A	1	
b.			
c. Transfer to the MPR and Raise RPV Pressure; 241000 A4.01 (3.8/3.8) [Sim3]	M	3	
d. Shutdown Core Spray with Actuating Signals Present (Alternate Path); 209001 A4.01 (3.8/3.6) [Sim4]	D, A, EN	4	
e. Purge the Primary Containment (Alternate Path); 223001 A4.07 (4.2/4.1) [Sim5]	N, A	5	
f. De-energize 1A1 Transformer by Cross-tying USS 1A1 to USS 1B1; 262001 A1.05 (3.2/3.5) [Sim6]	N, L	6	
g. Delete a Substitute Control Rod Position in the RWM and Initiate the Power Ops Mode; 201006 A4.02 (2.9/2.9) [Sim7]	M	7	
h. Restart RB Ventilation System with Fan Failure (Alternate Path); 288000 A4.01 (3.1/2.9) [Sim8]	N, A	9	
In-Plant Systems <sup>@</sup> (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)			
i. Vent the Control Rod Drive Over Piston Volume; 201003 A2.01 (3.4/3.6) [Plant1]	D, R, E	1	
j. Inject the CST via Core Spray; 209001 A1.08 (3.3/3.2) [Plant2]	D, R, E	2	
k. Swap Static Chargers from C1 to C2; 263000 K1.02 (3.2/3.3) [Plant2]	D, R	6	
<p><sup>@</sup> All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.</p>			
* Type Codes		Criteria for RO / SRO-I / SRO-U	

(A)lternate path	4-6 / 4-6 / 2-3
(C)ontrol room	
(D)irect from bank	$\leq 9$ / $\leq 8$ / $\leq 4$
(E)mergency or abnormal in-plant	$\geq 1$ / $\geq 1$ / $\geq 1$
(EN)gineered safety feature	- / - / $\geq 1$ (control room system)
(L)ow-Power / Shutdown	$\geq 1$ / $\geq 1$ / $\geq 1$
(N)ew or (M)odified from bank including 1(A)	$\geq 2$ / $\geq 2$ / $\geq 1$
(P)revious 2 exams	$\leq 3$ / $\leq 3$ / $\leq 2$ (randomly selected)
(R)CA	$\geq 1$ / $\geq 1$ / $\geq 1$
(S)imulator	

# Oyster Creek 09-1 NRC Exam Scenario

## Scenario Outline

Facility: Oyster Creek

Scenario No.: 4

Op Test No.: OC 2010

Examiners: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Operators: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Initial Conditions:**

- 14% power during a startup (IC 152)
- The RWM is inoperable and Bypassed
- Control Room HVC System A is inoperable

**Turnover:**

- Startup in progress

Event No.	Malf. No.	Event Type*		Event Description
1	NA	N	BOP	Swaps Service Water Pumps
2	NA	R	ATC	Withdraws control rods to raise reactor power
3	MAL-CRD007	C	ATC	Respond to indications of a stuck control rod
4	MAL-EDS004B	C TS	BOP SRO	Respond to the loss of Vital Bus 1B2
5	LOA-RCP003 MAL-RCP003C MAL-RCP004C	C TS	BOP SRO	Responds to Recirculation Pump C inner seal failure, then outer seal failure
6	MAL-NSS025C	C	ATC	Responds to an open EMRV leading to a manual scram
7	CAEP ATWS	M	All	Responds to an electric ATWS
8	PMP-SLC001A PMP-SLC002A	C	RO	Respond to Standby Liquid Control Pump shaft break

\* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor Transient, (TS) Tech Specs

# Oyster Creek 09-1 NRC Exam Scenario

## Scenario Outline

<b>Facility:</b> <u>Oyster Creek</u>	<b>Scenario No.:</b> <u>3</u>	<b>Op Test No.:</b> <u>OC 2010</u>	
<b>Examiners:</b> _____	<b>Operators:</b> _____		
_____	_____		
_____	_____		
<b><u>Initial Conditions:</u></b>			
<ul style="list-style-type: none"> <li>• The plant is at 100% power</li> <li>• Air Compressor 3 is tagged out of service</li> </ul>			
<b><u>Turnover:</u></b>			
<ul style="list-style-type: none"> <li>• Reduce power IAW the ReMA</li> <li>• Perform 323.6, Backwashing Condensers</li> </ul>			
Event No.	Malfunction No.	Event Type*	Event Description
1	NA	R ATC	Reduces reactor power with recirculation flow to 97%
2	NA	N BOP	Performs Condenser A North Condenser Backwash procedure
3	MAL-SLC003A	TS SRO	Respond to Standby Liquid Control System 1 loss of squib continuity
4	BKR-RFC001 MAL-RFC002A	C BOP	Respond to abnormalities on Recirculation Pump A
5	MAL-EDS003B	C TS All	Respond to the loss of 480 VAC USS 1A2
6	BKR-CRD001 MAL-CRD010 MAL-CRD007	C ATC	Respond to CRD Pump NC08B trip leads to a manual scram; Four control rods remain at position 48
7	MAL-NSS005C MAL-PCN008	M C All	Respond to primary coolant leak in the Drywell
8	VLV-CNS005	C All	Respond to the loss of Drywell Sprays

\* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor Transient, (TS) Tech Specs

# Oyster Creek 09-1 NRC Exam Scenario

## Scenario Outline

<b>Facility:</b> <u>Oyster Creek</u>		<b>Scenario No.:</b> <u>2</u>		<b>Op Test No.:</b> <u>OC 2010</u>	
<b>Examiners:</b> _____			<b>Operators:</b> _____		
_____			_____		
_____			_____		
<b>Initial Conditions:</b>					
<ul style="list-style-type: none"> <li>• The plant is at 90% power</li> <li>• The RWM is inoperable and bypassed</li> <li>• Service Water Pump 1-2 is OOS</li> </ul>					
<b>Turnover:</b>					
<ul style="list-style-type: none"> <li>• Perform Anticipatory Scram Turbine Stop Valve Closure Test (&gt;45% Load), 619.4.002</li> <li>• Raise reactor power to rated</li> </ul>					
Event No.	Mal. No.	Event Type*		Event Description	
1	NA	N	BOP	Perform Anticipatory Scram Turbine Stop Valve Closure Test (>45% Load), 619.4.002	
2	NA	R	ATC	Raise reactor power to 100% with Recirculation Flow	
3	ICH-NSS118A FLY-RPS010B	I TS	ATC SRO	Responds to RE05B RPV water level instrument failure (low) without the expected ½ scram response on RPS 1	
4	MAL-MSS005A	C	BOP	Responds to trip of Steam Packing Exhauster 1	
5	CNH-FWH001B CNH-FWH004B CNH-FWH007B	C	ATC	Responds to partial loss of feedwater heating	
6	MAL-NSS026C	I TS	BOP SRO	Responds to EMRV acoustic monitor failure (NR108C)	
7	MAL-RSX001	M	All	Responds to rising main steam and offgas radiation monitors due to fuel failures	
8	VLV-ICS005 VLV-ICS006 MAL-ICS003A	C	All	Responds to unisolable Isolation Condenser steam leak with fuel failures leading to Emergency Depressurization	

\* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor Transient, (TS) Tech Specs

# Oyster Creek 09-1 NRC Exam Scenario

## Scenario Outline

<b>Facility:</b> <u>Oyster Creek</u>		<b>Scenario No.:</b> <u>1</u>		<b>Op Test No.:</b> <u>OC 2010</u>	
<b>Examiners:</b> _____			<b>Operators:</b> _____		
_____			_____		
_____			_____		
<b>Initial Conditions:</b>					
<ul style="list-style-type: none"> <li>• The plant is at 97% power</li> <li>• RWCU Pump B is tagged out of service</li> <li>• #3 air compressor is tagged out of service</li> </ul>					
<b>Turnover:</b>					
<ul style="list-style-type: none"> <li>• Surveillance test Standby Gas Treatment System 10-Hour Run – System 1, 651.4.002, is in-progress</li> </ul>					
Event No.	Malfunction No.	Event Type*		Event Description	
1	NA	N	BOP	Perform Automatic Scram Contactor Test, 619.4.025	
2	NA	R	ATC	Withdraw control rods IAW the ReMA	
3	MAL-CRD005_18 35	C TS	ATC BOP SRO	Responds to a continuously outward drifting control rod	
4	VLV-RCU001 VLV-RCU004 BKR-RCU001 MAL-RCU007	C TS	BOP SRO	Responds to RWCU System high pressure and failure of system to automatically isolate	
5	MAL-NSS012E	I TS	ATC SRO	Respond to leak in GEMAC water level indicators ID13A and ID13C	
6	MAL-CRD006	C	ATC	Respond to multiple drifting control rods	
7	MAL-NSS005	M	All	Respond to an RPV coolant leak in the Primary Containment	
8	MAL-OED001B MAL-FWC003A	C	All	Respond to the loss of Startup Transformer B and MFRV A Closure	

\* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor Transient, (TS) Tech Specs