

Facility:		Oyster Creek ILT 10-1 NRC Exam Outline					Date of Exam:		07/11/11									
Tier	Group	RO K/A Category Points										SRO-Only Points						
		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G*	Total	A2	G*	Total		
1. Emergency & Plant Evolutions	1	3	4	3				3	4			3	20	4	3	7		
	2	1	1	1				1	1			2	7	1	2	3		
	Tier Totals	4	5	4				4	5			5	27	5	5	10		
2. Plant Systems	1	2	2	2	2	3	2	3	2	2	3	3	26	3	2	5		
	2	1	1	2	1	1	1	1	1	1	1	1	12	0	1	3		
	Tier Totals	3	3	4	3	4	3	4	3	3	4	4	38	4	4	8		
3. Generic Knowledge & Abilities Categories					1		2		3		4		10	1	2	3	4	7
					2		3		2		3			2	2	2	1	

- Note :
- 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).
 - 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.
 - 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.
 - 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.
 - 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.
 - Select SRO topics for Tiers 1 and 2 from the shaded systems and K/A categories.
 - * 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
 - 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.
 - 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](#)

Oyster Creek ILT 10-1 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#
295006 SCRAM / 1					X		AA2.05 - Ability to determine and/or interpret the following as they apply to SCRAM : Whether a reactor SCRAM has occurred	4.6	1
295004 Partial or Total Loss of DC Pwr / 6					X		AA2.01 - Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF D.C. POWER : Cause of partial or complete loss of D.C. power	3.6	2
295003 Partial or Complete Loss of AC / 6					X		AA2.05 - Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF A.C. POWER : Whether a partial or complete loss of A.C. power has occurred	4.2	3
295026 Suppression Pool High Water Temp. / 5						X	2.2.38 - Knowledge of conditions and limitations in the facility license.	4.5	4
295037 SCRAM Conditions Present and Reactor Power Above APRM Downscale or Unknown / 1						X	2.4.8 - Emergency Procedures / Plan: Knowledge of how abnormal operating procedures are used in conjunction with EOP's.	4.5	5
295021 Loss of Shutdown Cooling / 4						X	2.4.45 - Ability to prioritize and interpret the significance of each annunciator or alarm.	4.3	6
295030 Low Suppression Pool Water Level / 5					X		EA2.03 - Ability to determine and/or interpret the following as they apply to LOW SUPPRESSION POOL WATER LEVEL : Reactor pressure	3.9	7
700000 Generator Voltage and Electric Grid Disturbances	X						AK1.01 - Knowledge of the operational implications of the following concepts as they apply to GENERATOR VOLTAGE AND ELECTRIC GRID DISTURBANCES and the following: Over-excitation	3.3	39
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	40
295005 Main Turbine Generator Trip / 3	X						AK1.01 - Knowledge of the operational implications of the following concepts as they apply to MAIN TURBINE GENERATOR TRIP : Pressure effects on reactor power	4.0	41
295023 Refueling Acc Cooling Mode / 8		X					AK2.02 - Knowledge of the interrelations between REFUELING ACCIDENTS and the following: Fuel pool cooling and cleanup system	2.9	42
295038 High Off-site Release Rate / 9		X					EK2.03 - Knowledge of the interrelations between HIGH OFF-SITE RELEASE RATE and the following: Plant ventilation systems	3.6	43
295028 High Drywell Temperature / 5		X					EK2.01 - Knowledge of the interrelations between HIGH DRYWELL TEMPERATURE and the following: Drywell spray: Mark-I&II	3.7	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

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EAPE # / Name Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Q#
295021 Loss of Shutdown Cooling / 4			X				AK3.02 - Knowledge of the reasons for the following responses as they apply to LOSS OF SHUTDOWN COOLING : Feeding and bleeding reactor vessel	3.3	46
295024 High Drywell Pressure / 5			X				EK3.04 - Knowledge of the reasons for the following responses as they apply to HIGH DRYWELL PRESSURE : Emergency depressurization	3.7	47
295016 Control Room Abandonment / 7				X			AA1.09 - Ability to operate and/or monitor the following as they apply to CONTROL ROOM ABANDONMENT : Isolation/emergency condenser(s): Plant-Specific	4.0	48
295003 Partial or Complete Loss of AC / 6				X			AA1.03 - Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF A.C. POWER : Systems necessary to assure safe plant shutdown	4.4	49
295025 High Reactor Pressure / 3				X			EA1.06 - Ability to operate and/or monitor the following as they apply to HIGH REACTOR PRESSURE: Isolation condenser: Plant-Specific	4.5	50
295026 Suppression Pool High Water Temp. / 5					X		EA2.03 - Ability to determine and/or interpret the following as they apply to SUPPRESSION POOL HIGH WATER TEMPERATURE: Reactor pressure	3.9	51
600000 Plant Fire On-site / 8					X		AA2.02 - Ability to determine and interpret the following as they apply to PLANT FIRE ON SITE: Damper position	2.8	52
295018 Partial or Total Loss of CCW / 8					X		AA2.01 - Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF COMPONENT COOLING WATER : Component temperatures	3.3	53
295019 Partial or Total Loss of Inst. Air / 8						X	2.1.31 - Ability to locate control room switches, controls, and indications, and to determine that they correctly reflect the desired plant lineup.	4.6	54
295006 SCRAM / 1						X	2.4.4 - Ability to recognize abnormal indications for system operating parameters that are entry-level conditions for emergency and abnormal operating procedures.	4.5	55
295025 High Reactor Pressure / 3						X	2.4.20 - Emergency Procedures / Plan: Knowledge of operational implications of EOP warnings, cautions, and notes.	3.8	56
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4					X		AA2.03 - Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF FORCED CORE FLOW CIRCULATION : Actual core flow	3.3	57
295037 SCRAM Conditions Present and Reactor Power Above APRM Downscale or Unknown / 1		X					EK2.14 - Knowledge of the interrelations between SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN and the following: RPIS: Plant-Specific	3.6	58
K/A Category Totals:	3	4	3	3	4/4	3/3	Group Point Total:	20/7	

Oyster Creek ILT 10-1 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#
295033 High Secondary Containment Area Radiation Levels / 9					X		EA2.01 - Ability to determine and/or interpret the following as they apply to HIGH SECONDARY CONTAINMENT AREA RADIATION LEVELS : Area radiation levels	3.9	8
295029 High Suppression Pool Water Level / 5						X	2.1.32 - Conduct of Operations: Ability to explain and apply all system limits and precautions.	4.0	9
295020 Inadvertent Cont. Isolation / 5 & 7						X	2.2.44 - Equipment Control: Ability to interpret control room indications to verify the status and operation of a system, and understand how operator actions and directives effect plant and system conditions.	4.4	10
295032 High Secondary Containment Area Temperature / 5	X						EK1.03 - Knowledge of the operational implications of the following concepts as they apply to HIGH SECONDARY CONTAINMENT AREA TEMPERATURE: Secondary containment leakage detection: Plant-Specific	3.5	59
295013 High Suppression Pool Temperature / 5		X					AK2.01 - Knowledge of the interrelations between HIGH SUPPRESSION POOL TEMPERATURE and the following: Suppression pool cooling	3.6	60
295010 High Drywell Pressure / 5			X				AK3.05 - Knowledge of the reasons for the following responses as they apply to HIGH DRYWELL PRESSURE : Temperature monitoring	3.5	61
295002 Loss of Main Condenser Vac / 3				X			AA1.06 - Ability to operate and/or monitor the following as they apply to LOSS OF MAIN CONDENSER VACUUM : Reactor/turbine pressure regulating system	3.0	62
295022 Loss of CRD Pumps / 1					X		AA2.01 - Ability to determine and/or interpret the following as they apply to LOSS OF CRD PUMPS : Accumulator pressure	3.5	63
295036 Secondary Containment High Sump/Area Water Level / 5						X	2.4.35 - Emergency Procedures / Plan: Knowledge of local auxiliary operator tasks during emergency and the resultant operational effects.	3.8	64
295009 Low Reactor Water Level / 2						X	2.4.8 - Emergency Procedures / Plan: Knowledge of how abnormal operating procedures are used in conjunction with EOP's.	3.8	65
K/A Category Totals:	1	1	1	1	1/1	2/2	Group Point Total:		7/3

Oyster Creek ILT 10-1 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#
263000 DC Electrical Distribution		X										3.1	4
209001 LPCS			X									2.9	5
207000 Isolation (Emergency) Condenser			X									3.8	6
223002 PCIS/Nuclear Steam Supply Shutoff				X								3.4	7
212000 RPS				X								3.0	8
264000 EDGs					X							3.4	9
262001 AC Electrical Distribution					X							3.1	10
262002 UPS (AC/DC)						X						2.7	11
215004 Source Range Monitor						X						2.9	12

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 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#
259002 Reactor Water Level Control							X					2.9	13
261000 SGTS							X					3.0	14
215005 APRM / LPRM								X				3.5	15
239002 SRVs								X				3.2	16
215003 IRM									X			3.7	17
211000 SLC									X			3.9	18
300000 Instrument Air										X		2.6	19
263000 DC Electrical Distribution										X		3.3	20
223002 PCIS/Nuclear Steam Supply Shutoff											X	4.4	21
261000 SGTS											X	4.2	22

Oyster Creek ILT 10-1 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	A2	A 3	A 4	G		Imp .	Q#	
211000 SLC					X								K5.04 - Knowledge of the operational implications of the following concepts as they apply to STANDBY LIQUID CONTROL SYSTEM: Explosive valve operation	3.1	23
262002 UPS (AC/DC)									X				A3.01 - Ability to monitor automatic operations of the UNINTERRUPTABLE POWER SUPPLY (A.C./D.C.) including: Transfer from preferred to alternate source	2.8	24
264000 EDGs							X						A1.01 - Ability to predict and/or monitor changes in parameters associated with operating the EMERGENCY GENERATORS (DIESEL/JET) controls including: Lube oil temperature	3.0	25
218000 ADS											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	26
K/A Category Totals:	2	2	2	2	2	2	3	3/3	3	2	3/2		Group Point Total:		26/5

Oyster Creek ILT 10-1 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 #	
256000 Reactor Condensate								X				A2.15 - Ability to (a) predict the impacts of the following on the REACTOR CONDENSATE SYSTEM; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Abnormal water quality	3.3	16
201002 RMCS											X	2.2.40 – Ability to apply Technical Specifications for a system.	4.7	17
215001 Traversing In-Core Probe											X	2.1.32 – Ability to explain and apply system limits and precautions.	4.0	18
215001 Traversing In-core Probe	X											K1.10 - Knowledge of the physical connections and/or cause- effect relationships between TRAVERSING IN-CORE PROBE and the following: Area radiation monitoring system: (Not-BWR1)	2.6	27
201001 CRD Hydraulic		X										K2.05 - Knowledge of electrical power supplies to the following: Alternate rod insertion valve solenoids: Plant-Specific	4.5	28
239001 Main and Reheat Steam			X									K3.16 - Knowledge of the effect that a loss or malfunction of the MAIN AND REHEAT STEAM SYSTEM will have on following: Relief/safety valves	3.6	29
201003 Control Rod and Drive Mechanism				X								K4.02 - Knowledge of CONTROL ROD AND DRIVE MECHANISM design feature(s) and/or interlocks which provide for the following: Detection of an uncoupled rod	3.8	30
202002 Recirculation Flow Control					X							K5.02 - Knowledge of the operational implications of the following concepts as they apply to RECIRCULATION FLOW CONTROL SYSTEM : Feedback signals	2.6	31
241000 Reactor/Turbine Pressure Regulating System						X						K6.07 – Knowledge of the effect that a loss or malfunction of the following will have on the REACTOR/TURBINE PRESSURE REGULATING SYSTEM: Turbine inlet pressure	3.4	32
219000 RHR/LPCI: Torus/Suppression Pool Cooling Mode							X					A1.07 - Ability to predict and/or monitor changes in parameters associated with operating the RHR/LPCI: TORUS/SUPPRESSION POOL COOLING MODE controls including: Emergency generator loading	3.2	33

Oyster Creek ILT 10-1 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 #	
202001 Recirculation								X					A2.06 - Ability to (a) predict the impacts of the following on the RECIRCULATION SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Inadvertent recirculation flow decrease	3.6	34
234000 Fuel Handling Equipment									X				A3.02 - Ability to monitor automatic operations of the FUEL HANDLING EQUIPMENT including: † Interlock operation	3.1	35
259001 Reactor Feedwater										X			A4.02 - Ability to manually operate and/or monitor in the control room: Manually start/control a RFP/TDRFP	3.9	36
204000 RWCU											X		2.1.28 - Conduct of Operations: Knowledge of the purpose and function of major system components and controls.	4.1	37
216000 Nuclear Boiler Instrumentation			X										K3.02 - Knowledge of the effect that a loss or malfunction of the NUCLEAR BOILER Instrumentation will have on following: PCIS/NSSSS	4.0	38
K/A Category Totals:	1	1	2	1	1	1	1	1/1	1	1	1/2		Group Point Total:		12/3

Facility:		Oyster Creek ILT 10-1 NRC Exam Outline		Date:		07/11/11	
Category	K/A #	Topic	RO		SRO-Only		
			IR	Q#	IR	Q#	
1. Conduct of Operations	2.1.36	Knowledge of procedures and limitations involved in core alterations.			4.1	19	
	2.1.37	Knowledge of procedures, guidelines, or limitations associated with reactivity management.			4.6	23	
	2.1.20	Ability to interpret and execute procedure steps.	4.6	66			
	2.1.28	Knowledge of the purpose and function of major system components and controls.	4.1	67			
		Subtotal		2		2	
2. Equipment Control	2.2.22	Knowledge of limiting conditions for operations and safety limits.			4.7	20	
	2.2.11	Knowledge of the process for controlling temporary design changes.			3.3	25	
	2.2.1	Ability to perform pre-startup procedures for the facility, including operating those controls associated with plant equipment that could affect reactivity.	4.5	68			
	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	69			
	2.2.2	Ability to manipulate the console controls as required to operate the facility between shutdown and designated power levels.	4.6	74			
		Subtotal		3		2	
3. Radiation Control	2.3.11	Ability to control radiation releases.			4.3	21	
	2.3.4	Knowledge of radiation exposure limits under normal or emergency conditions.			3.7	24	
	2.3.15	Knowledge of radiation monitoring systems, such as fixed radiation monitors and alarms, portable survey instruments, personnel monitoring equipment, etc.	2.9	70			

	2.3.12	Knowledge of Radiological Safety Principles pertaining to licensed operator duties, such as containment entry requirements, fuel handling responsibilities, access to locked high-radiation areas, aligning filters, etc.	3.2	71		
	Subtotal			2		2
4. Emergency Procedures / Plan	2.4.6	Knowledge of EOP mitigation strategies.			4.7	22
	2.4.27	Knowledge of "fire in the plant" procedures.	3.4	72		
	2.4.1	Knowledge of EOP entry conditions and immediate action steps.	4.6	73		
	2.4.22	Knowledge of the bases for prioritizing safety functions during abnormal/emergency operations.	3.6	75		
	Subtotal			3		1
Tier 3 Point Total				10		7

Tier / Group	Randomly Selected K/A	Reason for Rejection
2 / 1 RO	211000 A4.06	211000 A3.06 – Oyster Creek does not have an automatic SLC initiation. A new K/A was randomly selected.
2 / 1 RO	263000 A4.01	300000 A4.01 – K/A rejected due to overlap with RO question #19. Could not generate a question which would discriminate from question #19. A new K/A was randomly selected.
2 / 1 RO	211000 K5.04	211000 A2.03 – K/A rejected due to overlap with Audit Exam question #17 and NRC Simulator Scenario #2. A new K/A was randomly selected.
1 / 1 SRO	295026 2.2.25	295026 2.2.38 – K/A rejected due to no ties to Suppression Pool in the Facility License. A new K/A was randomly selected. [K/A 295026 2.2.38 un-rejected due to being able to tie Suppression Pool temperature to the Facility License].
1 / 1 RO	295019 2.1.31	295019 2.2.38 – K/A rejected due to no ties to Instrument Air in the Facility License. A new K/A was randomly selected.
2 / 2 SRO	201002 2.2 40	201002 2.2.4 – K/A rejected due to Oyster Creek not having a multi-unit license. A new K/A was randomly selected.
2 / 2 SRO	233000 2.1.34	233000 2.1.31 – K/A rejected due to not having a 10CFR55.43(b) link and K/A 2.1.31 being RO level of knowledge. A new K/A was randomly selected.
3 RO	2.2.1	2.2.3 – K/A rejected due to Oyster Creek not having a multi-unit license. A new K/A was randomly selected.
3 RO	2.2.2	2.2.17 – K/A supports testing at the SRO-Only level, but NOT at the RO level due to job responsibilities. A new K/A was randomly selected.
3 SRO	2.3.11	2.3.15 – K/A rejected due to overlap with RO question #70 (also K/A 2.3.15). A new K/A was randomly selected.
3 SRO	2.4.6	2.4.1 – K/A rejected due to supporting testing at the RO level, but not SRO-Only level due to job responsibilities. A new K/A was randomly selected.
2 / 2 RO	241000 K6.07	234000 K6.07 – An operationally relevant question could not be written due to a loss of RBHVAC having no specific affect on Fuel Handling Equipment. A new K/A was randomly selected.
2 / 2 RO	219000 A1.07	256000 A1.07 – An operationally relevant question could not be written at an LOD level greater than 1. A new K/A was randomly selected.
2 / 2 RO	202001 A2.06	202001 A2.13 – K/A rejected due to being associated

		with Generic Fundamentals. A new K/A was randomly selected.
2 / 2 RO	234000 A3.02	290003 A3.02 – K/A rejected due to the Control Room HVAC not having any automatic initiations/failures during a fire. A new K/A was randomly selected.
2 / 2 RO	259001 A4.02	259001 A4.06 – K/A rejected due to being associated with Generic Fundamentals. A new K/A was randomly selected.
2 / 2 RO	216000 K3.02	226001 K3.02 – K/A rejected due to concept overlap with NRC Simulator scenario #3 and Audit simulator scenario #1. A new K/A was randomly selected.
1 / 1 RO	295006 2.4.4	295006 2.4.34 – There are no RO tasks outside the Control Room for a Scram, only non-Licensed Operator Tasks. A new K/A was randomly selected.
1 / 1 RO	295025 2.4.20	295030 2.4.20 – Low Torus Level EOP does not have any warnings, cautions, or notes. A new K/A was randomly selected.
1 / 2 RO	295032 EK1.03	295032 EK1.04 – Unable to develop three credible or plausible distracters. A new K/A was randomly selected.
1 / 1 SRO	295021 2.4.45	295021 2.4.35 – Unable to develop an operationally relevant question. A new K/A was randomly selected.
1 / 1 SRO	295030 EA2.03	295030 EA2.04 – K/A rejected due to overlap with Audit SRO question #2 (also K/A 295030 EA2.04). A new K/A was randomly selected.
2 / 1 SRO	259002 A2.04	400000 A2.04 – Could not develop an operationally relevant question connecting monitors to a CCW system at Oyster Creek. A new K/A was randomly selected.
2 / 1 SRO	261000 A2.15	261000 A2.14 – Could not develop an operationally relevant question. A new K/A was randomly selected.
2 / 1 SRO	212000 A2.11	262001 A2.10 – K/A supports testing at the RO level, but not the SRO-Only level due to job responsibilities. A new K/A was randomly selected.
2 / 2 SRO	256000 A2.15	214000 A2.01 – There are no operationally relevant abnormal, emergency, or Tech Spec actions for a failed RPIS reed switch. A new K/A was randomly selected.
2 / 2 SRO	215001 2.1.32	233000 2.1.34 – Oyster Creek does not have any chemistry specifications in the Technical Specifications. K/A rejected and a new K/A was randomly selected.
1 / 1 RO	700000 AK1.02	700000 AK1.01 – K/A related to Generic Fundamentals; concept tested on NRC GFE exam. A new K/A was randomly selected.
1 / 1 RO	600000 AA2.02	600000 AA2.16 – K/A rejected due to not being able to

		write a non-discriminatory question at the RO level. A new K/A was randomly selected.
3 RO	2.1.20	2.1.39 – K/A rejected due to being non-discriminatory at the RO level. A new K/A was randomly selected.
3 RO	2.4.27	2.4.19 – K/A rejected due to being non-discriminatory at the RO level. A new K/A was randomly selected.

Facility: <u>Oyster Creek</u>		Date of Examination: <u>7/11/11</u>
Examination Level: RO <input checked="" type="checkbox"/> SRO <input type="checkbox"/>		Operating Test Number: <u>ILT 10-1</u>
Administrative Topic (See Note)	Type Code*	Describe activity to be performed
Conduct of Operations	P, S	Perform Week 4 of 680.4.007, Safety Related Equipment Verification; G2.1.29 (4.1) [NRC Admin JPM1 (RO)]
Conduct of Operations	D, R	Perform Core Thermal Limits Verification; G2.1.7 (4.4) [NRC Admin JPM2 (RO)]
Equipment Control		
Radiation Control	D, R	Application of Radiation Exposure Limits IAW Procedure RP-AA-203; G2.3.4 (3.2) [NRC Admin JPM3 (RO)]
Emergency Procedures/Plan	M, R	Determine Primary Containment Water Level IAW EMG-SP28; G2.4.21 (4.0) [NRC Admin JPM4 (RO)]
<p>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.</p>		
<p>* Type Codes & Criteria:</p> <ul style="list-style-type: none"> (C)ontrol room, (S)imulator, or Class(R)oom (D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes) (N)ew or (M)odified from bank (≥ 1) (P)revious 2 exams (≤ 1; randomly selected) 		

Facility: <u>Oyster Creek</u>		Date of Examination: <u>7/11/11</u>
Examination Level: RO <input type="checkbox"/> SRO <input checked="" type="checkbox"/>		Operating Test Number: <u>ILT 10-1</u>
Administrative Topic (See Note)	Type Code*	Describe activity to be performed
Conduct of Operations	N, R	Review the Technical Specification Log Sheet; G2.1.3 (3.9) [NRC SRO Admin JPM1]
Conduct of Operations	P, R	Review a Completed Pre-Critical Checkoff IAW Procedure 201; G2.1.23 (4.4) [NRC SRO Admin JPM2]
Equipment Control	D, R	Review the acceptance criteria for surveillance procedure 609.3.022, "A" Isolation Condenser Isolation Test and Calibration – A1 Sensors First; G2.2.12 (4.1) [NRC SRO Admin JPM3]
Radiation Control	D, R	Authorize TIP Room Entry; G2.3.13 (3.8) [NRC SRO Admin JPM4]
Emergency Procedures/Plan	M, R	Determine Primary Containment Water Level IAW EMG-SP28 and determine required action; G2.4.21 (4.6) [NRC SRO Admin JPM5]
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 (≤ 3 for ROs; ≤ 4 for SROs & RO retakes) (N)ew or (M)odified from bank (≥ 1) (P)revious 2 exams (≤ 1; randomly selected)		

Facility: <u>Oyster Creek</u>		Date of Examination: <u>7/11/11</u>
Exam Level: RO <input checked="" type="checkbox"/> SRO-I <input type="checkbox"/> SRO-U <input type="checkbox"/>		Operating Test Number: <u>ILT 10-1</u>
Control Room Systems [®] (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 Core Spray Surveillance with faulted Core Spray Pump IAW 610.4.002, Core Spray Pump Operability Test (Alternate Path); 209001 A4.01 (3.8/3.6) [NRC Sim JPM1]	D, A, S	2
b. Perform Anticipatory Scram Turbine Stop Valve Closure Test, 619.4.002 with 1/2 RPS Actuation; 245000 A4.07 (2.9/2.9) [NRC Sim JPM2]	P, D, L, S	3
c. Cool down the RPV using the Isolation Condenser tube side vents IAW EMG-SP15, Alternate Pressure Control Systems - IC Tube Side Vents (Alternate Path); 295021 AA1.04 (3.7/3.7) [NRC Sim JPM3]	M, A, L, EN, S	4
d. Place the H2/O2 monitoring system in service IAW EMG-SP39, Placing The H2/O2 Monitoring System In Service; 500000 EA1.01 (3.4/3.3) [NRC Sim JPM4]	N, L, S	5
e. Transfer 4160 VAC Bus 1A to the Startup Transformers (Alternate Path); 262001 K4.02 (2.9/3.3) [NRC Sim JPM5]	D, A, S	6
f. Perform an APRM Gain Adjustment; 215005 A4.03 (3.2/3.3) [NRC Sim JPM 6]	M, S	7
g. Inject Fire Water via the Core Spray System IAW SP-20, Low Pressure Injection During An ATWS; 286000 A4.06 (3.4/3.4) [NRC Sim JPM7]	N, S	8
h. Startup of the Turbine Building Ventilation System IAW 328, The Turbine Building Heating And Ventilation System (Alternate Path); 288000 A4.01 (3.1/2.9) [NRC Sim JPM8]	P, D, A, L, S	9
In-Plant Systems [®] (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. Vent the scram air header IAW EMG-SP21, Alternate Insertion of Control Rods; 295037 EA1.05 (3.9/4.0) [NRC Plant JPM1]	D, E, R	1
j. Add makeup from Fire Water to the Isolation Condensers IAW 307, Isolation Condenser System; 207000 K1.06 (3.3/3.7) [NRC Plant JPM3]	D, L, R	4
k. Operate Service Water Pump 1-2 from Local Shutdown Panel 1B3 (LSP-1B3) IAW 346, Operation of the Remote and Local Shutdown Panels; 295016 AA1.07 (4.2/4.3) [NRC Plant JPM2]	D, EN, S*	7
* This plant JPM will be performed on the Simulator replica of LSP-1B3.		

<p>@ 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>7/11/11</u>
Exam Level: RO <input type="checkbox"/> SRO-I <input checked="" type="checkbox"/> SRO-U <input type="checkbox"/>		Operating Test Number: <u>ILT 10-1</u>
Control Room Systems [®] (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 Core Spray Surveillance with faulted Core Spray Pump IAW 610.4.002, Core Spray Pump Operability Test (Alternate Path); 209001 A4.01 (3.8/3.6) [NRC Sim JPM1]	D, A, S	2
b. Perform Anticipatory Scram Turbine Stop Valve Closure Test, 619.4.002 with 1/2 RPS Actuation; 245000 A4.07 (2.9/2.9) [NRC Sim JPM2]	P, D, L, S	3
c. Cool down the RPV using the Isolation Condenser tube side vents IAW EMG-SP15, Alternate Pressure Control Systems - IC Tube Side Vents (Alternate Path); 295021 AA1.04 (3.7/3.7) [NRC Sim JPM3]	M, A, L, EN, S	4
d. Place the H2/O2 monitoring system in service IAW EMG-SP39, Placing The H2/O2 Monitoring System In Service; 500000 EA1.01 (3.4/3.3) [NRC Sim JPM4]	N, L, S	5
e. Transfer 4160 VAC Bus 1A to the Startup Transformers (Alternate Path); 262001 K4.02 (2.9/3.3) [NRC Sim JPM5]	D, A, S	6
f. Perform an APRM Gain Adjustment; 215005 A4.03 (3.2/3.3) [NRC Sim JPM 6]	M, S	7
g.		
h. Startup of the Turbine Building Ventilation System IAW 328, The Turbine Building Heating And Ventilation System (Alternate Path); 288000 A4.01 (3.1/2.9) [NRC Sim JPM8]	P, D, A, L, S	9
In-Plant Systems [®] (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
i. Vent the scram air header IAW EMG-SP21, Alternate Insertion of Control Rods; 295037 EA1.05 (3.9/4.0) [NRC Plant JPM1]	D, E, R	1
j. Add makeup from Fire Water to the Isolation Condensers IAW 307, Isolation Condenser System; 207000 K1.06 (3.3/3.7) [NRC Plant JPM3]	D, L, R	4
k. Operate Service Water Pump 1-2 from Local Shutdown Panel 1B3 (LSP-1B3) IAW 346, Operation of the Remote and Local Shutdown Panels; 295016 AA1.07 (4.2/4.3) [NRC Plant JPM2]	D, EN, S*	7
* This plant JPM will be performed on the Simulator replica of LSP-1B3.		

@ 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.

* 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	

ILT 10-1 NRC Scenario 2 (NEW)

Scenario Outline

Facility: <u>Oyster Creek</u>	Scenario No.: <u>2</u>	Op Test No.: <u>10-1 NRC</u>	
Examiners: _____	Operators: _____		
_____	_____		
_____	_____		
<u>Initial Conditions:</u>			
<ul style="list-style-type: none"> • 97% power • Main Generator voltage control is in Manual 			
<u>Turnover:</u>			
<ul style="list-style-type: none"> • Place the amplidyne in automatic service IAW 336.1, section 8 • Raise reactor power to 100% with recirculation flow 			
Event No.	Malf. No.	Event Type*	Event Description
1	NA	N BOP	Return the Amplidyne to service IAW 336.1.
2	NA	R ATC	Raise reactor power to 100% with recirculation flow (REMA).
3	ICH-NSS026A	TS SRO	Respond to RPV High Pressure Instrument RE15 to Isolation Condenser Initiation Logic Failing High.
4	MAL-NIS021B	I TS	Respond to APRM 2 failing INOP.
5	MAL-MSS005A	C BOP	Respond to trip of Steam Packing Exhauster 1.
6	MAL-NSS025E	C TS	Respond to the E EMRV lifting leading the crew to a manual scram.
7	CAEP ATWS	M Crew	Respond to an Electric ATWS.
8	PMP-SLC001A PMP-SLC002A	C Crew	Respond to a Standby Liquid Control Pump shaft break.

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

ILT 10-1 NRC Scenario 3 (NEW)

Scenario Outline

Facility: <u>Oyster Creek</u>	Scenario No.: <u>3</u>	Op Test No.: <u>10-1 NRC</u>	
Examiners: _____	Operators: _____		
_____	_____		
_____	_____		
<u>Initial Conditions:</u>			
<ul style="list-style-type: none"> • 75% power • TBCCW Pump 2 is tagged out of service 			
<u>Turnover:</u>			
<ul style="list-style-type: none"> • Lower power to 70% using recirculation flow IAW 1001.22-3, Core Maneuvering Daily Instruction Sheet • Backwash the Main Condenser Half B South 			
Event No.	Malf. No.	Event Type*	Event Description
1	NA	R ATC	Lower reactor power to 70% using recirculation flow
2	NA	N BOP	Continue backwashing Main Condenser Half B South
3	BKR-CRD002	C TS ATC SRO	Respond to a CRD Pump A trip
4	MAL-TCS010	I BOP	Respond to the EPR setpoint failing low
5	SWI-TBS027C ANN-L4f	C TS BOP SRO	Respond to a trip of Control Room Vent Fan B
6	MAL-NSS012E	I TS ATC SRO	Respond to a variable leg leak in the A and C GEMAC RPV level indicators ID13A and ID13C
7	BKR-CRD001	M Crew	Respond to a loss of all CRD Flow
8	MAL-NSS016A	M Crew	Respond to a Safety Valve lifting post scram
9	MAL-CNS004A-D	C Crew	Respond to a trip of the operating Containment Spray Pump

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

ILT 10-1 NRC Scenario 4 (NEW)

Scenario Outline

Facility: <u>Oyster Creek</u>	Scenario No.: <u>4</u>	Op Test No.: <u>10-1 NRC</u>	
Examiners: _____	Operators: _____		
_____	_____		
_____	_____		
<u>Initial Conditions:</u>			
<ul style="list-style-type: none"> • 100% power • Dilution pump 2 is tagged out of service 			
<u>Turnover:</u>			
<ul style="list-style-type: none"> • No evolutions are planned during this shift 			
Event No.	Malf. No.	Event Type*	Event Description
1	MAL-CRD001A	C ATC	Respond to CRD Flow Control Valve failed closed.
2	ICH-ICS001A	C TS BOP SRO	Respond to a leak in Isolation Condenser Shell A.
3	IND-CFW018 ANN-K-2B	R C ATC BOP	Condensate Pump A experiences high amps requiring a rapid power reduction and securing of Condensate Pump.
4	MAL-RCP003D MAL-RCP004D	C TS BOP SRO	Respond to Recirculation Pump D total seal failure.
5	MAL-CRD006	C ATC	Respond to multiple drifting control rods.
6	MAL-PCN007	M Crew	Respond to a Torus Leak requiring entry into Primary Containment Control.
7	VLV-CSS001, 009	C Crew	Respond to Core Spray system suction valves being mechanically seized when lining up the CST to the Torus.
8	MAL-PCN007	M Crew	Respond to a Torus leak increase requiring the crew to Emergency Depressurize.

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