Facility: Hope Creek Date of Exam: 02/03/2011

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 & Abnormal Plant Evolutions	1	0	0	0	N/A			0	0	N/A		0	0	3		4		7		
	2	0	0	0				0	0			0	0	2		1		3		
	Tier Totals	0	0	0				0	0			0	0	5		5		10		
2. Plant Systems	1	0	0	0	0	0	0	0	0	0	0	0	0	3		2		5		
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2		3		
	Tier Totals	0	0	0	0	0	0	0	0	0	0	0	0	4		4		8		
3. Generic Knowledge & Abilities Categories		1		2		3		4		0		1	2	3	4			7		
		0		0		0		0				2	2	2	1					

Note:

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).

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.

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/evolutions that are not included on the outline should be added. Refer to Section D.1.b of ES-401 for guidance regarding the elimination of inappropriate K/A statements.

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.

5. Absent a plant-specific priority, only those K/As 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.

6. Select SRO topics for Tiers 1 and 2 from the shaded systems and K/A categories.

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/As.

8. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings (IRs) 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.

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 10 CFR 55.43.

HC

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#
295024 High Drywell Pressure / 5					X		EA2.03 - Ability to determine and/or interpret the following as they apply to HIGH DRYWELL PRESSURE: Suppression pool level.	3.8	1
295038 High Off-site Release Rate / 9					X		EA2.03 - Ability to determine and/or interpret the following as they apply to HIGH OFF-SITE RELEASE RATE: Radiation levels: Plant-Specific	4.3	2
295031 Reactor Low Water Level / 2					X		EA2.04 - Ability to determine and/or interpret the following as they apply to REACTOR LOW WATER LEVEL : Adequate core cooling	4.8	3
295025 High Reactor Pressure / 3						X	2.4.11 - Emergency Procedures / Plan: Knowledge of abnormal condition procedures.	4.2	4
295026 Suppression Pool High Water Temp. / 5						X	2.2.12 - Equipment Control: Knowledge of surveillance procedures.	4.1	5
295006 Scram / 1						X	2.2.39 - Equipment Control: Knowledge of less than or equal to one hour technical specification action statements for systems.	4.5	6
295018 Partial or Total Loss of CCW / 8						X	2.4.30 - Knowledge of events related to system operation/status that must be reported to internal organizations or external agencies, such as the State, the NRC, or the transmission system operator.	4.1	7
K/A CategoryTotals	0	0	0	0	0/3	0/4	Group Point Total:		7

HC

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#
295036 Secondary Containment High Sump/Area Water Level / 5					X		EA2.03 - Ability to determine and/or interpret the following as they apply to SECONDARY CONTAINMENT HIGH SUMP/AREA WATER LEVEL : Cause of the high water level	3.8	8
295014 Inadvertent Reactivity Addition / 1						X	2.1.9 – Conduct of Operations: Ability to direct personnel activities inside the control room.	4.5	9
500000 High CTMT Hydrogen Conc. / 5					X		EA2.03 - Ability to determine and / or interpret the following as they apply to HIGH PRIMARY CONTAINMENT HYDROGEN CONCENTRATIONS: Combustible limits for drywell	3.8	10
K/A CategoryTotals	0	0	0	0	0/2	0/1	Group Point Total:		3

HC
Written Examination Outline
Plant Systems - Tier 2 Group 1

System #/Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Q#
239002 SRVs								X				A2.04 - Ability to (a) predict the impacts of the following on the RELIEF/SAFETY VALVES ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: ADS actuation	4.2	11
215005 APRM/LPRM								X				A2.08 - Ability to (a) predict the impacts of the following on the AVERAGE POWER RANGE MONITOR/LOCAL POWER RANGE MONITOR SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Faulty or erratic operation of detectors/systems.	3.4	12
264000 EDGs											X	2.4.8 – Emergency Procedures / Plan: Knowledge of how abnormal operating procedures are used in conjunction with EOPs.	4.5	13
263000 DC Electrical Distribution											X	2.2.40 – Equipment Control: Ability to apply Technical Specifications for a system.	4.7	14

HC
Written Examination Outline
Plant Systems - Tier 2 Group 1

System #/Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Q#
211000 SLC								X				A2.05 - 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: Loss of SBLC tank heaters	3.4	15
K/A Category Totals	0	0	0	0	0	0	0	0/3	0	0	0/2	Group Point Total:		5

HC
Written Examination Outline
Plant Systems - Tier 2 Group 2

System #/Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Q#
271000 Off-gas								X				A2.03 - Ability to (a) predict the impacts of the following on the OFFGAS SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Main steamline high radiation	3.8	16
226001 RHR/LPCI: CTMT Spray Mode											X	2.4.6 - Emergency Procedures / Plan: Knowledge of EOP mitigation strategies.	4.7	17
290001 Secondary CTMT											X	2.2.37 - Equipment Control: Ability to determine operability and / or availability of safety related equipment.	4.6	18
K/A Category Totals	0	0	0	0	0	0	0	0/1	0	0	0/2	Group Point Total:		3

Facility:		Date:				
Category	KA #	Topic	RO		SRO-Only	
			IR	Q#	IR	Q#
1. Conduct of Operations	2.1.35	Knowledge of the fuel-handling responsibilities of SRO's.			3.9	19
	2.1.23	Ability to perform specific system and integrated plant procedures during all modes of plant operation.			4.4	23
	Subtotal					2
2. Equipment Control	2.2.18	Knowledge of the process for managing maintenance activities during shutdown operations, such as risk assessments, work prioritization, etc.			3.9	20
	2.2.7	Knowledge of the process for conducting special or infrequent tests.			3.6	24
	Subtotal					2
3. Radiation Control	2.3.6	Ability to approve release permits.			3.8	21
	2.3.4	Knowledge of radiation exposure limits under normal or emergency conditions.			3.7	25
	Subtotal					2

4. Emergency Procedures / Plan						
	2.4.40	Knowledge of the SRO's responsibilities in emergency plan implementation.			4.5	22
	Subtotal					1
Tier 3 Point Total:				10		7

Tier / Group	Randomly Selected KA	Reason for Rejection
1 / 1	295005 / 2.2.39	(#6) - Equipment Control: Knowledge of less than or equal to one hour technical specification action statements for systems. There are no 1 hr tech specs related to this APE. Randomly selected 295006, Scram
1 / 1	600000 / 2.4.41	(#7) - Emergency Procedures / Plan: Knowledge of EOP entry conditions and immediate action steps. There are no EOP entries for Plant Fire On-site. This is also not discriminating at the SRO level. Randomly selected 295018, Partial or Total Loss of CCW, 2.4.30 - Knowledge of events related to system operation/status that must be reported to internal organizations or external agencies, such as the State, the NRC, or the transmission system operator.
2 / 1	218000 / A2.05	(#12) - Ability to (a) predict the impacts of the following on the AUTOMATIC DEPRESSURIZATION SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Loss of A.C. or D.C. power to ADS valves. The ADS topic/system is oversampled. Randomly selected 215005, APRM/LPRM, A2.08 - Ability to (a) predict the impacts of the following on the AVERAGE POWER RANGE MONITOR/LOCAL POWER RANGE MONITOR SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Faulty or erratic operation of detectors/systems.
2 / 1	263000 / 2.4.50	(#14) – Emergency Procedures / Plan: Ability to verify system alarm setpoints and operate controls identified in the alarm response manual. Operating controls is an RO task and is not discriminating at the SRO level. Randomly selected 2.2.40 Equipment Control, Ability to apply Technical Specifications for a system
2 /2	259001 / 2.4.3	(#17) - 2.4.3 - Emergency Procedures / Plan: Ability to identify post-accident instrumentation. This topic is not discriminating at the SRO level. System was sampled several times on most recent exams. Randomly selected 226001, 2.4.6 Emergency Procedures / Plan: Knowledge of EOP mitigation strategies.
1 / 1	295037 / EA2.03	(#1) - EA2.03 - Ability to determine and/or interpret the following as they apply to SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN : SBLC tank level. Oversampled, see #15. Randomly selected 295024 EA2.03, Ability to determine and/or interpret the following as they apply to HIGH DRYWELL PRESSURE: Suppression pool level.

1 / 2	295034 / EA2.01	(#10) - EA2.01 - Ability to determine and/or interpret the following as they apply to SECONDARY CONTAINMENT VENTILATION HIGH RADIATION : Ventilation radiation levels. Oversampled, see #23. Randomly selected 500000 EA2.03, Ability to determine and / or interpret the following as they apply to HIGH PRIMARY CONTAINMENT HYDROGEN CONCENTRATIONS: Combustible limits for drywell