Draft Submittal

(Pink Paper)

HATCH OCTOBER/NOVEMBER 2005 EXAM

05000321/2005301 & 05000366/2005301

OCTOBER 28, 2005, (WRITTEN) AND OCTOBER 31 - NOVEMBER 4, 2005

DRAFT Written Exam Quality Checklist (ES-401-6)

& Written Exam Sample Plan

11/28/05

ES-401, Rev. 9E **Written Examination Quality Checklist** **Form ES-401-6**

DRAFT

Facility: HATCH Date of Exam: Exam Level: RO

Item Description					Initial a	Initial b*	Initial c#
1.	Questions and answers are technically accurate and applicable to the facility.				JM	N/A	JM
2.	a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.				JM	N/A	JM
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401				JM	N/A	JM
4.	The facility licensee's sampling process was random and systematic (i.e., no more than 4 RO and/or 2 SRO questions were repeated from the last 2 NRC licensing exams).						
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: __ the audit exam was systematically and randomly developed __ the audit exam was completed before the license exam was started X the examinations were developed independently __ the licensee certifies that there is no duplication __ other (explain)				JM	N/A	JM
6.	Bank use meets limits (no more than 75 percent from the bank, at least 10 percent new, and the rest new or modified); enter the actual RO / SRO-only question distribution(s) at right.	Bank 18/75	Modified 4/75	New 53/75	JM	N/A	JM
7.	Between 50 and 60 percent of the questions on the RO exam are written at the comprehension/ analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.	Memory 44% 33/75	C/A 56% 42/75		JM	N/A	JM
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.				JM	N/A	JM
9.	Question content conforms with specific K/A statements in the previously approved examination outline and is appropriate for the tier to which they are assigned; deviations are justified.				JM	N/A	JM
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.				JM	N/A	JM
11.	The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with the value on the cover sheet.				JM	N/A	JM

	Printed Name / Signature	Date
a. Author	T.C. Kolb / [signature]	9-23-05
b. Facility Reviewer (*)	N/A	
c. NRC Chief Examiner (#)	Ron Aiello / [signature]	9/23/05
d. NRC Regional Supervisor	James H. Moorman / [signature]	9-23-05

Note: * The facility reviewer's initials/signature are not applicable for NRC-developed examinations.
Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.

ES-401, Rev. 9E **Written Examination Quality Checklist** **Form ES-401-6**

DRAFT

Facility: HATCH Date of Exam: Exam Level: SRO

Item Description					Initial a	Initial b*	Initial c*
1.	Questions and answers are technically accurate and applicable to the facility.						
2.	a. NRC K/As are referenced for all questions. b. Facility learning objectives are referenced as available.						
3.	SRO questions are appropriate in accordance with Section D.2.d of ES-401						
4.	The facility licensee's sampling process was random and systematic (i.e., no more than 4 RO and/or 2 SRO questions were repeated from the last 2 NRC licensing exams).						
5.	Question duplication from the license screening/audit exam was controlled as indicated below (check the item that applies) and appears appropriate: __ the audit exam was systematically and randomly developed __ the audit exam was completed before the license exam was started X the examinations were developed independently __ the licensee certifies that there is no duplication __ other (explain)						
6.	Bank use meets limits (no more than 75 percent from the bank, at least 10 percent new, and the rest new or modified); enter the actual RO / SRO-only question distribution(s) at right.	Bank 2 /25	Modified 0 /25	New 23 /25			
7.	Between 50 and 60 percent of the questions on the RO exam are written at the comprehension/ analysis level; the SRO exam may exceed 60 percent if the randomly selected K/As support the higher cognitive levels; enter the actual RO / SRO question distribution(s) at right.	Memory 32 % / 8 /25	C/A 68 % / 17 /25				
8.	References/handouts provided do not give away answers or aid in the elimination of distractors.						
9.	Question content conforms with specific K/A statements in the previously approved examination outline and is appropriate for the tier to which they are assigned; deviations are justified.						
10.	Question psychometric quality and format meet the guidelines in ES Appendix B.						
11.	The exam contains the required number of one-point, multiple choice items; the total is correct and agrees with the value on the cover sheet.						

	Printed Name / Signature	Date
a. Author	T.C. Kolb /	9-23-05
b. Facility Reviewer (*)	N/A	
c. NRC Chief Examiner (#)	Ron Pulliam /	9/28/05
d. NRC Regional Supervisor	JAMES D NORMAN, JR	9.29.05

Note: * The facility reviewer's initials/signature are not applicable for NRC-developed examinations.
Independent NRC reviewer initial items in Column "c"; chief examiner concurrence required.

Draft Outline

Facility: **HATCH** Date of Exam:

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	K	A	A 2	G *	Total
1. Emergency & Abnormal Plant Evolutions	1	3	4	3				3	4			3	20	0	0	4	3	7
	2	1	1	1				2	1			1	7	0	0	1	2	3
	Tier Totals	4	5	4				5	5			4	27	0	0	5	5	10
2. Plant Systems	1	2	3	2	4	2	3	1	2	2	2	3	26	0	0	2	3	5
	2	2	0	2	0	1	0	2	1	1	2	1	12	0	0	1	2	3
	Tier Totals	3	3	4	4	3	3	4	3	3	4	4	38	0	0	3	5	8
3. Generic Knowledge and Abilities Categories		1		2		3		4					10	1	2	3	4	7
		3		3		2		2						2	2	1	2	

Note:
1. Ensure that at least two topics from every K/A category are sampled within each tier of the RO outline (i.e., the "Tier Totals" in each K/A category shall not be less than two). Refer to Section D.1.c for additional guidance regarding SRO sampling.
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. Select topics from many systems and evolutions; avoid selecting more than two K/A topics from a given system or evolution 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 (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. The SRO K/As must also be linked to 10 CFR 55.43 or an SRO-level learning objective.
7. 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; summarize all the SRO-only knowledge and non-A2 ability categories in the columns labeled "K" and "A." Use duplicate pages for RO and SRO-only exams.
h. For Tier 3, enter the K/A numbers, descriptions, importance ratings, and point totals on Form ES-401-3.
i. Refer to ES-401, Attachment 2, for guidance regarding the elimination of inappropriate K/A statements.

ES-401	BWR Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 1 (RO / SRO)							Form ES-401-1	
E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	IR	#
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4				08		2.1	**G2.1.32** Ability to explain and apply all system limits and precautions. AA1.08 Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF FORCED CORE FLOW CIRCULATION: Standby liquid control.	3.4/3.8 2.5/2.8	1 1
295003 Partial or Complete Loss of AC / 6	05					2.2	**G2.2.25** Knowledge of bases in technical specifications for limiting conditions for operations and safety limits. AK1.05 Knowledge of the operational implications of the following concepts as they apply to PARTIAL OR COMPLETE LOSS OF A.C. POWER: Failsafe component design.	2.5/3.7 2.6/2.7	1 1
295004 Partial or Total Loss of DC Pwr / 6			02				AK3.02 Knowledge of the reasons for the following responses as they apply to PARTIAL OR COMPLETE LOSS OF D.C. POWER: Ground isolation/fault determination.	2.9/3.3	1
295005 Main Turbine Generator Trip / 3		07					AK2.07 Knowledge of the interrelations between MAIN TURBINE GENERATOR TRIP and the following: Reactor pressure control.	3.6/3.7	1
295006 SCRAM / 1	03				02		**AA2.02** Ability to determine and interpret the following as they apply to SCRAM: Control rod position. AK1.03 Knowledge of the operational implications of the following concepts as they apply to SCRAM: Reactivity control.	4.3/4.4 3.7/4.0	1 1
295016 Control Room Abandonment / 7			03				AK3.03 Knowledge of the reasons for the following responses as they apply to CONTROL ROOM ABANDONMENT: Disabling control room controls.	3.5/3.7	1
295018 Partial or Total Loss of CCW / 8				02			AA1.02 Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF COMPONENT COOLING WATER: System loads.	3.3/3.4	1
295019 Partial or Complete Loss of Inst. Air / 8		09		01			AA1.01 Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF INSTRUMENT AIR: Backup air supply. AK2.09 Knowledge of the interrelations between PARTIAL OR COMPLETE LOSS OF INSTRUMENT AIR and the following: Containment.	3.5/3.3 3.3/3.3	1 1
295021 Loss of Shutdown Cooling / 4		04					AK2.04 Knowledge of the interrelations between LOSS OF SHUTDOWN COOLING and the following: Component cooling water systems.	3.0/3.1	1
295023 Refueling Acc Cooling Mode / 8						2.4	G2.4.4 Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures.	4.0/4.3	1
295024 High Drywell Pressure / 5					06		EA2.06 Ability to determine and/or interpret the following as they apply to HIGH DRYWELL PRESSURE: Suppression pool temperature.	4.1/4/1	1
295025 High Reactor Pressure / 3		06					EK2.06 Knowledge of interrelations between HIGH REACTOR PRESSURE and the following: HPCI.	3.8/3.8	1
295026 Suppression Pool High Water Temp. / 5					03		EA2.03 Ability to determine and/or interpret the following as they apply to SUPPRESSION POOL HIGH WATER TEMPERATURE: Reactor pressure.	3.9/4.0	1
295027 High Containment Temperature / 5							Mark III Containment only.		

295028 High Drywell Temperature / 5					**04**		**EA2.04** Ability to determine and/or interpret the following as they apply to HIGH DRYWELL TEMPERATURE: Drywell pressure.	4.1/4.2	1
					06		EA2.06 Ability to determine and/or interpret the following as they apply to HIGH DRYWELL TEMPERATURE: Torus/suppression chamber air space temperature.	3.4/3.7	1
295030 Low Suppression Pool Wtr Lvl / 5					02		EA2.02 Ability to determine and/or interpret the following as they apply to LOW SUPPRESSION POOL WATER LEVEL: Suppression pool temperature.	3.9/3.9	1
					04		**EA2.04** Ability to determine and/or interpret the following as they apply to LOW SUPPRESSION POOL WATER LEVEL: Drywell/suppression chamber differential pressure.	3.5/3.7	1
295031 Reactor Low Water Level / 2						**2.4**	**G2.4.30** Knowledge of which events related to system operations/status should be reported to outside agencies.	2.2/3.6	1
	02						EK1.02 Knowledge of the operational implications of the following concepts as they apply to the REACTOR LOW WATER LEVEL and the following: Natural circulation.	3.8/4.1	1
295037 SCRAM Condition Present and Power Above APRM Downscale or Unknown / 1						2.1	G2.1.28 Knowledge of the purpose and function of major system components and controls.	3.2/3.3	1
295038 High Off-site Release Rate / 9					**03**		**EA2.03** Ability to determine and/or interpret the following as they apply to HIGH OFF-SITE RELEASE RATE: Radiation levels.	3.5/4.3	1
						2.4	G2.4.31 Knowledge of annunciators alarms and indications / and use of the response instructions.	3.3/3.4	1
600000 Plant Fire On Site / 8			04				AK3.04 Knowledge of the reasons for the following responses as they apply to PLANT FIRE ON SITE: Actions contained in the abnormal procedure for plant fire on site.	2.8/3.4	1
K/A Category Totals:	3	4	3	3	4/4	3/3	Group Point Total:		20/7

ES-401	BWR Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 2 (RO / SRO)							Form ES-401-1	
E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	IR	#
295002 Loss of Main Condenser Vac / 3							Not selected.		
295007 High Reactor Pressure / 3							Not selected.		
295008 High Reactor Water Level / 2						2.1	G2.1.2 Knowledge of operator responsibilities during all modes of plant operation.	3.0/4.0	1
295009 Low Reactor Water Level / 2				04			AA1.04 Ability to operate and/or monitor the following as they apply to LOW REACTOR WATER LEVEL: Reactor water cleanup.	2.7/2.7	1
295010 High Drywell Pressure / 5					02		AA2.02 Ability to determine and interpret the following as they apply to HIGH DRYWELL PRESSURE: Drywell pressure.	3.8/3.9	1
295011 High Containment Temp / 5							Mark III Containment only.		
295012 High Drywell Temperature / 5					**02**		**AA2.02** Ability to determine and interpret the following as they apply to HIGH DRYWELL TEMPERATURE: Drywell pressure.	3.9/4.1	1
295013 High Suppression Pool Temp. / 5							Not selected.		
295014 Inadvertent Reactivity Addition / 1						**2.1**	**G2.1.33** Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	3.4/4.0	1
295015 Incomplete SCRAM / 1							Not selected.		
295017 High Off-site Release Rate / 9						**2.4**	**G2.4.30** Knowledge of which events related to system operations/status should be reported to outside agencies.	2.2/3.6	1
295020 Inadvertent Cont. Isolation / 5 & 7			02				AK3.02 Knowledge of the reasons for the following responses as they apply to INADVERTENT CONTAINMENT ISOLATION: Drywell/containment pressure response.	3.3/3.5	1
295022 Loss of CRD Pumps / 1	01						AK1.01 Knowledge of the operational implications of the following concepts as they apply to LOSS OF CRD PUMPS: Reactor pressure vs. rod insertion capability.	3.3/3.4	1
295029 High Suppression Pool Wtr Lvl / 5							Not selected.		
295032 High Secondary Containment Area Temperature / 5		04					EK2.04 Knowledge of the interrelations between HIGH SECONDARY CONTAINMENT AREA TEMPERATURE and the following: PCIS/NSSSS.	3.6/3.8	1
295033 High Secondary Containment Area Radiation Levels / 9							Not selected.		
295034 Secondary Containment Ventilation High Radiation / 9				05			EA1.05 Ability to operate and/or monitor the following as they apply to SECONDARY CONTAINMENT VENTILATION HIGH RADIATION: Fuel building ventilation.	3.8/3.8	1
295035 Secondary Containment High Differential Pressure / 5							Not selected.		
295036 Secondary Containment High Sump/Area Water Level / 5							Not selected.		
500000 High CTMT Hydrogen Conc. / 5							Not selected.		
K/A Category Point Totals:	1	1	1	2	1/1	1/2	Group Point Total:		7/3

ES-401	BWR Examination Outline Plant Systems - Tier 2/Group 1 (RO / SRO)												Form ES-401-1	
System # / Name	K 1	K 2	K3	K4	K 5	K 6	A1	A2	A3	A 4	G	K/A Topic(s)	IR	#
203000 RHR/LPCI: Injection Mode						01						K6.01 Knowledge of the effect that a loss or malfunction of the following will have on the RHR/LPCI: INJECTION MODE: A.C. electrical power.	3.6/3.7	1
205000 Shutdown Cooling											**2.1**	**G2.1.22** Ability to determine Mode of operation.	2.8/3.3	1
		01										K2.01 Knowledge of electrical power supplies to the following: Pump motors.	3.1/3.1	1
206000 HPCI						03						K6.03 Knowledge of the effect that a loss or malfunction of the following will have on the HPCI SYSTEM: A.C. power.	2.9/3.1	1
207000 Isolation (Emergency) Condenser												Not applicable to Hatch..		
209001 LPCS									02			A3.02 Ability to monitor automatic operations of the LOW PRESSURE CORE SPRAY SYSTEM including: Pump start.	3.8/3.7	1
209002 HPCS												Not applicable to Hatch.		
211000 SLC		01										K2.01 Knowledge of electrical power supplies to the following: SBLC pumps.	2.9/3.1	1
212000 RPS								**16**				**A2.16** Ability to (a) predict the impacts of the following on the REACTOR PROTECTION SYSTEM; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Changing mode switch position.	4.0/4.1	1
				08								K4.08 Knowledge of REACTOR PROTECTION SYSTEM design feature(s) and/or interlocks which provide for the following: Complete control rod insertion following SCRAM signal generation.	4.2/4.2	1
215003 IRM											**2.2**	**G2.2.25** Knowledge of the bases in technical specifications for limiting conditions for operations and safety limits.	2.5/3.7	1
				01								K4.01 Knowledge of INTERMEDIATE RANGE MONITOR design feature(s) and/or interlock(s) which provide for the following: Rod withdrawal blocks.	3.7/3.7	1

215004 Source Range Monitor				06							2.1	**G2.1.33** Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications. K4.06 Knowledge of the SOURCE RANGE MONITOR design feature(s) and /or interlock(s) which provide for the following: IRM/SRM interlock.	3.4/4.0 3.2/3.2	1 1
215005 APRM / LPRM					06					05		K5.06 Knowledge of the operational implications of the following concepts as they apply to AVERAGE POWER RANGE MONITOR/LOCAL POWER RANGE MONITOR SYSTEM: Assignment of LPRM's to specific APRM channels. A4.05 Ability to manually operate and/or monitor in the control room: Trip bypasses.	2.5/2.6 3.4/3.4	1 1
217000 RCIC										08		A4.08 Ability to manually operate and/or monitor in the control room: System flow.	3.7/3.6	1
218000 ADS											2.1	G2.1.28 Knowledge of the purpose and function of major system components and controls.	3.2/3.3	1
223002 PCIS/Nuclear Steam Supply Shutoff			03					**04**				**A2.04** Ability to (a) predict the impacts of the following on the PRIMARY CONTAINMENT ISOLATION SYSTEM/NUCLEAR STEAM SUPPLY SHUT-OFF; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Process radiation monitoring system failures. K3.03 Knowledge of the effect that a loss or malfunction of the PRIMARY CONTAINMENT ISOLATION SYSTEM/NUCLEAR STEAM SUPPLY SHUT-OFF will have on the following: Off-site radioactive release rates.	2.9/3.2 3.6/3.8	1 1
239002 SRVs								06				A2.06 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: Reactor high pressure.	4.1/4.3	1
259002 Reactor Water Level Control											2.1	G2.1.33 Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications.	3.4/4.0	1

261000 SGTS											2.4	G2.4.31 Knowledge of annunciator alarms and indications and use of the response instructions.	3.3/3.4	1
262001 AC Electrical Distribution		01							04			A3.04 Ability to monitor automatic operations of the A.C. ELECTRICAL DISTRIBUTION including: Load sequencing. K2.01 Knowledge of the electrical power supplies to the following: Off-site sources of power.	3.4/3.6 3.3/3.6	1 1
262002 UPS (AC/DC)	06			01								K1.06 Knowledge of the physical connections and/or cause-effect relationships between UNINTERRUPTABLE POWER SUPPLY (A.C./D.C.) And the following: Unit computer. K4.01 Knowledge of UNINTERRUPTABLE POWER SUPPLY (A.C./D.C.) design feature(s) and/or interlocks which provide for the following: Transfer from preferred power to alternate power supplies.	2.6/2.7 3.1/3.4	1 1
263000 DC Electrical Distribution					01	01						K5.01 Knowledge of the operational implications of the following concepts as they apply to the D.C. ELECTRICAL DISTRIBUTION: Hydrogen generation during battery charging. K6.01 Knowledge of the effect that a loss or malfunction of the following will have on the D.C. ELECTRICAL DISTRIBUTION: A.C. electical distribution.	2.6/2.9 3.2/3.5	1 1
264000 EDGs			03				01					A1.01 Ability to predict and/or monitor changes in parameters associated with operating the EMERGENCY GENERATORS (DIESEL/JET) controls including: Lube oil temperature. K3.03 Knowledge of the effect that a loss or malfunction of the EMERGENCY GENERATORS (DIESEL/JET) will have on the following: Major loads powered from electrical buses fed by the emergency generator(s).	3.0/3.0 4.1/4.2	1 1
300000 Instrument Air								01				A2.01 Ability to (a) predict the impacts of the following on the INSTRUMENT AIR; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Air dryer and filter malfunctions.	2.9/2.8	1
400000 Component Cooling Water System (CCWS)	02											K1.02 Knowledge of the physical connections and/or cause-effect relationships between CCWS and the following: Loads cooled by CCWS.	3.2/3.4	1
K/A Category Point Totals:	2	3	2	4	2	3	1	2/2	2	2	3/3	Group Point Total:		26/5

ES-401	BWR Examination Outline Plant Systems - Tier 2/Group 2 (RO / SRO)											Form ES-401-1	
System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	IR	#
201001 CRD Hydraulic												Not selected.		
201002 RMCS							01					A1.01 Ability to predict and/or monitor changes in parameters associated with operating the REACTOR MANUAL CONTROL SYSTEM controls including: CRD drive water flow.	2.8/2.8	1
201003 Control Rod and Drive Mechanism								06				A2.06 Ability to (a) predict the impacts of the following on the CONTROL ROD AND DRIVE MECHANISM; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Loss of CRD cooling water flow.	3.0/3.1	1
201004 RSCS												Not Applicable to Hatch.		
201005 RCIS												Not selected.		
201006 RWM												Not selected.		
202001 Recirculation												Not selected.		
202002 Recirculation Flow Control					02							K5.02 Knowledge of the operational implication of the following concepts as they apply to the RECIRCULATION FLOW CONTROL: Feedback signals.	2.6/2.6	1
204000 RWCU												Not selected.		
214000 RPIS									02			A3.02 Ability to monitor automatic operation of the ROD POSITION INFORMATION SYSTEM including: Alarm and indicating lights.	3.2/3.1	1
215001 Traversing In-core Probe												Not selected.		
215002 RBM											2.1	**G2.1.11** Knowledge of less than one hour technical specification action statements for systems.	3.0/3.8	1
216000 Nuclear Boiler Inst.											2.1	G2.1.28 Knowledge of the purpose and function of major system components and controls.	3.2/3.3	1
219000 RHR/LPCI: Torus/Pool Cooling Mode			01									K3.01 Knowledge of the effect that a loss or malfunction of the RHR/LPCI: TORUS/SUPPRESSION POOL COOLING MODE will have on the following: Suppression pool temperature control.	3.9/4.1	1
223001 Primary CTMT and Aux.												Not selected.		
226001 RHR/LPCI: CTMT Spray Mode												Not selected.		
230000 RHR/LPCI: Torus/Pool Spray Mode												Not selected.		

233000 Fuel Pool Cooling/Cleanup							07					A1.07 Ability to predict and/or monitor changes in parameters associated with operating the FUEL POOL COOLING/CLEANUP controls including: System temperature.	2.7/2.8	1
234000 Fuel Handling Equipment			01									K3.01 Knowledge of the effect that a loss or malfunction of the FUEL HANDLING EQUIPMENT will have on the following: Reactor manual control system.	2.9/3.3	1
239001 Main and Reheat Steam												Not selected.		
239003 MSIV Leakage Control												Not selected.		
241000 Reactor/Turbine Pressure Regulator	03											K1.03 Knowledge of the physical connections and/or cause-effect relationships between REACTOR/TURBINE PRESSURE REGULATING SYSTEM and the following: Reactor water level.	3.6/3.7	1
245000 Main Turbine Gen. / Aux.												Not selected.		
256000 Reactor Condensate										02		A4.02 Ability to manually operate and/or monitor in the control room: System motor operated valves.	2.8/2.8	1
259001 Reactor Feedwater												Not selected.		
268000 Radwaste												Not selected.		
271000 Offgas												Not selected.		
272000 Radiation Monitoring												Not selected.		
286000 Fire Protection										03		A4.03 Ability to manually operate and/or monitor in the control room: Applicable component cooling water pressure.	2.5/2.5	1
288000 Plant Ventilation												Not selected.		
290001 Secondary CTMT	08											K1.08 Knowledge of the physical connections and/or cause-effect relationships between SECONDARY CONTAINMENT and the following: Exhaust stack.	3.2/3.3	1
290003 Control Room HVAC								**03**				**A2.03** Ability to (a) predict the impacts of the following on the CONTROL ROOM HVAC; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Initiation / Reconfiguration failure.	3.4/3.6	1
290002 Reactor Vessel Internals											**2.2**	**G2.2.22** Knowledge of limiting conditions for operations and safety limits.	3.4/4.1	1
K/A Category Point Totals:	2	0	2	0	1	0	2	1/1	1	2	1/2	Group Point Total:		12/3

ES-401	Generic Knowledge and Abilities Outline (Tier 3) **DRAFT**	Form ES-401-3

Facility: **HATCH** Date of Exam: :

Category	K/A #	Topic	RO		SRO-Only	
			IR	#	IR	#
1. Conduct of Operations	**2.1.4**	Knowledge of shift staffing requirements.			3.4	1
	2.1.19	Ability to use plant computer to obtain and evaluate parametric information on system or component status.	3.0	1		
	2.1.29	Knowledge of how to conduct and verify valve lineups.	3.4	1		
	2.1.30	Ability to locate and operate components, including local controls.	3.9	1		
	2.1.34	Ability to maintain primary and secondary plant chemistry within allowable limits.			2.9	1
	Subtotal			3		2
2. Equipment Control	2.2.3	Knowledge of the design / procedural / and operational differences between units.	3.1	1		
	2.2.11	Knowledge of the process for controlling temporary changes.	2.5	1		
	2.2.19	Knowledge of maintenance work order requirements.			3.1	1
	2.2.25	Knowledge of bases in technical specifications for limiting conditions for operations and safety.			3.7	1
	2.2.27	Knowledge of the refueling process.	2.6	1		
	Subtotal			3		2
3. Radiation Control	2.3.4	Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized.	2.5	1		
	2.3.6	Knowledge of the requirements for reviewing and approving release permits.			3.1	1
	2.3.9	Knowledge of the process for performing a containment purge.	2.5	1		
	Subtotal			2		1
4. Emergency Procedures / Plan	2.4.1	Knowledge of EOP entry conditions and immediate action steps.	4.3	1		
	2.4.5	Knowledge of the organization of the operating procedures network for normal / abnormal / and emergency evolutions.			3.6	1
	2.4.6	Knowledge of symptom based EOP mitigation strategies.			4.0	1
	2.4.11	Knowledge of abnormal condition procedures.	3.4	1		
	Subtotal			2		2
Tier 3 Point Total				10		7