

Facility: Clinton Power Station										Date of Exam: April 2021									
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 and Abnormal Plant Evolutions	1	3	4	4	N/A			3	3	N/A			3	20	4	3	7		
	2	1	1	1	N/A			2	1	N/A			1	7	2	1	3		
	Tier Totals	4	5	5	N/A			5	4	N/A			4	27	6	4	10		
2. Plant Systems	1	2	3	3	3	2	2	3	3	1	2	2	26	2	3	5			
	2	1	1	1	1	1	1	1	1	2	1	1	12	1	2	3			
	Tier Totals	3	4	4	4	3	3	4	4	3	3	3	38	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 applicable K/A category are sampled within each tier of the RO and SRO-only outline sections (i.e., except for one category in Tier 3 of the SRO-only section, the "Tier Totals" in each K/A category shall not be less than two). (One Tier 3 radiation control K/A is allowed if it is replaced by a K/A from another Tier 3 category.)
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 outline. Systems or evolutions that do not apply at the facility should be deleted with justification. 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. 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' 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 a category 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.

G* Generic K/As

- * These systems/evolutions must be included as part of the sample (as applicable to the facility) when Revision 3 of the K/A catalog is used to develop the sample plan. They are not required to be included when using earlier revisions of the K/A catalog.
- ** These systems/evolutions may be eliminated from the sample (as applicable to the facility) when Revision 3 of the K/A catalog is used to develop the sample plan.

ES-401		BWR Examination Outline Emergency and Abnormal Plant Evolutions—Tier 1/Group 1 (RO)						Form ES-401-1	
E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G*	K/A Topic(s)	IR	#
295001 (APE 1) Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4				X			AA1.02 Ability to operate and/or monitor the following as they apply to Partial Or Complete Loss Of Forced Core Flow Circulation: RPS (CFR: 41.7 / 45.6)	3.3	1
295003 (APE 3) Partial or Complete Loss of AC Power / 6					X		AA2.02 Ability to determine and/or interpret the following as they apply to Partial Or Complete Loss Of A.C. Power: Reactor power / pressure / and level (CFR: 41.10 / 43.5 / 45.13)	4.2	2
295004 (APE 4) Partial or Total Loss of DC Power / 6						X	2.2.37 Ability to determine operability and/or availability of safety related equipment. (CFR: 41.7 / 43.5 / 45.12)	3.6	3
295005 (APE 5) Main Turbine Generator Trip / 3	X						AK1.03 Knowledge of the operational implications of the following concepts as they apply to Main Turbine Generator Trip: Pressure effects on reactor level (CFR: 41.8 to 41.10)	3.5	4
295006 (APE 6) Scram / 1		X					AK2.04 Knowledge of the interrelations between SCRAM and the following: Turbine trip logic (CFR: 41.7 / 45.8)	3.6	5
295016 (APE 16) Control Room Abandonment / 7						X	2.4.34 Knowledge of RO tasks performed outside the main control room during an emergency and the resultant operational effects. (CFR: 41.10 / 43.5 / 45.13)	4.2	6
295018 (APE 18) Partial or Complete 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 (CFR: 41.7 / 45.8)	3.3	7
295019 (APE 19) Partial or Complete Loss of Instrument Air / 8			X				AK3.03 Knowledge of the reasons for the following responses as they apply to Partial Or Complete Loss Of Instrument Air: Service air isolations (CFR: 41.5 / 45.6)	3.2	8
295021 (APE 21) Loss of Shutdown Cooling / 4				X			AA1.02 Ability to operate and/or monitor the following as they apply to Loss Of Shutdown Cooling: RHR/shutdown cooling (CFR: 41.7 / 45.6)	3.5	9
295023 (APE 23) Refueling Accidents / 8					X		AA2.02 Ability to determine and/or interpret the following as they apply to Refueling Accidents: Fuel pool level (CFR: 41.10 / 43.5 / 45.13)	3.4	10
295024 High Drywell Pressure / 5						X	2.1.28 Knowledge of the purpose and function of major system components and controls. (CFR: 41.7)	4.1	11
295025 (EPE 2) High Reactor Pressure / 3	X						EK1.04 Knowledge of the operational implications of the following concepts as they apply to High Reactor Pressure: Decay heat generation (CFR: 41.8 to 41.10)	3.6	12
295026 (EPE 3) Suppression Pool High Water Temperature / 5		X					EK2.04 Knowledge of the interrelations between Suppression Pool High Water Temperature and the following: SPDS/ERIS/CRIDS/GDS (CFR: 41.7 / 45.8)	2.5	13
295027 (EPE 4) High Containment Temperature (Mark III Containment Only) / 5			X				EK3.01 Knowledge of the reasons for the following responses as they apply to High Containment Temperature (Mark III Containment Only): Emergency depressurization: Mark-III (CFR: 41.5 / 45.6)	3.7	14
295028 (EPE 5) High Drywell Temperature (Mark I and Mark II only) / 5							Not Applicable		
295030 (EPE 7) Low Suppression Pool Water Level / 5				X			EA1.02 Ability to operate and/or monitor the following as they apply to Low Suppression Pool Water Level: RCIC (CFR: 41.7 / 45.6)	3.4	15

295031 (EPE 8) Reactor Low Water Level / 2					X		EA2.02 Ability to determine and/or interpret the following as they apply to Reactor Low Water Level: Reactor power (CFR: 41.10 / 43.5 / 45.13)	4.0	16
295037 (EPE 14) Scram Condition Present and Reactor Power Above APRM Downscale or Unknown / 1			X				EK3.02 Knowledge of the reasons for the following responses as they apply to SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN: SBLC injection (CFR: 41.5 / 45.6)	4.3	17
295038 (EPE 15) High Offsite Radioactivity Release Rate / 9	X						EK1.02 Knowledge of the operational implications of the following concepts as they apply to High Off-Site Release Rate: Protection of the general public (CFR: 41.8 to 41.10)	4.2	18
600000 (APE 24) Plant Fire On Site / 8		X					AK2.01 Knowledge of the interrelations between Plant Fire On Site and the following: Sensors / detectors and valves	2.6	19
700000 (APE 25) Generator Voltage and Electric Grid Disturbances / 6			X				AK3.02 Knowledge of the reasons for the following responses as they apply to Generator Voltage And Electric Grid Disturbances: Actions contained in abnormal operating procedure for voltage and grid disturbances (CFR: 41.4 / 41.5 / 41.7 / 41.10 / 45.8)	3.6	20
K/A Category Totals:	3	4	4	3	3	3	Group Point Total:		20

500000 (EPE 16) High Containment Hydrogen Concentration / 5		X					EK2.03 Knowledge of the interrelations between High Containment Hydrogen Concentrations the following: Containment Atmosphere Control System (CFR: 41.7 / 45.8)	3.3	27
K/A Category Point Totals:	1	1	1	2	1	1	Group Point Total:		7

ES-401	BWR Examination Outline Plant Systems—Tier 2/Group 1 (RO)											Form ES-401-1		
System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G*	K/A Topic(s)	IR	#
203000 (SF2, SF4 RHR/LPCI) RHR/LPCI: Injection Mode												X 2.4.31 Knowledge of annunciator alarms, indications, or response procedures. (CFR: 41.10 / 45.3)	4.2	28
205000 (SF4 SCS) Shutdown Cooling	X											K1.06 Knowledge of the physical connections and/or cause-effect relationships between Shutdown Cooling System (RHR Shutdown Cooling Mode) and the following: A.C. electrical power (CFR: 41.2 to 41.9 / 45.7 to 45.8)	3.2	29
206000 (SF2, SF4 HPCIS) High-Pressure Coolant Injection												Not Applicable		
207000 (SF4 IC) Isolation (Emergency) Condenser												Not Applicable		
209001 (SF2, SF4 LPCS) Low-Pressure Core Spray		X										K2.03 Knowledge of electrical power supplies to the following: Initiation logic (CFR: 41.7)	2.9	30
209002 (SF2, SF4 HPCS) High-Pressure Core Spray			X									K3.02 Knowledge of the effect that a loss or malfunction of the High Pressure Core Spray System (HPCS) will have on following: Standby liquid control system (CFR: 41.7 / 45.4)	3.3	31
211000 (SF1 SLCS) Standby Liquid Control				X								K4.10 Knowledge of Standby Liquid Control System design feature(s) and/or interlocks which provide for the following: Over pressure protection (CFR 41.7)	2.8	32
212000 (SF7 RPS) Reactor Protection					X							K5.02 Knowledge of the operational implications of the following concepts as they apply to Reactor Protection System: Specific logic arrangements (CFR: 41.5 / 45.3)	3.3	33
215003 (SF7 IRM) Intermediate-Range Monitor						X						K6.04 Knowledge of the effect that a loss or malfunction of the following will have on the Intermediate Range Monitor (IRM) System: Detectors (CFR: 41.7 / 45.7)	3.0	34
215004 (SF7 SRMS) Source-Range Monitor							X					A1.06 Ability to predict and/or monitor changes in parameters associated with operating the Source Range Monitor (SRM) System controls including: Lights and alarms (CFR: 41.5 / 45.5)	3.1	35
	X											K1.01 Knowledge of the physical connections and/or cause-effect relationships between Source Range Monitor (SRM) System and the following: Reactor protection system (CFR: 41.2 to 41.9 / 45.7 to 45.8)	3.6	36
215005 (SF7 PRMS) Average Power Range Monitor/Local Power Range Monitor								X				A2.03 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: Inoperative trip (all causes) (CFR: 41.5 / 45.6)	3.6	37
			X									K3.01 Knowledge of the effect that a loss or malfunction of the Average Power Range Monitor/Local Power Range Monitor System will have on following: RPS (CFR: 41.7 / 45.4)	4.0	38
217000 (SF2, SF4 RCIC) Reactor Core Isolation Cooling									X			A3.01 Ability to monitor automatic operations of the Reactor Core Isolation Cooling System (RCIC) including: Valve operation (CFR 41.7 / 45.7)	3.5	39
				X								K4.06 Knowledge of reactor core isolation cooling system (RCIC) design feature(s) and/or interlocks which provide for the following: Manual initiation (CFR: 41.7)	3.5	40

218000 (SF3 ADS) Automatic Depressurization											X	A4.12 Ability to manually operate and/or monitor in the control room: Reactor vessel water level (CFR: 41.7 / 45.5 to 45.8)	4.2	41
223002 (SF5 PCIS) Primary Containment Isolation/Nuclear Steam Supply Shutoff											X	2.2.40 Ability to apply Technical Specifications for a system. (CFR: 41.10 / 43.2 / 43.5 / 45.3)	3.4	42
239002 (SF3 SRV) Safety Relief Valves		X										K2.01 Knowledge of electrical power supplies to the following: SRV solenoids (CFR: 41.7)	2.8	43
259002 (SF2 RWLCS) Reactor Water Level Control			X									K3.06 Knowledge of the effect that a loss or malfunction of the Reactor Water Level Control System will have on following: Main turbine (CFR: 41.7 / 45.4)	2.8	44
261000 (SF9 SGTS) Standby Gas Treatment				X								K4.04 Knowledge of Standby Gas Treatment System design feature(s) and/or interlocks which provide for the following: Radioactive particulate filtration (CFR 41.7)	2.7	45
262001 (SF6 AC) AC Electrical Distribution					X							K5.02 Knowledge of the operational implications of the following concepts as they apply to A.C. Electrical Distribution: Breaker control (CFR: 41.5 / 45.3)	2.6	46
								X				A1.02 Ability to predict and/or monitor changes in parameters associated with operating the A.C. Electrical Distribution controls including: Effects of loads when energizing a bus (CFR: 41.5 / 45.5)	3.1	47
262002 (SF6 UPS) Uninterruptable Power Supply (AC/DC)						X						K6.01 Knowledge of the effect that a loss or malfunction of the following will have on the Uninterruptable Power Supply (A.C./D.C.) : A.C. electrical power (CFR: 41.7 / 45.7)	2.7	48
263000 (SF6 DC) DC Electrical Distribution							X					A1.01 Ability to predict and/or monitor changes in parameters associated with operating the D.C. Electrical Distribution controls including: Battery charging/ discharging rate (CFR: 41.5 / 45.5)	2.5	49
264000 (SF6 EGE) Emergency Generators (Diesel/Jet) EDG								X				A2.01 Ability to (a) predict the impacts of the following on the Emergency Generators (Diesel/Jet) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Parallel operation of emergency generator (CFR: 41.5 / 45.6)	3.5	50
300000 (SF8 IA) Instrument Air									X			A2.01 Ability to (a) predict the impacts of the following on the INSTRUMENT AIR SYSTEM and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation: Air dryer and filter malfunctions (CFR: 41.5 / 45.6)	2.9	51
		X										K2.01 Knowledge of electrical power supplies to the following: Instrument air compressor (CFR: 41.7)	2.8	52
400000 (SF8 CCS) Component Cooling Water											X	A4.01 Ability to manually operate and / or monitor in the control room: CCW indications and control (CFR: 41.7 / 45.5 to 45.8)	3.1	53
510000 (SF4 SWS*) Service Water (Normal and Emergency)												Not Applicable		
K/A Category Point Totals:	2	3	3	3	2	2	3	3	1	2	2	Group Point Total:		26

ES-401	BWR Examination Outline Plant Systems—Tier 2/Group 2 (RO)												Form ES-401-1	
System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G*	K/A Topic(s)	IR	#
201001 (SF1 CRDH) CRD Hydraulic														
201002 (SF1 RMCS) Reactor Manual Control												Not Applicable		
201003 (SF1 CRDM) Control Rod and Drive Mechanism											X	2.1.7 Ability to evaluate plant performance and make operational judgements based on operating characteristics, reactor behavior, and instrument interpretation. (CFR: 41.5 / 43.5 / 45.12 / 45.13)	4.4	54
201004 (SF7 RSCS) Rod Sequence Control												Not Applicable		
201005 (SF1, SF7 RCIS) Rod Control and Information	X											K1.05 Knowledge of the physical connections and/or cause-effect relationships between Rod Control And Information System (RCIS) and the following: Rod action control system: BWR-6 (CFR: 41.2 to 41.9 / 45.7 to 45.8)	3.5	55
201006 (SF7 RWMS) Rod Worth Minimizer												Not Applicable		
202001 (SF1, SF4 RS) Recirculation		X										K2.03 Knowledge of electrical power supplies to the following: Recirculation system valves (CFR: 41.7)	2.7	56
202002 (SF1 RSCTL) Recirculation Flow Control														
204000 (SF2 RWCU) Reactor Water Cleanup			X									K3.01 Knowledge of the effect that a loss or malfunction of the Reactor Water Cleanup System will have on following: Reactor water quality (CFR: 41.7 / 45.4)	3.2	57
214000 (SF7 RPIS) Rod Position Information												Not Applicable		
215001 (SF7 TIP) Traversing In-Core Probe														
215002 (SF7 RBMS) Rod Block Monitor												Not Applicable		
216000 (SF7 NBI) Nuclear Boiler Instrumentation														
219000 (SF5 RHR SPC) RHR/LPCI: Torus/Suppression Pool Cooling Mode														
223001 (SF5 PCS) Primary Containment and Auxiliaries														
226001 (SF5 RHR CSS) RHR/LPCI: Containment Spray Mode				X								K4.02 Knowledge of RHR/LPCI: Containment Spray System Mode design feature(s) and/or interlocks which provide for the following: Redundancy (CFR 41.7)	2.8	58
230000 (SF5 RHR SPS) RHR/LPCI: Torus/Suppression Pool Spray Mode												Not Applicable		
233000 (SF9 FPCCU) Fuel Pool Cooling/Cleanup														
234000 (SF8 FH) Fuel-Handling Equipment					X							K5.03 Knowledge of the operational implications of the following concepts as they apply to Fuel Handling Equipment: Water as a shield against radiation (CFR: 41.5 / 45.3)	2.9	59
239001 (SF3, SF4 MRSS) Main and Reheat Steam						X						K6.08 Knowledge of the effect that a loss or malfunction of the following will have on the Main And Reheat Steam System: Main condenser vacuum (CFR: 41.7 / 45.7)	3.3	60

239003 (SF9 MSVLCS) Main Steam Isolation Valve Leakage Control	[Redacted]											Not Applicable			
241000 (SF3 RTPRS) Reactor/Turbine Pressure Regulating								X					A1.02 Ability to predict and/or monitor changes in parameters associated with operating the Reactor/Turbine Pressure Regulating System controls including: Reactor power (CFR: 41.5 / 45.5)	4.1	61
245000 (SF4 MTGEN) Main Turbine Generator/Auxiliary															
256000 (SF2 CDS) Condensate															
259001 (SF2 FWS) Feedwater										X			A3.10 Ability to monitor automatic operation of the Reactor Feedwater System including: Pump trips (CFR: 41.7 / 45.7)	3.4	62
268000 (SF9 RW) Radwaste															
271000 (SF9 OG) Offgas															
272000 (SF7, SF9 RMS) Radiation Monitoring									X				A2.01 Ability to (a) predict the impacts of the following on the Radiation Monitoring System; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Fuel element failure (CFR: 41.5 / 45.6)	3.7	63
286000 (SF8 FPS) Fire Protection															
288000 (SF9 PVS) Plant Ventilation										X			A3.01 Ability to monitor automatic operations of the Plant Ventilation Systems including: Isolation/initiation signals (CFR: 41.7 / 45.7)	3.8	64
290001 (SF5 SC) Secondary Containment											X		A4.02 Ability to manually operate and/or monitor in the control room: Reactor building area temperatures (CFR: 41.7 / 45.5 to 45.8)	3.3	65
290003 (SF9 CRV) Control Room Ventilation															
290002 (SF4 RVI) Reactor Vessel Internals															
51001 (SF8 CWS*) Circulating Water	[Redacted]											Not Applicable			
K/A Category Point Totals:	1	1	1	1	1	1	1	1	1	2	1	1	Group Point Total:		12

ES-401		BWR Examination Outline Emergency and Abnormal Plant Evolutions—Tier 1/Group 1 (SRO)						Form ES-401-1	
E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G*	K/A Topic(s)	IR	#
295001 (APE 1) Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4									
295003 (APE 3) Partial or Complete Loss of AC Power / 6									
295004 (APE 4) Partial or Total Loss of DC Power / 6					X		AA2.02 Ability to determine and/or interpret the following as they apply to Partial Or Complete Loss Of D.C. Power: Extent of partial or complete loss of D.C. power (CFR: 41.10 / 43.5 / 45.13)	3.9	76
295005 (APE 5) Main Turbine Generator Trip / 3									
295006 (APE 6) Scram / 1									
295016 (APE 16) Control Room Abandonment / 7									
295018 (APE 18) Partial or Complete Loss of CCW / 8									
295019 (APE 19) Partial or Complete Loss of Instrument Air / 8									
295021 (APE 21) Loss of Shutdown Cooling / 4						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. (CFR: 41.10 / 43.5 / 45.11)	4.1	77
295023 (APE 23) Refueling Accidents / 8					X		AA2.01 Ability to determine and/or interpret the following as they apply to Refueling Accidents: Area Radiation levels (CFR: 41.10 / 43.5 / 45.13)	4.0	78
295024 High Drywell Pressure / 5									
295025 (EPE 2) High Reactor Pressure / 3									
295026 (EPE 3) Suppression Pool High Water Temperature / 5						X	2.2.25 Knowledge of the bases in Technical Specifications for limiting conditions for operations and safety limits. (CFR: 41.5 / 41.7 / 43.2)	4.2	80
295027 (EPE 4) High Containment Temperature (Mark III Containment Only) / 5					X		EA2.02 Ability to determine and/or interpret the following as they apply to High Containment Temperature (Mark III Containment Only): Containment pressure (CFR: 41.10 / 43.5 / 45.13)	3.7	81
295028 (EPE 5) High Drywell Temperature (Mark I and Mark II only) / 5							Not Applicable		
295030 (EPE 7) Low Suppression Pool Water Level / 5									
295031 (EPE 8) Reactor Low Water Level / 2					X		EA2.03 Ability to determine and/or interpret the following as they apply to REACTOR LOW WATER LEVEL: Reactor Pressure (CFR: 41.10 / 43.5 / 45.13)	4.2	79
295037 (EPE 14) Scram Condition Present and Reactor Power Above APRM Downscale or Unknown / 1									
295038 (EPE 15) High Offsite Radioactivity Release Rate / 9						X	2.4.50 Ability to verify system alarm setpoints and operate controls identified in the alarm response manual. (CFR: 41.10 / 43.5 / 45.3)	4.0	82

ES-401		BWR Examination Outline Emergency and Abnormal Plant Evolutions—Tier 1/Group 2 (SRO)						Form ES-401-1	
E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G*	K/A Topic(s)	IR	#
295002 (APE 2) Loss of Main Condenser Vacuum / 3									
295007 (APE 7) High Reactor Pressure / 3									
295008 (APE 8) High Reactor Water Level / 2					X		AA2.01 Ability to determine and/or interpret the following as they apply to High Reactor Water Level: Reactor water level (CFR: 41.10 / 43.5 / 45.13)	3.9	83
295009 (APE 9) Low Reactor Water Level / 2									
295010 (APE 10) High Drywell Pressure / 5									
295011 (APE 11) High Containment Temperature (Mark III Containment only) / 5									
295012 (APE 12) High Drywell Temperature / 5									
295013 (APE 13) High Suppression Pool Temperature. / 5									
295014 (APE 14) Inadvertent Reactivity Addition / 1					X		AA2.01 Ability to determine and/or interpret the following as they apply to Inadvertent Reactivity Addition: Reactor power (CFR: 41.10 / 43.5 / 45.13)	4.2	84
295015 (APE 15) Incomplete Scram / 1									
295017 (APE 17) Abnormal Offsite Release Rate / 9									
295020 (APE 20) Inadvertent Containment Isolation / 5 & 7									
295022 (APE 22) Loss of Control Rod Drive Pumps / 1									
295029 (EPE 6) High Suppression Pool Water Level / 5									
295032 (EPE 9) High Secondary Containment Area Temperature / 5									
295033 (EPE 10) High Secondary Containment Area Radiation Levels / 9									
295034 (EPE 11) Secondary Containment Ventilation High Radiation / 9									
295035 (EPE 12) Secondary Containment High Differential Pressure / 5									
295036 (EPE 13) Secondary Containment High Sump/Area Water Level / 5						X	2.4.18 Knowledge of the specific bases for EOPs (CFR: 41.10 / 43.1 / 45.13)	4.0	85
500000 (EPE 16) High Containment Hydrogen Concentration / 5									
K/A Category Point Totals:					2	1	Group Point Total:		3

ES-401	BWR Examination Outline Plant Systems—Tier 2/Group 2 (SRO)											Form ES-401-1		
System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G*	K/A Topic(s)	IR	#
201001 (SF1 CRDH) CRD Hydraulic								X				A2.04 Ability to (a) predict the impacts of the following on the Control Rod Drive Hydraulic System; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Scram conditions (CFR: 41.5 / 45.6)	3.9	91
201002 (SF1 RMCS) Reactor Manual Control												Not Applicable		
201003 (SF1 CRDM) Control Rod and Drive Mechanism														
201004 (SF7 RSCS) Rod Sequence Control												Not Applicable		
201005 (SF1, SF7 RCIS) Rod Control and Information														
201006 (SF7 RWMS) Rod Worth Minimizer												Not Applicable		
202001 (SF1, SF4 RS) Recirculation														
202002 (SF1 RSCTL) Recirculation Flow Control														
204000 (SF2 RWCU) Reactor Water Cleanup														
214000 (SF7 RPIS) Rod Position Information												Not Applicable		
215001 (SF7 TIP) Traversing In-Core Probe														
215002 (SF7 RBMS) Rod Block Monitor												Not Applicable		
216000 (SF7 NBI) Nuclear Boiler Instrumentation														
219000 (SF5 RHR SPC) RHR/LPCI: Torus/Suppression Pool Cooling Mode														
223001 (SF5 PCS) Primary Containment and Auxiliaries											X	2.1.23 Ability to perform specific system and integrated plant procedures during all modes of plant operation. (CFR: 41.10 / 43.5 / 45.2 / 45.6)	4.4	92
226001 (SF5 RHR CSS) RHR/LPCI: Containment Spray Mode														
230000 (SF5 RHR SPS) RHR/LPCI: Torus/Suppression Pool Spray Mode												Not Applicable		
233000 (SF9 FPCCU) Fuel Pool Cooling/Cleanup														
234000 (SF8 FH) Fuel-Handling Equipment														
239001 (SF3, SF4 MRSS) Main and Reheat Steam														
239003 (SF9 MSVLCS) Main Steam Isolation Valve Leakage Control												Not Applicable		
241000 (SF3 RTPRS) Reactor/Turbine Pressure Regulating														
245000 (SF4 MTGEN) Main Turbine Generator/Auxiliary														
256000 (SF2 CDS) Condensate														

