Facility: **Perry** Date of Exam: **Feb. 2015**

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	3	4	3	N/A			3	3	N/A		4	**20**	4	3	**7**	
	2	2	1	1				1	1			1	**7**	2	1	**3**	
	Tier Totals	5	5	4				4	4			5	**27**	6	4	**10**	
2. Plant Systems	1	2	1	2	2	1	3	4	3	3	2	3	**26**	3	2	**5**	
	2	1	1	1	1	1	2	1	1	1	1	1	**12**	1	2	**3**	
	Tier Totals	3	2	3	3	2	5	5	4	4	3	4	**38**	4	4	**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 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 that are not included on the outline should be added. Refer to ES-401, Attachment 2, 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.
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.

ES-401	BWR Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 1 **RO**							Form ES-401-1	
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4						X	2.4.11 Knowledge of abnormal condition procedures.	4.0	1 Q11
295003 Partial or Complete Loss of AC / 6	X						AK1.06 Knowledge of the operational implications of the following concepts as they apply to Partial Or Complete Loss Of A.C. Power: Station blackout: Plant-Specific	3.8	1 Q12
295004 Partial or Total Loss of DC Pwr / 6		X					AK2.01 Knowledge of the interrelations between Partial Or Complete Loss Of D.C. Power and the following: Battery charger	3.1	1 Q13
295005 Main Turbine Generator Trip / 3			X				AK3.03 Knowledge of the reasons for the following responses as they apply to Main Turbine Generator Trip: Feedwater temperature decrease	2.8	1 Q14
295006 SCRAM / 1				X			AA1.04 Ability to operate and/or monitor the following as they apply to Scram: Recirculation system	3.1	1 Q15
295016 Control Room Abandonment / 7					X		AA2.06 Ability to determine and/or interpret the following as they apply to Control Room Abandonment: Cooldown rate	3.3	1 Q16
295018 Partial or Total Loss of CCW / 8						X	2.4.47 Ability to diagnose and recognize trends in an accurate and timely manner utilizing the appropriate control room reference material.	4.2	1 Q17
295019 Partial or Total Loss of Inst. Air / 8		X					AK2.19 Knowledge of the interrelations between Partial Or Complete Loss Of Instrument Air and the following: RHR/LPCI: Plant-Specific	2.7	1 Q18
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	1 Q19
295023 Refueling Acc / 8				X			AA1.08 Ability to operate and/or monitor the following as they apply to Refueling Accidents: †Containment building ventilation: Mark-III	3.3	1 Q20
295024 High Drywell Pressure / 5					X		EA2.07 Ability to determine and/or interpret the following as they apply to High Drywell Pressure: Containment radiation levels: Mark-III	3.4	1 Q21
295025 High Reactor Pressure / 3						X	2.4.49 Ability to perform without reference to procedures those actions that require immediate operation of system components and controls.	4.6	1 Q22
295026 Suppression Pool High Water Temp. / 5	X						EK1.02 Knowledge of the operational implications of the following concepts as they apply to Suppression Pool High Water Temperature: Steam condensation	3.5	1 Q23
295027 High Containment Temperature / 5		X					EK2.04 Knowledge of the interrelations between High Containment Temperature (Mark III Containment Only) and the following: SPDS/ERIS/CRIDS/GDS	2.6	1 Q24
295028 High Drywell Temperature / 5						X	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	1 Q25
295030 Low Suppression Pool Wtr Lvl / 5	X						EK1.03 Knowledge of the operational implications of the following concepts as they apply to Low Suppression Pool Water Level: Heat capacity	3.8	1 Q26
295031 Reactor Low Water Level / 2		X					EK2.14 Knowledge of the interrelations between Reactor Low Water Level and the following: Emergency generators	3.9	1 Q27
295037 SCRAM Condition Present and Power Above APRM Downscale or Unknown / 1									

ES-401	BWR Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 1 **RO**							Form ES-401-1	
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
295038 High Off-site Release Rate / 9			X				EK3.02 Knowledge of the reasons for the following responses as they apply to High Off-Site Release Rate: System isolations	3.9	1 Q28
600000 Plant Fire On Site / 8				X			AA1.05 Ability to operate and / or monitor the following as they apply to Plant Fire On Site: Plant and control room ventilation systems	3.0	1 Q29
700000 Generator Voltage and Electric Grid Disturbances / 6					X		AA2.01 Ability to determine and/or interpret the following as they apply to Generator Voltage And Electric Grid Disturbances: Operating point on the generator capability curve	3.5	1 Q30
K/A Category Totals:	3	4	3	3	3	4	Group Point Total:		20

ES-401	BWR Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 2 **RO**							Form ES-401-1	
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
295002 Loss of Main Condenser Vac / 3	X						AK1.03 Knowledge of the operational implications of the following concepts as they apply to Loss Of Main Condenser Vacuum: Loss of heat sink	3.6	1 Q31
295007 High Reactor Pressure / 3									
295008 High Reactor Water Level / 2		X					AK2.08 Knowledge of the interrelations between High Reactor Water Level and the following: Main turbine: Plant-Specific	3.4	1 Q32
295009 Low Reactor Water Level / 2									
295010 High Drywell Pressure / 5									
295011 High Containment Temp / 5			X				AK3.01 Knowledge of the reasons for the following responses as they apply to High Containment Temperature (Mark III Containment Only): Increased containment cooling	3.6	1 Q33
295012 High Drywell Temperature / 5									
295013 High Suppression Pool Temp. / 5									
295014 Inadvertent Reactivity Addition / 1									
295015 Incomplete SCRAM / 1				X			AA1.07 Ability to operate and/or monitor the following as they apply to Incomplete Scram: Neutron monitoring system	3.6	1 Q34
295017 High Off-site Release Rate / 9					X		AA2.04 Ability to determine and/or interpret the following as they apply to High Off-Site Release Rate: †Source of off-site release	3.6	1 Q35
295020 Inadvertent Cont. Isolation / 5 & 7									
295022 Loss of CRD Pumps / 1						X	2.4.21 Knowledge of the parameters and logic used to assess the status of safety functions, such as reactivity control, core cooling and heat removal, reactor coolant system integrity, containment conditions, radioactivity release control, etc.	4.0	1 Q36
295029 High Suppression Pool Wtr Lvl / 5									
295032 High Secondary Containment Area Temperature / 5									
295033 High Secondary Containment Area Radiation Levels / 9									
295034 Secondary Containment Ventilation High Radiation / 9	X						EK1.02 Knowledge of the operational implications of the following concepts as they apply to Secondary Containment Ventilation High Radiation: †Radiation releases	4.1	1 Q37
295035 Secondary Containment High Differential Pressure / 5							**Not Applicable to Perry**		
295036 Secondary Containment High Sump/Area Water Level / 5									
500000 High CTMT Hydrogen Conc. / 5									
K/A Category Point Totals:	2	1	1	1	1	1	Group Point Total:		7

ES-401	BWR Examination Outline Plant Systems - Tier 2/Group 1 **RO**												Form ES-401-1	
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
203000 RHR/LPCI: Injection Mode							X					A1.05 Ability to predict and/or monitor changes in parameters associated with operating the RHR/LPCI: Injection Mode (Plant Specific) controls including: Suppression pool level	3.8	1 Q38
205000 Shutdown Cooling								X				A2.06 Ability to (a) predict the impacts of the following on the Shutdown Cooling System (RHR Shutdown Cooling Mode); and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: SDC/RHR pump trips	3.4	2 Q39
					X							K5.02 Knowledge of the operational implications of the following concepts as they apply to Shutdown Cooling System (RHR Shutdown Cooling Mode): Valve operation	2.8	Q40
206000 HPCI												**Not Applicable to Perry**		
207000 Isolation (Emergency) Condenser												**Not Applicable to Perry**		
209001 LPCS							X					A1.01 Ability to predict and/or monitor changes in parameters associated with operating the Low Pressure Core Spray System controls including: Core spray flow	3.4	2 Q41
						X						K6.05 Knowledge of the effect that a loss or malfunction of the following will have on the Low Pressure Core Spray System: ECCS room cooler(s)	2.8	Q42
209002 HPCS								X				A2.10 Ability to (a) predict the impacts of the following on the High Pressure Core Spray System (HPCS); and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Valve openings; BWR-5,6	2.7	1 Q43
211000 SLC									X			A3.07 Ability to monitor automatic operations of the Standby Liquid Control System including: Lights and alarms: Plant-Specific	3.7	1 Q44
212000 RPS										X		A4.09 Ability to manually operate and/or monitor in the control room: Scram instrument volume level	3.9	1 Q45
215003 IRM											X	2.2.39 Knowledge of less than or equal to one hour Technical Specification action statements for systems.	3.9	1 Q46
215004 Source Range Monitor	X											K1.03 Knowledge of the physical connections and/or cause-effect relationships between Source Range Monitor (Srm) System and the following: Rod control and information system: Plant-Specific	3.0	1 Q47
215005 APRM / LPRM / OPRM		X										K2.02 Knowledge of electrical power supplies to the following: APRM channels	2.6	1 Q48
217000 RCIC			X									K3.01 Knowledge of the effect that a loss or malfunction of the Reactor Core Isolation Cooling System (RCIC) will have on following: Reactor water level	3.7	2 Q49
							X					A1.01 Ability to predict and/or monitor changes in parameters associated with operating the Reactor Core Isolation Cooling System (RCIC) controls including: RCIC flow	3.7	Q50

ES-401	BWR Examination Outline Plant Systems - Tier 2/Group 1 **RO**												Form ES-401-1	
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
218000 ADS				X								K4.01 Knowledge of Automatic Depressurization System design feature(s) and/or interlocks which provide for the following: Prevent inadvertent initiation of ADS logic	3.7	1 Q51
223002 PCIS/Nuclear Steam Supply Shutoff						X						K6.04 Knowledge of the effect that a loss or malfunction of the following will have on the Primary Containment Isolation System/Nuclear Steam Supply Shut-Off: Nuclear boiler instrumentation	3.3	1 Q52
239002 SRVs							X					A1.06 Ability to predict and/or monitor changes in parameters associated with operating the Relief/Safety Valves controls including: Reactor power	3.7	1 Q53
259002 Reactor Water Level Control								X				A2.03 Ability to (a) predict the impacts of the following on the Reactor Water Level 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 reactor water level input	3.6	2 Q54
									X			A3.05 Ability to monitor automatic operations of the Reactor Water Level Control System including: Changes in reactor power	3.4	Q55
261000 SGTS									X			A3.03 Ability to monitor automatic operations of the Standby Gas Treatment System including: Valve operation	3.0	1 Q56
262001 AC Electrical Distribution										X		A4.02 Ability to manually operate and/or monitor in the control room: Synchroscope, including understanding of running and incoming voltages	3.4	2 Q57
											X	2.4.9 Knowledge of low power/shutdown implications in accident (e.g., loss of coolant accident or loss of residual heat removal) mitigation strategies.	3.8	Q58
262002 UPS (AC/DC)											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	1 Q59
263000 DC Electrical Distribution	X											K1.02 Knowledge of the physical connections and/or cause- effect relationships between D.C. Electrical Distribution and the following: Battery charger and battery	3.2	1 Q60
264000 EDGs			X									K3.02 Knowledge of the effect that a loss or malfunction of the Emergency Generators (Diesel/Jet) will have on following: A.C. electrical distribution	3.9	1 Q61
300000 Instrument Air				X								K4.02 Knowledge of Instrument Air System design feature(s) and or interlocks which provide for the following: Cross-over to other air systems	3.0	1 Q62
400000 Component Cooling Water						X						K6.01 Knowledge of the effect that a loss or malfunction of the following will have on the CCWS: Valves	2.7	1 Q63
K/A Category Point Totals:	2	1	2	2	1	3	4	3	3	2	3	Group Point Total:		26

ES-401	BWR Examination Outline Plant Systems - Tier 2/Group 2 **RO**												Form ES-401-1	
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
201001 CRD Hydraulic														
201002 RMCS												**Not Applicable to Perry**		
201003 Control Rod and Drive Mechanism						X						K6.02 Knowledge of the effect that a loss or malfunction of the following will have on the Control Rod And Drive Mechanism: Reactor pressure	3.0	1 Q64
201004 RSCS												**Not Applicable to Perry**		
201005 RCIS							X					A1.01 Ability to predict and/or monitor changes in parameters associated with operating the Rod Control And Information System (RCIS) controls including: First stage shell pressure/turbine load: BWR-6	3.2	1 Q65
201006 RWM												**Not Applicable to Perry**		
202001 Recirculation								X				A2.02 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: Recirculation system leak	3.7	1 Q66
202002 Recirculation Flow Control									X			A3.01 Ability to monitor automatic operations of the Recirculation Flow Control System including: Flow control valve operation: BWR-5,6	3.6	1 Q67
204000 RWCU														
214000 RPIS												**Not Applicable to Perry**		
215001 Traversing In-core Probe														
215002 RBM												**Not Applicable to Perry**		
216000 Nuclear Boiler Inst.														
219000 RHR/LPCI: Torus/Pool Cooling Mode										X		A4.02 Ability to manually operate and/or monitor in the control room: Valve lineup	3.7	1 Q68
223001 Primary CTMT and Aux.											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	1 Q69
226001 RHR/LPCI: CTMT Spray Mode	X											K1.11 Knowledge of the physical connections and/or cause-effect relationships between RHR/LPCI: Containment Spray System Mode and the following: Component cooling water systems	2.8	1 Q70
230000 RHR/LPCI: Torus/Pool Spray Mode												**Not Applicable to Perry**		
233000 Fuel Pool Cooling/Cleanup														
234000 Fuel Handling Equipment														
239001 Main and Reheat Steam														
239003 MSIV Leakage Control												**Not Applicable to Perry**		

ES-401	BWR Examination Outline Plant Systems - Tier 2/Group 2 **RO**												Form ES-401-1	
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
241000 Reactor/Turbine Pressure Regulator														
245000 Main Turbine Gen. / Aux.														
256000 Reactor Condensate		X										K2.01 Knowledge of electrical power supplies to the following: System pumps	2.7	1 Q71
259001 Reactor Feedwater			X									K3.06 Knowledge of the effect that a loss or malfunction of the Reactor Feedwater System will have on following: Core inlet subcooling	3.1	1 Q72
268000 Radwaste														
271000 Offgas				X								K4.04 Knowledge of Offgas System design feature(s) and/or interlocks which provide for the following: The prevention of hydrogen explosions and/or fires	3.3	1 Q73
272000 Radiation Monitoring														
286000 Fire Protection					X							K5.02 Knowledge of the operational implications of the following concepts as they apply to Fire Protection System: Effect of Halon on fires: Plant-Specific	2.6	1 Q74
288000 Plant Ventilation														
290001 Secondary CTMT														
290003 Control Room HVAC														
290002 Reactor Vessel Internals						X						K6.15 Knowledge of effect that a loss of malfunction of the following will have on the Reactor Vessel Internals: ADS	3.1	1 Q75
K/A Category Point Totals:	1	1	1	1	1	2	1	1	1	1	1	Group Point Total:		12

ES-401	BWR Examination Outline Plant Systems - Tier 2/Group 2 **SRO**											Form ES-401-1	
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
256000 Reactor Condensate														
259001 Reactor Feedwater														
268000 Radwaste														
271000 Offgas														
272000 Radiation Monitoring														
286000 Fire Protection														
288000 Plant Ventilation														
290001 Secondary CTMT														
290003 Control Room HVAC														
290002 Reactor Vessel Internals														
K/A Category Point Totals:	0	0	0	0	0	0	0	1	0	0	2	Group Point Total:		3

Facility: **Perry**					Date of Exam: **February 2013**	
Category	K/A #	Topic	RO		SRO-Only	
			IR	#	IR	#
1. Conduct of Operations	2.1.7	Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.	4.4	1 Q1		
	2.1.13	Knowledge of facility requirements for controlling vital/controlled access.	2.5	1 Q2		
	2.1.30	Ability to locate and operate components, including local controls.	4.4	1 Q3		
	2.1.36	Knowledge of procedures and limitations involved in core alterations.			4.1	1 Q76
	2.1.41	Knowledge of the refueling process.			3.7	1 Q77
	Subtotal			3		2
2. Equipment Control	2.2.12	Knowledge of surveillance procedures.	3.7	1 Q4		
	2.2.38	Knowledge of conditions and limitations in the facility license.	3.6	1 Q5		
	2.2.43	Knowledge of the process used to track inoperable alarms.	3.0	1 Q6		
	2.2.5	Knowledge of the process for making design or operating changes to the facility.			3.2	1 Q78
	2.2.25	Knowledge of the bases in Technical Specifications for limiting conditions for operations and safety limits.			4.2	1 Q79
	Subtotal			3		2
3. Radiation Control	2.3.4	Knowledge of radiation exposure limits under normal or emergency conditions.	3.2	1 Q7		
	2.3.14	Knowledge of radiation or contamination hazards that may arise during normal, abnormal, or emergency conditions or activities.	3.4	1 Q8		
	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.			3.7	1 Q80
	Subtotal			2		1
4. Emergency Procedures / Plan	2.4.27	Knowledge of "fire in the plant" procedures.	3.4	1 Q9		
	2.4.39	Knowledge of RO responsibilities in emergency plan implementation.	3.9	1 Q10		
	2.4.28	Knowledge of procedures relating to a security event (non-safeguards information).			4.1	1 Q81
	2.4.40	Knowledge of SRO responsibilities in emergency plan implementation.			4.5	1 Q82
	Subtotal			2		2
Tier 3 Point Total				**10**		**7**

ES-401	BWR Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 1 **SRO**							Form ES-401-1	
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4									
295003 Partial or Complete Loss of AC / 6									
295004 Partial or Total Loss of DC Pwr / 6						X	2.4.31 Knowledge of annunciator alarms, indications, or response procedures.	4.1	1 Q83
295005 Main Turbine Generator Trip / 3									
295006 SCRAM / 1									
295016 Control Room Abandonment / 7									
295018 Partial or Total Loss of CCW / 8									
295019 Partial or Total Loss of Inst. Air / 8									
295021 Loss of Shutdown Cooling / 4					X		AA2.02 Ability to determine and/or interpret the following as they apply to Loss Of Shutdown Cooling: RHR/shutdown cooling system flow	3.4	1 Q84
295023 Refueling Acc / 8									
295024 High Drywell Pressure / 5									
295025 High Reactor Pressure / 3					X		EA202 Ability to determine and/or interpret the following as they apply to High Reactor Pressure: Reactor power	4.2	1 Q85
295026 Suppression Pool High Water Temp. / 5									
295027 High Containment Temperature / 5						X	2.4.45 Ability to prioritize and interpret the significance of each annunciator or alarm.	4.3	1 Q86
295028 High Drywell Temperature / 5									
295030 Low Suppression Pool Wtr Lvl / 5					X		EA2.02 Ability to determine and/or interpret the following as they apply to Low Suppression Pool Water Level: Suppression pool temperature	3.9	1 Q87
295031 Reactor Low Water Level / 2									
295037 SCRAM Condition Present and Power Above APRM Downscale or Unknown / 1									
295038 High Off-site Release Rate / 9						X	2.1.32 Ability to explain and apply system limits and precautions.	4.0	1 Q88
600000 Plant Fire On Site / 8					X		AA2.15 Requirements for establishing a fire watch	3.5	1 Q89
700000 Generator Voltage and Electric Grid Disturbances / 6									
K/A Category Totals:	0	0	0	0	4	3	Group Point Total:		7

ES-401	BWR Examination Outline Emergency and Abnormal Plant Evolutions - Tier 1/Group 2 **SRO**								Form ES-401-1
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
295002 Loss of Main Condenser Vac / 3						X	2.1.23 Ability to perform specific system and integrated plant procedures during all modes of plant operation.	4.4	1 Q90
295007 High Reactor Pressure / 3									
295008 High Reactor Water Level / 2									
295009 Low Reactor Water Level / 2					X		AA2.01 Ability to determine and/or interpret the following as they apply to Low Reactor Water Level: Reactor water level.	4.2	1 Q91
295010 High Drywell Pressure / 5						X	2.4.46 Ability to verify that the alarms are consistent with the plant conditions.	4.2	1 Q92
295011 High Containment Temp / 5									
295012 High Drywell Temperature / 5									
295013 High Suppression Pool Temp. / 5									
295014 Inadvertent Reactivity Addition / 1									
295015 Incomplete SCRAM / 1									
295017 High Off-site Release Rate / 9									
295020 Inadvertent Cont. Isolation / 5 & 7									
295022 Loss of CRD Pumps / 1									
295029 High Suppression Pool Wtr Lvl / 5									
295032 High Secondary Containment Area Temperature / 5									
295033 High Secondary Containment Area Radiation Levels / 9									
295034 Secondary Containment Ventilation High Radiation / 9									
295035 Secondary Containment High Differential Pressure / 5									
295036 Secondary Containment High Sump/Area Water Level / 5									
500000 High CTMT Hydrogen Conc. / 5									
K/A Category Point Totals:	0	0	0	0	1	2	Group Point Total:		3

ES-401	BWR Examination Outline Plant Systems - Tier 2/Group 1 **SRO**											Form ES-401-1		
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
203000 RHR/LPCI: Injection Mode														
205000 Shutdown Cooling														
206000 HPCI												**Not Applicable to Perry**		
207000 Isolation (Emergency) Condenser												**Not Applicable to Perry**		
215005 OPRM														
209001 LPCS														
209002 HPCS														
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	1 093
212000 RPS														
215003 IRM														
215004 Source Range Monitor														
215005 APRM / LPRM														
217000 RCIC											X	2.4.6 Knowledge of EOP mitigation strategies	4.7	1 094
218000 ADS														
223002 PCIS/Nuclear Steam Supply Shutoff								X				A2.08 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: †Surveillance testing	3.1	1 095
239002 SRVs														
259002 Reactor Water Level Control														
261000 SGTS														
262001 AC Electrical Distribution								X				A2.02 Ability to (a) predict the impacts of the following on the A.C. Electrical Distribution; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Loss of coolant accident	3.9	1 096
262002 UPS (AC/DC)											X	2.2.37 Ability to determine operability and/or availability of safety related equipment.	4.6	1 097
263000 DC Electrical Distribution														
264000 EDGs														
300000 Instrument Air														

ES-401	BWR Examination Outline Plant Systems - Tier 2/Group 1 **SRO**												Form ES-401-1	
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
400000 Component Cooling Water														
K/A Category Point Totals:	0	0	0	0	0	0	0	3	0	0	2	Group Point Total:		5

ES-401	BWR Examination Outline Plant Systems - Tier 2/Group 2 **SRO**												Form ES-401-1	
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
201001 CRD Hydraulic														
201002 RMCS												**Not Applicable to Perry**		
201003 Control Rod and Drive Mechanism														
201004 RSCS												**Not Applicable to Perry**		
201005 RCIS														
201006 RWM												**Not Applicable to Perry**		
202001 Recirculation														
202002 Recirculation Flow Control														
204000 RWCU														
214000 RPIS												**Not Applicable to Perry**		
215001 Traversing In-core Probe														
215002 RBM												**Not Applicable to Perry**		
216000 Nuclear Boiler Inst.														
219000 RHR/LPCI: Torus/Pool Cooling Mode											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	1 Q98
223001 Primary CTMT and Aux.											X	2.4.8 Knowledge of how abnormal operating procedures are used in conjunction with EOPs.	4.5	1 Q99
226001 RHR/LPCI: CTMT Spray Mode														
230000 RHR/LPCI: Torus/Pool Spray Mode												**Not Applicable to Perry**		
233000 Fuel Pool Cooling/Cleanup														
234000 Fuel Handling Equipment														
239001 Main and Reheat Steam														
239003 MSIV Leakage Control												**Not Applicable to Perry**		
241000 Reactor/Turbine Pressure Regulator														
245000 Main Turbine Gen. / Aux.								X				A2.02 Ability to (a) predict the impacts of the following on the Main Turbine Generator And Auxiliary Systems; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: Loss of lube oil	3.5	1 Q100