

Facility: **SUSQUEHANNA**Date of Exam **8/11-8/15 2003**

Tier	Group	RO K/A Category Points											TOTAL
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	
1. Emergency & Abnormal Plant Evolutions	1	2	2	3				3	6			4	20
	2	2	0	1				3	1			0	7
	Tier Totals	4	2	4				6	7			4	27
2. Plant Systems	1	2	3	4	3	1	2	2	1	3	2	3	26
	2	0	1	1	1	1	1	3	1	2	1	0	12
	Tier Totals	2	4	5	4	2	3	5	2	5	3	3	38
3. Generic Knowledge and Abilities Categories					1			2		3		4	10
					3			3		2		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  $\pm 1$  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.
8. For Tier 3, enter the K/A numbers, descriptions, importance ratings, and point totals on Form ES-401-3.
9. Refer to ES-401, Attachment 2, for guidance regarding the elimination of inappropriate K/A statements.

## Emergency and Abnormal Plant Evolutions - Tier 1/Group 1(RO)

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 <b>Q.1</b>				X			AA1 Ability to operate and/or monitor the following as they apply to PARTIAL OR COMPLETE LOSS OF FORCED CORE FLOW CIRCULATION: AA1.05 Recirculation flow control system	3.3	1
295003 Partial or Complete Loss of AC / 6 <b>Q.2</b>		X					AK2 Knowledge of the interrelations between PARTIAL OR COMPLETE LOSS OF A.C. POWER and the following: AK2.02 Emergency generators	4.1	1
295004 Partial or Total Loss of DC Pwr / 6 <b>Q.3</b>	X						AK1 Knowledge of the operational implications of the following concepts as they apply to PARTIAL OR COMPLETE LOSS OF D.C. POWER : AK1.03 Electrical bus divisional separation	2.9	1
295005 Main Turbine Generator Trip / <b>Q.4</b>					X		AA2 Ability to determine and/or interpret the following as they apply to MAIN TURBINE GENERATOR TRIP : AA2.03 Turbine valve position	3.1	1
295006 SCRAM / 1 <b>Q.5</b>				X			AA1 Ability to operate and/or monitor the following as they apply to SCRAM : AA1.04 Recirculation system	3.1	1
295016 Control Room Abandonment / 7 <b>Q.6</b>			X				AK3 Knowledge of the reasons for the following responses as they apply to CONTROL ROOM ABANDONMENT : AK3.03 Disabling control room controls	3.5	1
295018 Partial or Total Loss of CCW / 8 <b>Q.7</b>						X	2.4.11 Knowledge of abnormal condition procedures	3.4	1
295019 Partial or Total Loss of Inst. Air / 8 <b>Q.8</b>						X	2.4.46 Ability to verify that the alarms are consistent with the plant conditions.	3.5	1
295021 Loss of Shutdown Cooling / 4 <b>Q.9</b>			X				AK3 Knowledge of the reasons for the following responses as they apply to LOSS OF SHUTDOWN COOLING : AK3.05 Establishing alternate heat removal flow paths	3.6	1
295023 Refueling Accidents Cooling Mode / 8 <b>Q.10</b>				X			AA1. Ability to operate and/or monitor the following as they apply to REFUELING ACCIDENTS : AA1.07 Standby gas treatment/FRVS	3.6	1
295024 High Drywell Pressure / 5 <b>Q.11</b>					X	*	EA2. Ability to determine and/or interpret the following as they apply to HIGH DRYWELL PRESSURE: EA2.04 Suppression chamber pressure: Plant-Specific	3.9	1
295025 High Reactor Pressure / 3 <b>Q.12</b>						X	2.4.18 Knowledge of the specific bases for EOPs.	2.7	1

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E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
295026 Suppression Pool High Water Temp. / 5 <b>Q.13</b>					X		EA2 Ability to determine and/or interpret the following as they apply to SUPPRESSION POOL HIGH WATER TEMPERATURE: EA2.02 Suppression pool level	3.8	1
295028 High Drywell Temperature / 5 <b>Q.14</b>				X			EA1 Ability to operate and/or monitor the following as they apply to HIGH DRYWELL TEMPERATURE : EA1.01 Drywell spray: Mark-I & II	3.8	1
295030 Low Suppression Pool Water Level / 5 <b>Q.15</b>					X		EA2 Ability to determine and/or interpret the following as they apply to LOW SUPPRESSION POOL WATER LEVEL : EA2.02 Suppression pool temperature	3.9	1
295031 Reactor Low Water Level / 2 <b>Q.16</b>	X						EK1 Knowledge of the operational implications of the following concepts as they apply to REACTOR LOW WATER LEVEL : EK1.02 Natural circulation: Plant-Specific	3.8	1
295031 Reactor Low Water Level / 2 <b>Q.17</b>					X		EA1 Ability to operate and/or monitor the following as they apply to REACTOR LOW WATER LEVEL : EA2.04 Adequate core cooling	4.6	1
295037 SCRAM Condition Present and Power Above APRM Downscale or Unknown / 1 <b>Q.18</b>		X					EK2 Knowledge of the interrelations between SCRAM CONDITION PRESENT AND REACTOR POWER ABOVE APRM DOWNSCALE OR UNKNOWN and the following: EK2.09 Reactor water level	4.0	1
295038 High Off-site Release Rate / 9 <b>Q.19</b>			X				EK3. Knowledge of the reasons for the following responses as they apply to HIGH OFF-SITE RELEASE RATE: EK3.02 System isolations	3.9	1
600000 Plant Fire On Site / 8 <b>Q.20</b>						X	2.1.31 Ability to locate control room switches / controls and indications and to determine that they are correctly reflecting the desired plant lineup.	4.2	1
K/A Category Totals:	3	2	3	3	5	4	Group Point Total:	20	

## Emergency and Abnormal Plant Evolutions - Tier 1/Group 2(RO)

E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
295008 High Reactor Water Level / 2 <b>Q.21</b>	X						AK1 Knowledge of the operational implications of the following concepts as they apply to HIGH REACTOR WATER LEVEL : AK1.03 Feed flow/steam flow mismatch	3.2	1
295009 Low Reactor Water Level / 2 <b>Q.22</b>				X			AA1 Ability to operate and/or monitor the following as they apply to LOW REACTOR WATER LEVEL : AA1.02 Reactor water level control	4.0	1
295013 High Suppression Pool Temp. / 5 <b>Q.23</b>				X			AA1 Ability to operate and/or monitor the following as they apply to HIGH SUPPRESSION POOL TEMPERATURE : AA1.01 Suppression pool cooling	3.9	1
295015 Incomplete SCRAM / 1 <b>Q.24</b>				X			AA1. Ability to operate and/or monitor the following as they apply to INCOMPLETE SCRAM : AA1.01 CRD hydraulics	3.8	1
295017 High Off-site Release Rate / 9 <b>Q.25</b>	X						AK1 Knowledge of the operational implications of the following concepts as they apply to HIGH OFF-SITE RELEASE RATE : AK1.02 Protection of the general public	3.8	1
295020 Inadvertent Cont. Isolation / 5 & 7 <b>Q.26</b>			X				AK3 Knowledge of the reasons for the following responses as they apply to INADVERTENT CONTAINMENT ISOLATION: AK3.06 Suppression pool water level response	3.3	1
295022 Loss of CRD Pumps / 1 <b>Q.27</b>					X		AA2 Ability to determine and/or interpret the following as they apply to LOSS OF CRD PUMPS : AA2.03 CRD mechanism temperatures	3.1	1
K/A Category Point Totals:	2	0	1	2	2	0	Group Point Total:		7

## Plant Systems - Tier 2/Group 1 (RO)

System #	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 <b>Q.28</b>				X								K4. Knowledge of RHR/LPCI: INJECTION MODE (PLANT SPECIFIC) design feature(s) and/or interlocks which provide for the following: K4.06 Adequate pump net positive suction head (interlock suction valve open): Plant-Specific	3.5	1
203000 RHR/LPCI: Injection Mode <b>Q.29</b>											X	2.2.22 Knowledge of limiting conditions for operations and safety limits.	3.4	1
205000 Shutdown Cooling <b>Q.30</b>									X			A3. Ability to monitor automatic operations of the SHUTDOWN COOLING SYSTEM (RHR SHUTDOWN COOLING MODE) including: A3.02 Pump trips	3.2	1
206000 HPCI <b>Q.31</b>											X	2.4.10 Knowledge of annunciator response procedures.	3.0	1
209001 LPCS <b>Q.32</b>		X										K2. Knowledge of electrical power supplies to the following: K2.03 Initiation logic	2.9	1
209001 LPCS <b>Q.33</b>			X									K3. Knowledge of the effect that a loss or malfunction of the LOW PRESSURE CORE SPRAY SYSTEM will have on following: K3.02 ADS logic	3.8	1
211000 SLC <b>Q.34</b>											X	A4. Ability to manually operate and/or monitor in the control room: A4.08 System initiation: Plant-Specific	4.2	1
211000 SLC <b>Q.35</b>											X	2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics / reactor behavior / and instrument interpretation.	3.7	1
212000 RPS <b>Q.36</b>	X											K1. Knowledge of the physical connections and/or cause/effect relationships between REACTOR PROTECTION SYSTEM and the following: K1.14 Main steam system	3.6	1
212000 RPS <b>Q.37</b>		X										K2. Knowledge of electrical power supplies to the following: K2.01 RPS motor-generator sets	3.2	1
215003 IRM <b>Q.38</b>									X			A3. Ability to monitor automatic operations of the INTERMEDIATE RANGE MONITOR (IRM) SYSTEM including: A3.03 RPS status	3.7	1
215004 Source Range Monitor <b>Q.39</b>					X							K5. Knowledge of the operational implications of the following concepts as they apply to SOURCE RANGE MONITOR (SRM) SYSTEM : K5.01 Detector operation	2.6	1

## Plant Systems - Tier 2/Group 1 (RO)

System #	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	#
215005 APRM / LPRM <b>Q.40</b>						X						K6. Knowledge of the effect that a loss or malfunction of the following will have on the AVERAGE POWER RANGE MONITOR/LOCAL POWER RANGE MONITOR SYSTEM :  K6.07 Flow converter/comparator network: Plant-Specific	3.2	1
217000 RCIC <b>Q.41</b>		X										K2. Knowledge of electrical power supplies to the following:  K2.02 RCIC initiation signals (logic)	2.8	1
218000 ADS <b>Q.42</b>						X						K6. Knowledge of the effect that a loss or malfunction of the following will have on the AUTOMATIC DEPRESSURIZATION SYSTEM :  K6.03 Nuclear boiler instrument system (level indication)	3.8	1
223002 PCIS/Nuclear Steam Supply Shutoff <b>Q.43</b>				X								K4. Knowledge of PRIMARY CONTAINMENT ISOLATION SYSTEM/NUCLEAR STEAM SUPPLY SHUT-OFF design feature(s) and/or interlocks which provide for the following:  K4.03 Manual initiation capability: Plant-Specific	3.5	1
239002 SRVs <b>Q.44</b>							X					A1. Ability to predict and/or monitor changes in parameters associated with operating the RELIEF/SAFETY VALVES controls including:  A1.06 Reactor power	3.7	1
259002 Reactor Water Level Control <b>Q.45</b>								X				A2. 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:  A2.03 Loss of reactor water level input	3.6	1
261000 SGTS <b>Q.46</b>	X											K1. Knowledge of the physical connections and/or cause/effect relationships between STANDBY GAS TREATMENT SYSTEM and the following:  K1.11 Primary containment pressure	3.2	1
262001 AC Electrical Distribution <b>Q.47</b>			X									K3. Knowledge of the effect that a loss or malfunction of the A.C. ELECTRICAL DISTRIBUTION will have on following:  K3.05 Off-site power system	3.2	1
262002 UPS (AC/DC) <b>Q.48</b>				X								K4. Knowledge of UNINTERRUPTABLE POWER SUPPLY (A.C./D.C.) design feature(s) and/or interlocks which provide for the following:  K4.01 Transfer from preferred power to alternate power supplies	3.1	1
263000 DC Electrical Distribution <b>Q.49</b>			X									K3. Knowledge of the effect that a loss or malfunction of the D.C. ELECTRICAL DISTRIBUTION will have on following:  K3.03 Systems with D.C. components (i.e. valves, motors, solenoids, etc.)	3.4	1

## Plant Systems - Tier 2/Group 1 (RO)

System #	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	#
263000 DC Electrical Distribution <b>Q.50</b>									X			A3. Ability to monitor automatic operations of the D.C. ELECTRICAL DISTRIBUTION including: A3.01 Meters, dials, recorders, alarms, and indicating lights	3.2	1
264000 EDGs <b>Q.51</b>							X					A1. Ability to predict and/or monitor changes in parameters associated with operating the EMERGENCY GENERATORS (DIESEL/JET) controls including: A1.09 Maintaining minimum load on emergency generator (to prevent reverse power)	3.0	1
300000 Instrument Air <b>Q.52</b>			X									K3. Knowledge of the effect that a loss or malfunction of the (INSTRUMENT AIR SYSTEM) will have on the following: K3.01 Containment air system	2.7	1
400000 Component Cooling Water <b>Q.53</b>										X		A4. Ability to manually operate and / or monitor in the control room: A4.01 CCW indications and control	3.1	1
K/A Category Point Totals:	2	3	3	3	1	2	2	2	3	2	3	Group Point Total:		26

## Plant Systems - Tier 2/Group 2 (RO)

System #	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 <b>Q.54</b>						X						K6. Knowledge of the effect that a loss or malfunction of the following will have on the CONTROL ROD DRIVE HYDRAULIC System : K6.05 A.C. power	3.3	1
201003 Control Rod and Drive Mechanism <b>Q.55</b>							X					A1. Ability to predict and/or monitor changes in parameters associated with operating the CONTROL ROD AND DRIVE MECHANISM controls including: A1.03 CRD drive water flow	2.9	1
201004 RSCS <b>Q.56</b>					X							K5. Knowledge of the operational implications of the following concepts as they apply to ROD SEQUENCE: K5.01 Prevention of clad damage if a control rod drop accident (CRDA) occurs: BWR-4,5	3.6	1
201006 RWM <b>Q.57</b>							X					A1. Ability to predict and/or monitor changes in parameters associated with operating the ROD WORTH MINIMIZER SYSTEM (RWM) (PLANT SPECIFIC) controls including: A1.01 Rod position: P-Spec(Not-BWR6)	3.2	1
202001 Recirculation <b>Q.58</b>		X										K2. Knowledge of electrical power supplies to the following: K2.03 Recirculation system valves	2.7	1
215002 RBM <b>Q.59</b>									X			A3. Ability to monitor automatic operations of the ROD BLOCK MONITOR SYSTEM including: A3.03 Alarm and indicating lights: BWR-3,4,5	3.1	1
216000 Nuclear Boiler Instrumentation <b>Q.60</b>				X								K4. Knowledge of NUCLEAR BOILER INSTRUMENTATION design feature(s) and/or interlocks which provide for the following: K4.09 Protection against filling the main steam lines from the feed system	3.3	1
219000 RHR/LPCI: Torus/Pool Cooling Mode <b>Q.61</b>							X					A1. Ability to predict and/or monitor changes in parameters associated with operating the RHR/LPCI: TORUS/SUPPRESSION POOL COOLING MODE controls including: A1.02 System flow	3.5	1
256000 Reactor Condensate <b>Q.62</b>								X				A2. Ability to (a) predict the impacts of the following on the REACTOR CONDENSATE SYSTEM; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: A2.12 Loss of equipment component cooling water systems	3.1	1
272000 Radiation Monitoring <b>Q.63</b>									X			A3. Ability to monitor automatic operations of the RADIATION MONITORING SYSTEM including: A3.06 Ventilation system isolation indications	3.4	1



ES-401												BWR Examination Outline												Form ES-401-1		
Plant Systems - Tier 2/Group 2 (RO)																										
System #		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	#
288000 Plant Ventilation Q.64				X									K3. Knowledge of the effect that a loss or malfunction of the PLANT VENTILATION SYSTEMS will have on following:  K3.02 Reactor building temperature: Plant-Specific												2.9	1
290001 Secondary CTMT Q.65												X	A4. Ability to manually operate and/or monitor in the control room:  A4.11 System reset: Plant-Specific												3.4	1
K/A Category Point Totals:		0	1	1	1	1	1	3	1	2	1	0	Group Point Total:												12	

Facility SUSQUEHANNADate of Exam 8/11-8/15 2003

Category	K/A#	Topic	RO		IR
			IR	#	
1. Conduct of Operations	2.1.2 Q.66	Knowledge of operator responsibilities during all modes of plant operation.	3.0	1	
	2.1.23 Q.67	Ability to perform specific system and integrated plant procedures during different modes of plant operation.	3.9	1	
	2.1.7 Q.68	Ability to evaluate plant performance and make operational judgments based on operating characteristics / reactor behavior / and instrument interpretation.	3.7	1	
	Subtotal			3	
2. Equipment Control	2.2.22 Q.69	Knowledge of limiting conditions for operations and safety limits.	3.4	1	
	2.2.11 Q.70	Knowledge of the process for controlling temporary changes.	2.5	1	
	2.2.26 Q.71	Knowledge of refueling administrative requirements.	2.5	1	
	Subtotal			3	
3. Radiation Control	2.3.1 Q.72	Knowledge of 10 CFR: 20 and related facility radiation control requirements.	2.6	1	
	2.3.9 Q.73	Knowledge of the process for performing a containment purge.	2.5	1	
	Subtotal			2	
4. Emergency Procedures/ Plan	2.4.18 Q.74	2.4.18 Knowledge of the specific bases for EOPs.	2.7	1	
	2.4.9 Q.75	Knowledge of low power / shutdown implications in accident (e.g. LOCA or loss of RHR) mitigation strategies.	3.3	1	
	Subtotal			2	
Tier 3 Point Total				10	

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		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	TOTAL	K	A	A2	G*	TOTAL
1. Emergency & Abnormal Plant Evolutions	1												20	0	0	5	3	8
	2												7	0	0	3	1	4
	Tier Totals												27	0	0	8	4	12
2. Plant Systems	1												26	0	1	3	0	4
	2												12	0	1	0	1	2
	Tier Totals												38	0	2	3	1	6
3. Generic Knowledge and Abilities Categories														1	2	3	4	7
														2	2	1	2	

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295001 Partial or Complete Loss of Forced Core Flow Circulation / 1 & 4 <b>Q. 76</b>					X		AA2. Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF FORCED CORE FLOW CIRCULATION : AA2.02 Neutron monitoring (10CFR 55.43)	3.2	1
295019 Partial or Total Loss of Inst. Air / 8 <b>Q. 77</b>					X		AA2. Ability to determine and/or interpret the following as they apply to PARTIAL OR COMPLETE LOSS OF INSTRUMENT AIR : AA2.02 Status of safety-related instrument air system loads (10CFR 55.43)	3.7	1
295023 Refueling Accidents Cooling Mode / 8 <b>Q. 78</b>					X		AA2. Ability to determine and/or interpret the following as they apply to REFUELING ACCIDENTS : AA2.05 †Entry conditions of emergency plan (10CFR 55.43)	4.6	1
295024 High Drywell Pressure / 5 <b>Q. 79</b>					X		EA2. Ability to determine and/or interpret the following as they apply to HIGH DRYWELL PRESSURE: EA2.02 Drywell temperature (10CFR 55.43)	4.0	1
295025 High Reactor Pressure / 3 <b>Q. 80</b>						X	2.1.23 Ability to perform specific system and integrated plant procedures during different modes of plant operation. *SRO LEVEL OBJECTIVE	4.0	1
295026 Suppression Pool High Water Temp. / 5 <b>Q. 81</b>						X	2.4.11 Knowledge of abnormal condition procedures. (10CFR 55.43)	3.6	1
295028 High Drywell Temperature / 5 <b>Q. 82</b>					X		EA2. Ability to determine and/or interpret the following as they apply to HIGH DRYWELL TEMPERATURE : EA2.03 Reactor water level (10CFR 55.43)	3.9	1
295031 Reactor Low Water Level / 2 <b>Q. 83</b>						X	2.4.22 Knowledge of the bases for prioritizing safety functions during abnormal/emergency operations. (10CFR 55.43)	4.0	1
K/A Category Totals:	0	0	0	0	5	3	Group Point Total:		8

ES-401		BWR Examination Outline						Form ES-401-1	
Emergency and Abnormal Plant Evolutions - Tier 1/Group 2(SRO)									
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 Vacuum / 3 <b>Q. 84</b>					<b>X</b>		AA2. Ability to determine and/or interpret the following as they apply to LOSS OF MAIN CONDENSER VACUUM : AA2.02 Reactor power: Plant-Specific (10CFR 55.43)	3.3	1
295014 Inadvertent Reactivity Addition / 1 <b>Q. 85</b>					<b>X</b>		AA2. Ability to determine and/or interpret the following as they apply to INADVERTENT REACTIVITY ADDITION : AA2.01 Reactor power (10CFR 55.43)	4.2	1
295015 Incomplete SCRAM / 1 <b>Q. 86</b>						<b>X</b>	2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics / reactor behavior / and instrument interpretation. (10CFR 55.43)	4.4	1
295022 Loss of CRD Pumps / 1 <b>Q. 87</b>					<b>X</b>		AA2. Ability to determine and/or interpret the following as they apply to LOSS OF CRD PUMPS : AA2.01 Accumulator pressure (10CFR 55.43)	3.6	1
K/A Category Point Totals:	0	0	0	0	3	1	Group Point Total:	4	

## Plant Systems - Tier 2/Group 1(SRO)

System #	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 <b>Q. 88</b>								X				A2. Ability to (a) predict the impacts of the following on the RHR/LPCI: INJECTION MODE (PLANT SPECIFIC) ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: A2.06 Emergency generator failure (10CFR 55.43)	3.9	1
205000 Shutdown Cooling <b>Q. 89</b>									X			A3. Ability to monitor automatic operations of the SHUTDOWN COOLING SYSTEM (RHR SHUTDOWN COOLING MODE) including: A3.02 Pump trips *SRO LEVEL OBJECTIVE	3.2	1
209001 LPCS <b>Q. 90</b>								X				A2. Ability to (a) predict the impacts of the following on the LOW PRESSURE CORE SPRAY SYSTEM ; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal conditions or operations: A2.05 Core spray line break (10CFR 55.43)	3.6	1
264000 EDGs <b>Q. 91</b>								X				A2. 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: A2.09 Loss of A.C. power (10CFR 55.43)	4.1	1
K/A Category Point Totals:	0	0	0	0	0	0	0	3	1	0	0	Group Point Total:		4

ES-401		BWR Examination Outline												Form ES-401-1	
Plant Systems - Tier 2/Group 2(SRO)															
System #	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	#	
219000 RHR/LPCI: Torus/Pool Cooling Mode <b>Q. 92</b>											<b>X</b>	2.2.24 Ability to analyze the affect of maintenance activities on LCO status. (10CFR 55.43)	3.8	1	
234000 Fuel Handling Equipment <b>Q. 93</b>									<b>X</b>			A3. Ability to monitor automatic operations of the FUEL HANDLING EQUIPMENT including: A3.02 †Interlock operation (10CFR 55.43)	3.7	1	
K/A Category Point Totals:	0	0	0	0	0	0	0	0	1	0	1	Group Point Total:		2	

Facility **SUSQUEHANNA**Date of Exam **8/11-8/15 2003**

Category	K/A#	Topic	RO		SRO Only	
			IR	#	IR	#
1. Conduct of Operations	2.1.20 Q. 94	Ability to execute procedure steps. (10CFR 55.43)			4.2	1
	2.1.11 Q. 95	Knowledge of less than one hour technical specification action statements for systems. (10CFR 55.43)			3.8	1
	Subtotal					2
2. Equipment Control	2.2.8 Q. 96	Knowledge of the process for determining if the proposed change / test / or experiment involves an unreviewed safety question. (10CFR 55.43)			3.3	1
	2.2.25 Q. 97	Knowledge of bases in technical specifications for limiting conditions for operations and safety limits. (10CFR 55.43)			3.7	1
	Subtotal					2
3. Radiation Control	2.3.10 Q. 98	Ability to perform procedures to reduce excessive levels of radiation and guard against personnel exposure. (10CFR 55.43)			3.3	1
	Subtotal					1
4. Emergency Procedures/Plan	2.4.30 Q. 99	Knowledge of which events related to system operations/status should be reported to outside agencies. (10CFR 55.43)			3.6	1
	2.4.49 Q. 100	Ability to perform without reference to procedures those actions that require immediate operation of system components and controls. (10CFR 55.43)			4.0	1
	Subtotal					2
Tier 3 Point Total				10		7



Tier / Group	Randomly Selected K/A	Reason for Rejection
N/A	N/A	As per letter PLA005439 PLA14-13 from Jeff Helsel (PPL) to Alan Blamey (NRC) dated Feb. 4 <sup>th</sup> 2002 all K/As that are not applicable to SSES design were suppressed. Use of these previously approved suppressions was discussed with John Caruso (NRC) prior to development of the outline. A copy of the letter and the specific K/As involved is available upon request.
1/1	295023 AK3.04	No longer applicable-Only applies to initial fuel loading
2/1	209001 K3.05	RO K/A value is less than 2.5
2/1	259002 K2.01	RO K/A value is less than 2.5
2/1	262002 A4.01	Cannot write a discriminatory question on this K/A. The only available control room indication is a single common trouble alarm.
3	2.1.29	Low discriminatory value
3	2.1.22	Low discriminatory value
3	2.1.34	RO K/A value is less than 2.5
3	2.1.26	RO K/A value is less than 2.5
3	2.1.13	RO K/A value is less than 2.5
3	2.2.29	RO K/A value is less than 2.5
3	2.2.16	RO K/A value is less than 2.5
3	2.2.6	RO K/A value is less than 2.5
3	2.3.3	RO K/A value is less than 2.5
3	2.3.7	RO K/A value is less than 2.5
3	2.4.28	RO K/A value is less than 2.5
3	2.4.36	RO K/A value is less than 2.5
3	2.4.33	RO K/A value is less than 2.5
1/1	295026 2.2.3	SRO No design differences
1/2	295002 AA2.03	SRO K/A value is less than 2.5
1/1	295023 AA1.02	SRO tie to 10CFR 55.43 does not exist
1/1	295024 EK1.01	SRO tie to 10CFR 55.43 does not exist
1/1	295028 EK1.01	SRO tie to 10CFR 55.43 does not exist
1/2	295015 AK2.07	SRO tie to 10CFR 55.43 does not exist
2/1	264000 K6.09	SRO tie to 10CFR 55.43 does not exist

[illegible]