

Facility: CPSES		Date of Exam: 05/2001		Exam Level: SRO	
Category	K/A #	Topic	Imp.	Points	
Conduct of Operations	2.1.4	K/O shift staffing requirements	3.4	1	
	2.1.9	A/T Direct personnel activities inside control room	4.0	1	
	2.1.10	K/O Conditions and Limitations in Facility License	3.9	1	
	2.1.11	K/O Less than 1 hour TS action statements	3.8	1	
	2.1.32	A/T explain/apply system limits & precautions	3.8	1	
	Total				5
Equipment Control	2.2.8	K/O determining if change involves a USQ	3.3	1	
	2.2.12	K/O Surveillance procedures	3.4	1	
	2.2.13	K/O clearance and tagging procedures	3.8	1	
	2.2.24	A/T analyze affect of maint on LCO status	3.8	1	
	2.2.29	K/O SRO fuel handling responsibilities	3.8	1	
	Total				5
Radiation Control	2.3.11	Ability to control radiation releases	3.2	1	
	2.3.4	K/O radiation exposure limits and contamination control	3.1	1	
	2.3.6	K/O reviewing and approving radiation releases	3.2	1	
	Total				3
Emergency Procedures/ Plan	2.4.7	K/O event based EOP mitigation strategies	3.8	1	
	2.4.26	K/O Facility protection requirements including fire brigade and portable fire fighting equip use	3.3	1	
	2.4.43	K/O Emergency communications systems and techniques	3.5	1	
	2.4.44	K/O emergency plan protective action plan recommendation	3.8	1	
	Total				4
Tier 3 Point Total (SRO)				17	

Facility: CPSES														Date of Exam: 05/2001			Exam Level: RO		
Tier	Group	K/A Category Points											Point 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	5				2	3			2	16						
	2	4	0	3				4	5			1	17						
	3	3	0	0				0	0			0	3						
	Tier Totals	9	2	8				6	8			3	36						
2. Plant Systems	1	3	2	3	3	3	1	1	3	3	1	0	23						
	2	3	1	4	2	2	1	2	3	0	1	1	20						
	3	1	0	1	0	0	0	2	1	1	1	1	8						
	Tier Totals	7	3	8	5	5	2	5	7	4	3	2	51						
3. Generic Knowledge and Abilities					Cat 1		Cat 2		Cat 3		Cat 4		13						
					3		3		4		3								
<p>Note: 1. Ensure that at least two topics from every K/A category are sampled within each tier (i.e., the "Tier Totals" in each K/A category shall not be less than two).</p> <p>2. Actual point totals must match those specified in the table.</p> <p>3. Select topics from many systems; avoid selecting more than two or three K/A topics from a given system unless they relate to plant-specific priorities.</p> <p>4. Systems/evolutions within each group are identified on the associated outline.</p> <p>5. The shaded areas are not applicable to the category/tier.</p> <p>6.* The generic 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.</p> <p>7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings for the RO license level, and the point totals for each system and category. K/As below 2.5 should be justified on the basis of plant-specific priorities. Enter the tier totals for each category in the table above.</p>																			

ES-401

PWR RO Examination Outline
Emergency and Abnormal Plant Evolutions - Tier 1/Group 1

Form ES-401-4

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000005 Inoperable/Stuck Control Rod / 1						2.1.12	A/T apply technical specifications for a system	2.9	1
000015/17 RCP Malfunctions / 4			A03				Sequence of events for manually tripping RX & RCP	3.7	1
BW/E09; CE/A13; W/E09&E10 Natural Circ./4	E 1						Components, capacity, and function of emergency systems	3.3	1
000024 Emergency Boration / 1									
000026 Loss of Component Cooling Water / 8					A 01		Location of leak in CCW system	2.9	1
000027 Pressurizer Pressure Control System Malfunction / 3					A16		Actions to be taken if PZR instrument fails low	3.6	1
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4			A 06				Containment temperature and pressure considerations	3.4	1
CE/A11; W/E08 RCS Overcooling - PTS / 4		E 2					Heat removal systems - primary coolant, emerg coolant, decay heat removal, and relations between these and the facility	3.6	1
000051 Loss of Condenser Vacuum / 4			A 01				Loss of steam dump capability upon loss of condenser vacuum	2.8	1
000055 Station Blackout / 6				E 06			Restoration of power with one EDG	4.1	1
000057 Loss of Vital AC Elec. Inst. Bus / 6				A 06			Manual control of components for which auto control is lost	3.5	1
000062 Loss of Nuclear Service Water / 4			A 02				Automatic actions within service water resulting from ESFAS act.	3.6	1
000067 Plant Fire On-site / 9					A 17		Systems that may be affected by fire	3.5	1
000068 (BW/A06) Control Room Evac. / 8			A12				Required sequence of actions for emerg evacuation of control room	4.1	1
000069 (W/E14) Loss of CTMT Integrity / 5						2.4.47	Diagnose/recognize trends in an accurate and timely manner	3.4	1
000074 (W/E06&E07) Inad. Core Cooling / 4	E 07						Definition of saturated steam	2.8	1
BW/E03 Inadequate Subcooling Margin / 4									
000076 High Reactor Coolant Activity / 9		A 01					Knowledge of the interactions between high RCS activity and process radiation monitors	2.6	1
BW/A02&A03 Loss of NNI X/Y / 7									
K/A Category Totals:	2	2	5	2	3	2	Group Point Total:		16

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000001 Continuous Rod Withdrawal / 1	A05						Effects of turbine-reactor power mismatch on rod control	3.5	1
000003 Dropped Control Rod / 1						2.1.20	Ability to execute procedure steps	4.3	1
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1					E 04		Carry out actions in ATWS EOP	4.4	1
BW/A01 Plant Runback / 4									
BW/A04 Turbine Trip / 4									
000008 Pressurizer Vapor Space Accident / 3					A 20		Effect of an open PORV on code safety	3.4	1
000009 Small Break LOCA / 3				E09			Operate RCPs during a SBLOCA	3.6	1
000011 Large Break LOCA / 3					E 13		Diff between overcooling and LOCA indications	3.7	1
W/E04 LOCA Outside Containment / 3	E2						Normal, abn, and emerg operating proc with LOCA outside cont.	3.5	1
BW/E08; W/E03 LOCA Cooldown/Depress. / 4									
W/E11 Loss of Emergency Coolant Recirc. / 4			E2				Normal, abn, & emerg oper proc associated with loss of recirc	3.5	1
W/E01 & E02 Rediagnosis & SI Termination / 3									
000022 Loss of Reactor Coolant Makeup / 2									
000025 Loss of RHR System / 4			A 03				Immediate actions contained in EOP for loss of RHR	3.9	1
000029 Anticipated Transient w/o Scram / 1					E 07		Determine/interpret Rx trip indicating lights	4.2	1
000032 Loss of Source Range NI / 7			A 01				Startup termination on source range loss	3.2	1
000033 Loss of Intermediate Range NI / 7									
000037 Steam Generator Tube Leak / 3									
000038 Steam Generator Tube Rupture / 3				E 09			Pzr tank level/press indicators, gauges, and recorders	3.2	1
000054 (CE/E06) Loss of Main Feedwater / 4				A 04			HPI, under total feedwater loss conditions	4.4	1
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4					E 1		Facility conditions and selection of app proc during abn & emerg ops	3.4	1
000058 Loss of DC Power / 6	A 01						Battery charger equipment and instrumentation	2.8	1
000059 Accidental Liquid RadWaste Rel. / 9									
000060 Accidental Gaseous Radwaste Rel. / 9									
000061 ARM System Alarms / 7				A 01			Automatic actuation	3.6	1
W/E16 High Containment Radiation / 9	E2						K/O operational implications as they apply to procedures	2.7	1
GE/E09 Functional Recovery									
K/A Category Point Totals:	4	0	3	4	5	1	Group Point Total:		17

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
001 Control Rod Drive		02										One-line diagram of pwr supply to trip bkrs	3.6	1
001 Control Rod Drive					04							Operational implications of rod insertion limits	4.3	1
003 Reactor Coolant Pump							02					RCP pump/motor bearing temperatures	2.9	1
003 Reactor Coolant Pump						02						K/O effect on RCP for loss of seal or seal water	2.7	1
004 Chemical and Volume Control			07									Effect that loss/malfunction of CVCS on PZR	3.8	1
004 Chemical and Volume Control				01								Design features/interlocks for RCS O ₂ control	2.8	1
013 Engineered Safety Features Actuation				04								Aux. Feed Actuation Signal	4.3	1
013 Engineered Safety Features Actuation					02							Safety system logic and reliability	2.9	1
015 Nuclear Instrumentation	01											Cause/Effect between NIS and RPS	4.1	1
015 Nuclear Instrumentation			02									Effect that loss of NIS will have on CRDS	3.3	1
017 In-core Temperature Monitor								01				Thermocouple open and short circuits	3.1	1
022 Containment Cooling										01		Manually operate/monitor fans in Control Rm	3.6	1
022 Containment Cooling									01			Monitor automatic operation of CCS	4.1	1
025 Ice Condenser														
056 Condensate	03											Relationship between cond and MFW	2.6	1
059 Main Feedwater			04									Effect of loss/malfunction of MFW on RCS	3.6	1
059 Main Feedwater	04											Relationship between MFW & SG level control	3.4	1
061 Auxiliary/Emergency Feedwater		02										Bus pwr supplies to AFW elec drive pump	3.7	1
061 Auxiliary/Emergency Feedwater								07				Predict the impact of air or MOV failure	3.4	1
068 Liquid Radwaste									02			Ability to monitor automatic isolation	3.6	1
071 Waste Gas Disposal				04								Isolation of waste gas release tanks	2.9	1
071 Waste Gas Disposal					04							Relationship of [H ₂ O ₂] to flammability	2.5	1
072 Area Radiation Monitoring								02				Detector failure	2.8	1
072 Area Radiation Monitoring									01			Monitor changes in ARM vent alignment	2.9	1
K/A Category Point Totals:	3	2	3	3	3	1	1	3	3	1	0	Group Point Total:		23

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
002 Reactor Coolant						12						Effect of loss/malfunction of code SRVs	3.0	1
006 Emergency Core Cooling	03											Cause/Effect between ECCS and RCS	4.2	1
010 Pressurizer Pressure Control							07					Predict/monitor change with RCS press	3.7	1
011 Pressurizer Level Control							01					Predict/monitor change in PZR level/press	3.5	1
012 Reactor Protection	03											Relationship between RPS and CRDS	3.7	1
014 Rod Position Indication											2. 4. 21	Parameters and logic used to assess the status of safety functions	3.7	1
016 Non-nuclear Instrumentation			12									Effect loss/malfunction of NNIS on S/G	3.4	1
026 Containment Spray		01										Bus pwr supplies to CS pumps	3.4	1
029 Containment Purge										04		Manually operate cont evacuation signal	3.5	1
033 Spent Fuel Pool Cooling				05								Design feature for adequate SDM [boron]	3.1	1
035 Steam Generator								03				Impact of press/level trans. failure	3.4	1
039 Main and Reheat Steam								04				Impact of malfunctioning stm dumps	3.4	1
055 Condenser Air Removal			01									Effect of loss of CARS on Main Condenser	2.5	1
062 AC Electrical Distribution			01									Major system loads	3.5	1
063 DC Electrical Distribution				02								Bkr interlocks, permissives, bypasses	2.9	1
064 Emergency Diesel Generator	04											Relationship between EDG & DC dist system	3.6	1
073 Process Radiation Monitoring			01									Effect/loss of PRM on rad effluent releases	3.6	1
075 Circulating Water								03				Safety features/relationship between cond vacuum, turbine trip, & stm dump	2.5	1
035 Steam Generator					03							Shrink and swell concept	2.8	1
086 Fire Protection					04							Hazard to personnel as a result of fire type and methods of protection	2.9	1
K/A Category Point Totals:	3	1	4	2	2	1	2	3	0	1	1	Group Point Total:		20

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
005 Residual Heat Removal								03				RHR pump/motor malfunction	2.9	1
007 Pressurizer Relief/Quench Tank														
008 Component Cooling Water							01					Predict changes in CCW flow rate during ops	2.8	1
027 Containment Iodine Removal														
028 Hydrogen Recombiner and Purge Control											2.1 28	K/O purpose and function of system	3.2	1
034 Fuel Handling Equipment									02			Monitor load limits associated with FHES	2.5	1
041 Steam Dump/Turbine Bypass Control														
045 Main Turbine Generator	20											Protection system	3.4	1
076 Service Water										04		Manually operate/Monitor SWS including emergency heat loads	3.7	1
078 Instrument Air			02									Effect of loss/malf of IAS will have on pneumatic valves and controls	3.4	1
103 Containment							01					Predict/monitor changes in containment press, temp, and humidity	3.7	1
K/A Category Point Totals:	1	0	1				2	1	1	1	1	Group Point Total:		8

Plant-Specific Priorities

System / Topic	Recommended Replacement for...	Reason	Points

Plant-Specific Priority Total: (limit 10)

Facility: CPSES		Date of Exam: 05/2001		Exam Level: RO	
Category	K/A #	Topic	Imp.	Points	
Conduct of Operations	2.1.2	K/O Operator responsibilities during all modes of plant operation	3.0	1	
	2.1.9	A/T Direct personnel activities inside control room	2.5	1	
	2.1.23	A/T Perform specific system integrated plant procedures during all modes	3.9	1	
	2.1.				
	Total				3
Equipment Control	2.2.12	K/O Surveillance procedures	3.0	1	
	2.2.13	K/O Clearance and tagging procedures	3.6	1	
	2.2.28	K/O New and Spent Fuel Movement Procedures	2.6	1	
	2.2.				
	Total				3
Radiation Control	2.3.11	Ability to control radiation releases	2.7	1	
	2.3.4	K/O radiation exposure limits and contamination control	2.5	1	
	2.3.9	K/O process for performing cont. purge	2.5	1	
	2.3.10	A/T Perform procedures to reduce excessive levels of radiation	2.9	1	
	Total				4
Emergency Procedures/ Plan	2.4.3	Ability to identify post-accident instrumentation	3.5	1	
	2.4.26	K/O Facility protection requirements including fire brigade and portable fire fighting equip use	2.9	1	
	2.4.43	K/O Emergency communications systems and techniques	2.8	1	
	2.4.				
	Total				3
Tier 3 Point Total (RO)					13

Facility: CPSES		Date of Exam: 05/2001						Exam Level: SRO					
Tier	Group	K/A Category Points											Point Total
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A2	A 3	A 4	G *	
1. Emergency & Abnormal Plant Evolutions	1	3	3	5				2	6			5	24
	2	2	1	3				4	4			2	16
	3	2										1	3
	Tier Totals	7	4	8				6	10			8	43
2. Plant Systems	1	2	2	2	3	1	0	1	3	2	1	2	19
	2	2	0	3	0	1	2	3	2	0	1	3	17
	3	0	0	1	0	0	0	0	1	1	1	0	4
	Tier Totals	4	2	6	3	2	2	4	6	3	3	5	40
3. Generic Knowledge and Abilities					Cat 1		Cat 2		Cat 3		Cat 4		17
					5		5		3		4		
<p>Note: 1. Ensure that at least two topics from every K/A category are sampled within each tier (i.e., the "Tier Totals" in each K/A category shall not be less than two).</p> <p>2. Actual point totals must match those specified in the table.</p> <p>3. Select topics from many systems; avoid selecting more than two or three K/A topics from a given system unless they relate to plant-specific priorities.</p> <p>4. Systems/evolutions within each group are identified on the associated outline.</p> <p>5. The shaded areas are not applicable to the category/tier.</p> <p>6.* The generic 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.</p> <p>7. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings for the RO license level, and the point totals for each system and category. K/As below 2.5 should be justified on the basis of plant-specific priorities. Enter the tier totals for each category in the table above.</p>													

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000001 Continuous Rod Withdrawal / 1						2.1.33	Recognize entry level conditions for TS	4.0	1
000003 Dropped Control Rod / 1						2.1.20	A/T execute procedure steps	4.2	1
000005 Inoperable/Stuck Control Rod / 1						2.1.12	Ability to apply technical specification action statements	4.0	1
000011 Large Break LOCA / 3					E 13		Diff between overcooling and LOCA indications	3.7	1
W/E04 LOCA Outside Containment / 3	E2						Normal, abn, and EOP with LOCA outside containment	4.2	1
W/E01 & E02 Rediagnosis & SI Termination / 3					E 2		Adh to proc & ops within limitation in license & amendments	3.9	1
000015/17 RCP Malfunctions / 4			A 03				Seq of event for manually tripping RX and RCP	4.0	1
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4	E1						Components, capacity, and function of emergency systems	3.6	1
000024 Emergency Boration / 1						2.4.18	K/O the specific basis for EOPs	3.6	1
000026 Loss of Component Cooling Water / 8					A 01		Location of leak in CCW system	3.5	1
000029 Anticipated Transient w/o Scram / 1					E 07		Determine/interpret Rx trip indicating lights	4.3	1
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4			A 06				Containment temperature and pressure considerations	3.9	1
CE/A11; W/E08 RCS Overcooling - PTS / 4		E2					Heat removal systems - primary coolant, emerg coolant, decay heat removal, and relations between these and the facility	4.0	1
000051 Loss of Condenser Vacuum / 4			A01				Loss of steam dump capability upon loss of condenser vacuum	3.1	1
000055 Station Blackout / 6				E 06			Restoration of power with one EDG	4.5	1
000057 Loss of Vital AC Elec. Inst. Bus / 6				A 06			Manual control of components for which auto control is lost	3.5	1
000059 Accidental Liquid RadWaste Rel. / 9		A 01					Interrelations between acc liq radwaste release and rad-liq monitors	2.8	1
000062 Loss of Nuclear Service Water / 4			A02				Automatic actions within service water resulting from ESFAS act.	3.9	1
000067 Plant Fire On-site / 9					A 17		Systems that may be affected by fire	4.3	1
000068 (BW/A06) Control Room Evac. / 8			A12				Required sequence of actions for emerg evac of control room	4.5	1
000069 (W/E14) Loss of CTMT Integrity / 5						2.4.47	Diagnose/recognize trends in an accurate and timely manner	3.7	1
000074 (W/E06&E07) Inad. Core Cooling / 4	E07						Definition of saturated steam	3.2	1
000076 High Reactor Coolant Activity / 9		A01					Knowledge of the interactions between high RCS activity and process radiation monitors	3.0	1
000026 Loss of Component Cooling Water / 8					A 03		Determine valve lineup to restart CCW while bypassing comp.	2.9	1
K/A Category Totals:	3	3	5	2	6	5	Group Point Total:		24

ES-401

PWR SRO Examination Outline
Emergency and Abnormal Plant Evolutions - Tier 1/Group 2

Form ES-401-3

E/APE # / Name / Safety Function	K1	K2	K3	A1	A2	G	K/A Topic(s)	Imp.	Points
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1					E 04		Carry out actions in ATWS EOP	4.6	1
000008 Pressurizer Vapor Space Accident / 3					A 20		Effect of an open PORV on code safety	3.6	1
000009 Small Break LOCA / 3				E 09			Operate RCPs during a SBLOCA	3.6	1
BW/E08; W/E03 LOCA Cooldown - Depress. / 4						2.4.41	K/O emergency action level thresholds and classifications	4.1	1
W/E11 Loss of Emergency Coolant Recirc. / 4			E 2				Normal, abn, & emerg oper proc associated with loss of recirc	4.0	1
000022 Loss of Reactor Coolant Makeup / 2									
000025 Loss of RHR System / 4			A 03				Immediate actions contained in EOP for loss of RHR	4.1	1
000027 Pressurizer Pressure Control System Malfunction / 3		03					K/O PRZR Press Control and malfunction of controller/post.	2.8	1
000032 Loss of Source Range NI / 7			A 01				Startup termination on source range loss	3.6	1
000033 Loss of Intermediate Range NI / 7					A 08		Determine/Interpret IR channel operability	3.4	1
000037 Steam Generator Tube Leak / 3									
000038 Steam Generator Tube Rupture / 3				E 09			Pzr tank level/press indicators, gauges, and recorders	3.3	1
000054 (CE/E06) Loss of Main Feedwater / 4				A 04			Operate HPI, under total feedwater loss conditions	4.5	1
BW/E04; W/E05 Inadequate Heat Transfer - Loss of Secondary Heat Sink / 4					E 1		Facility conditions and selection of app proc during abn & emerg ops	4.4	1
000058 Loss of DC Power / 6	A 01						Battery charger equipment and instrumentation	3.1	1
000060 Accidental Gaseous Radwaste Rel. / 9									
000061 ARM System Alarms / 7				A 01			Automatic actuation	3.6	1
W/E16 High Containment Radiation / 9	E2						K/O operational implications of high radiation with procedures	3.2	1
000065 Loss of Instrument Air / 8						2.1.7	Evaluate plant perf and make oper judgements based on oper characteristics, reactor behavior, and instrument interpretation	4.4	1
K/A Category Point Totals:	2	1	3	4	4	2	Group Point Total:		16

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
001 Control Rod Drive					04							Operational implications of rod insertion limits	4.7	1
003 Reactor Coolant Pump							02					RCP pump/motor bearing temperatures	2.9	1
004 Chemical and Volume Control			07									Effect that loss/malfunction of CVCS on PZR	4.1	1
013 Engineered Safety Features Actuation				4								Aux. Feed Actuation Signal	4.5	1
014 Rod Position Indication											2.4.21	Parameters and logic used to assess the status of safety functions	4.3	1
015 Nuclear Instrumentation	01											Cause/Effect between NIS and RPS	4.2	1
017 In-core Temperature Monitor							01					Thermocouple open and short circuits	3.5	1
022 Containment Cooling										01		Manually operate/monitor fans in Control Rm	3.6	1
022 Containment Cooling									01			Monitor automatic operation of CCS	4.3	1
026 Containment Spray		01										Bus pwr supplies to CS pumps	3.6	1
056 Condensate	03											Relationship between cond and MFW	2.6	1
059 Main Feedwater			04									Effect of loss/malfunction of MFW on RCS	3.8	1
061 Auxiliary/Emergency Feedwater		02										Bus pwr supplies to AFW elec pump	3.7	1
063 DC Electrical Distribution				02								Bkr interlocks, permissives, bypasses	3.2	1
071 Waste Gas Disposal				04								Isolation of waste gas release tanks	3.4	1
072 Area Radiation Monitoring									01			Monitor changes in ARM vent alignment	3.1	1
026 Containment Spray								05				Predict impact failure of chemical add tanks to inject	4.1	1
061 Auxiliary/Emergency Feedwater											2.2.21	K/O pre and postmaint operability req	3.7	1
015 Nuclear Instrumentation							04					Impact on NIS and mitigate consequences	3.8	1
K/A Category Point Totals:	2	2	2	3	1	0	1	3	2	1	2	Group Point Total:		19

System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp	Points
002 Reactor Coolant						12						Effect of loss/malfunction of code SRVs	3.5	1
006 Emergency Core Cooling	03											Cause/Effect between ECCS and RCS	4.3	1
010 Pressurizer Pressure Control							07					Predict/monitor change with RCS press	3.7	1
011 Pressurizer Level Control							01					Predict/monitor change in PZR level/press	3.6	1
012 Reactor Protection	03											Relationship between RPS and CRDS	3.8	1
016 Non-nuclear Instrumentation			12									Effect loss/malfunction of NNIS on S/G	3.6	1
027 Containment Iodine Removal														
028 Hydrogen Recombiner and Purge Control											2.1.28	K/O purpose and function of system	3.3	1
029 Containment Purge										04		Manually operate cont evacuation signal	3.6	1
033 Spent Fuel Pool Cooling														
034 Fuel Handling Equipment											2.2.28	K/O new and spent fuel movement procedures	3.5	1
035 Steam Generator								03				Impact of press/level trans. failure	3.6	1
039 Main and Reheat Steam								04				Impact of malfunctioning stm dumps	3.7	1
055 Condenser Air Removal			01									Effect of loss of CARS on Main Condenser	2.7	1
062 AC Electrical Distribution			01									Major system loads	3.9	1
064 Emergency Diesel Generator						07						K/O effect If loss of air receivers	2.9	1
073 Process Radiation Monitoring														
075 Circulating Water														
035 Steam Generator					03							Shrink and swell concept	3.1	1
086 Fire Protection											2.2.17	K/O process for managing maint during pwr ops	3.5	1
103 Containment							01					Predict/monitor changes in containment press, temp, and humidity	4.1	1
K/A Category Point Totals:	2	0	3	0	1	2	3	2	0	1	3	Group Point Total:		17

ES-401		PWR SRO Examination Outline Plant Systems - Tier 2/Group 3											Form ES-401-3	
System # / Name	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	G	K/A Topic(s)	Imp.	Points
005 Residual Heat Removal									03			RHR pump/motor malfunction	3.1	1
007 Pressurizer Relief/Quench Tank														
008 Component Cooling Water								07				Consequences of high/low CCW flow rate and temp; the flow rate at which the CCW standby pump will start	2.8	1
041 Steam Dump/Turbine Bypass Control														
045 Main Turbine Generator														
076 Service Water										04		Manually operate/Monitor SWS including emergency heat loads	3.7	1
078 Instrument Air			02									Effect of loss/malf of IAS will have on pneumatic valves and controls	3.6	1
K/A Category Point Totals:	0	0	1	0	0	0	0	1	1	1	0	Group Point Total:	4	
Plant-Specific Priorities														
System / Topic	Recommended Replacement for...											Reason	Points	
Plant-Specific Priority Total: (limit 10)														

Facility: CPSES		Date of Exam: 05/2001		Exam Level: RO	
Category	K/A #	Topic	Imp.	Points	
Conduct of Operations	2.1.2	K/O Operator responsibilities during all modes of plant operation	3.0	1	
	2.1.9	A/T Direct personnel activities inside control room	2.5	1	
	2.1.23	A/T Perform specific system integrated plant procedures during all modes	3.9	1	
	2.1.				
	Total				3
Equipment Control	2.2.12	K/O Surveillance procedures	3.0	1	
	2.2.13	K/O Clearance and tagging procedures	3.6	1	
	2.2.28	K/O New and Spent Fuel Movement Procedures	2.6	1	
	2.2.				
	Total				3
Radiation Control	2.3.11	Ability to control radiation releases	2.7	1	
	2.3.4	K/O radiation exposure limits and contamination control	2.5	1	
	2.3.9	K/O process for performing cont. purge	2.5	1	
	2.3.10	A/T Perform procedures to reduce excessive levels of radiation	2.9	1	
	Total				4
Emergency Procedures/ Plan	2.4.3	Ability to identify post-accident instrumentation	3.5	1	
	2.4.26	K/O Facility protection requirements including fire brigade and portable fire fighting equip use	2.9	1	
	2.4.43	K/O Emergency communications systems and techniques	2.8	1	
	2.4.				
	Total				3
Tier 3 Point Total (RO)				13	